CITY OF KIRKLAND
DEPARTMENT OF PUBLIC WORKS

5th Street and 6th Street Sewer Main Replacement
Project No. 40-17--PW
CIP NO. CSS-0070/CSS-0071

Certificate of Engineer:
The Special Provisions and drawings contained herein have been prepared by or under the direction of the undersigned, whose seal as a Professional Engineer licensed to practice in the State of Washington, is affixed below.

Rodney Langer, P.E.
Project Manager

Approved for Construction:

Dave Snider, P.E.
Capital Projects Manager
# CITY OF KIRKLAND
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INVITATION TO BID

Notice is hereby given that the City of Kirkland will receive sealed bids in the office of the Purchasing Agent, City Hall, 123 Fifth Avenue, Kirkland, Washington, at 3:00 PM, local time on July 20, 2017, for the project hereinafter referred to as:

5th St and 6th St Sewer Main Replacement
JOB NO. 40-17-PW

At said time all bids will be opened and publicly read aloud. Each bid shall be accompanied by a bid proposal deposit in the form of a cashier’s check or a bond issued on a form acceptable to your surety made payable to the City of Kirkland for a sum of not less than five percent (5%) of the total bid amount. No bid shall be considered unless accompanied by such bid proposal deposit. Incomplete proposals and proposals received after the time stated above will not be considered. Faxed or emailed responses are not acceptable.

PROJECT DESCRIPTION FOR INVITATION TO BID

The work to be performed under this Contract consists of furnishing all labor, tools, materials, and equipment necessary for construction of the 5th Street and 6th Street Sewer Main Replacement project. The project has four schedules of work, two of which constitute the Base Bid and two of which are independent Additive Alternates. Schedule A (Base Bid): Sanitary Sewer Main – 5th Street from north of Central Way to 8th Avenue includes, but is not limited to the replacement of approximately 803 LF of 8-inch concrete sewer main with 8-inch PVC sewer main within 5th Street. In addition, the schedule includes the replacement of 4 manholes and 9 side sewers, restoration of asphalt section and sidewalk sections disturbed by project construction, replacement of 8” AC water main crossings, and other general restoration work. Schedule B (Base Bid): Sanitary Sewer Main – 6th Street from 10th Avenue to 11th Avenue includes, but is not limited to the replacement of approximately 315 LF of 8-inch concrete sewer main with 8-inch PVC sewer main within 6th Street. In addition, the schedule includes the replacement of 2 manholes and 5 side sewers, restoration of asphalt section and sidewalk sections disturbed by project construction, and other general restoration work. Schedule C (Additive Alternate 1): Sanitary Sewer Main – 5th Street from 8th Avenue to 9th Avenue and in a connecting alley includes, but is not limited to, the replacement of approximately 625 LF of 8-inch concrete sewer main with 8-inch PVC sewer main within 5th Street and the alley. In addition, the schedule includes the replacement of 3 manholes and 6 side sewers, replacement of 8” AC water main crossings, restoration of asphalt section and sidewalk sections disturbed by project construction, and other general restoration work. A portion of this replacement sewer work includes rerouting and deepening the sewer in the alley. Schedule D (Additive Alternate 2) includes the combined areas of Schedule A, B and C and includes replacement of 10 concrete curb (“ADA”) ramps, full pavement overlay of 5th Street and 6th Street and other general restoration work. If Schedule D is awarded and Schedule C is not awarded, the work to be completed in Schedule D shall be reduced to include only the areas of Schedule A and B. All work shall be in accordance with the attached Contract Plans, these Contract Provisions, and the Standard Specifications. The evaluation of bid and determination of the low responsive bid shall be based on the Base Bid (Schedules A + B) and the Additive Alternates (Schedules C + D) from the bid schedules. Contract award shall include the Base Bid schedules and any combination of the Additive Alternate schedules, in the sole discretion of the City of Kirkland. The estimated cost for all four schedules is $1,720,000 to $1,840,000, including added sales tax for Schedules A, B and C only.
The City will not sell bid packages. Plans, specifications, and addenda may be viewed and obtained online at www.bxwa.com. Click on: “Posted Projects”; “Public Works”, “City of Kirkland”. The Bidders List is maintained by the Builder’s Exchange of Washington, Inc. Registration for the bidder’s list may be made online, by phoning (425) 258-1303, or at Builder’s Exchange of Washington located at 2607 Wetmore Ave, Everett, WA.

The City of Kirkland in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 USC 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-Assisted Programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises as defined at 49 CFR Part 26 will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, or sex in consideration for an award.

Questions regarding this project shall be submitted in writing to Patrick Herbig, P.E. via fax (425) 587-3844. Questions via phone or email will not be accepted. Bidders shall submit questions no later than July 14, 2017 at 4:00 PM local time.

The City reserves the right to reject any and all bids, and to waive any informalities in the bidding, and to make the award to the lowest, responsive, responsible bidder as best serves the interests of the City.

No bids may be withdrawn within forty-five (45) days after the actual date of the bid opening.

GENERAL INFORMATION, PROPOSAL, & CONTRACT
# CITY OF KIRKLAND

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CITY OF KIRKLAND
INFORMATION FOR BIDDERS

Bidders must bid on all items contained in the proposal.

The omission or deletion of any bid item will be considered non-responsive and shall be cause for rejection of the bid.

Submit your proposal on the Bid Proposal and other forms which are enclosed, or make a copy of the required forms and submit these documents.

The following forms must be executed in full with submittal of the bid:

1. BIDDER RESPONSIBILITY CRITERIA CHECKLIST
2. SUBCONTRACTOR RESPONSIBILITY CRITERIA CHECKLIST
3. PROPOSAL
   The lump sum or unit prices must be shown in the spaces provided on the bid schedule.
   Show total bid price in both words and figures on the Proposal.
   The Proposal form must be completed in full, signed and dated.
4. BID BOND
   A surety issued bid bond must be executed by the bidder and its surety company. The amount of the bid bond shall be not less than five percent (5%) of the total amount bid and may be shown in dollars or on a percentage basis. (A cashier’s check payable to the City of Kirkland and issued for an amount not less than 5% of the total bid may be submitted in lieu of a bid bond.)
5. NONCOLLUSION AFFIDAVIT - Notarized
6. STATEMENT OF BIDDER’S QUALIFICATIONS
   This form must be filled in and signed. The owner reserves the right to check all statements and to judge the adequacy of the bidder's qualifications.
7. SUBCONTRACTOR IDENTIFICATION LIST
   This form must be completed for HVAC, plumbing, and electrical subcontractors if the estimate exceeds $1,000,000.

The following forms are to be executed after the contract is awarded:

1. CONTRACT
   This agreement is to be executed by the successful bidder.
2. PERFORMANCE AND PAYMENT BOND
   To be executed by the successful bidder and its surety company.
3. CONTRACTOR’S DECLARATION OF OPTION FOR MANAGEMENT OF STATUTORY RETAINED PERCENTAGE; RETAINED PERCENTAGE ESCROW AGREEMENT
   To be executed by the successful bidder based on bidder’s selection of option.
4. CERTIFICATES OF INSURANCE
   To be executed by the successful bidder and by an acceptable insurance company. The City of Kirkland must be named as an additional insured.
5. STATEMENT(S) OF INTENT TO PAY PREVAILING WAGES
   Affidavit certifying all employees of Contractor and Subcontractor shall be paid no less than the Prevailing Wage Rate(s) as determined by the Industrial Statistician of the Washington State Department of Labor and Industries.

SPECIAL NOTE: Prior to commencing work, the contractor and all subcontractors must have applied and paid for a City of Kirkland business license.
CITY OF KIRKLAND
BIDDER RESPONSIBILITY CRITERIA

It is the intent of City to award a contract to the low responsible bidder. Before award, the bidder must meet the following bidder responsibility criteria to be considered a responsible bidder. The bidder may be required by the City to submit documentation demonstrating compliance with the criteria. The bidder must:

☐ 1. Have a current certificate of registration as a contractor in compliance with chapter 18.27 RCW, which must have been in effect at the time of bid submittal;

☐ 2. Have a current Washington Unified Business Identifier (UBI) number;

☐ 3. Have:
   a. Industrial Insurance (workers’ compensation) coverage for the bidder’s employees working in Washington, as required in Title 51 RCW;
   b. A Washington Employment Security Department number, as required in Title 50 RCW;
   c. A Washington Department of Revenue state excise tax registration number, as required in Title 82 RCW;

☐ 4. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065(3).

☐ 5. Until December 31, 2013, not have violated more than one time the off-site, prefabricated, non-standard, project specific items reporting requirements of RCW 39.04.370.

☐ 6. For public works projects subject to the apprenticeship utilization requirements of RCW 3.04.320, not have been found out of compliance by the Washington state apprenticeship and training council for working apprentices out of ratio, without appropriate supervision, or outside their approved work processes as outlined in their standards of apprenticeship under chapter 49.04 RCW for the one-year period immediately preceding the first date of advertising for the project.
CITY OF KIRKLAND
SUBCONTRACTOR RESPONSIBILITY CRITERIA

☐ A. The Contractor shall include the language of this section in each of its first tier subcontracts, and shall require each of its subcontractors to include the same language of this section in each of their subcontracts, adjusting only as necessary the terms used for the contracting parties. Upon request of the Owner, the Contractor shall promptly provide documentation to the Owner demonstrating that the subcontractor meets the subcontractor responsibility criteria below. The requirements of this section apply to all subcontractors regardless of tier.

☐ B. At the time of subcontract execution, the Contractor shall verify that each of its first tier subcontractors meets the following bidder responsibility criteria:

☐ 1. Have a current certificate of registration in compliance with chapter 18.27 RCW, which must have been in effect at the time of subcontract bid submittal;

☐ 2. Have a current Washington Unified Business Identifier (UBI) number;

☐ 3. Have:
   a) Industrial Insurance (workers’ compensation) coverage for the subcontractor’s employees working in Washington, as required in Title 51 RCW;
   b) A Washington Employment Security Department number, as required in Title 50 RCW;
   c) A Washington Department of Revenue state excise tax registration number, as required in Title 82 RCW;
   d) An electrical contractor license, if required by Chapter 19.28 RCW;
   e) An elevator contractor license, if required by Chapter 70.87 RCW.

☐ 4. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065 (3).

☐ 5. Until December 31, 2013, not have violated more than one time the off-site, prefabricated, non-standard, project specific items reporting requirements of RCW 39.04.370.

☐ 6. For public works projects subject to the apprenticeship utilization requirements of RCW 3.0.04.320, not have been found out of compliance by the Washington state apprenticeship and training council for working apprentices out of ratio, without appropriate supervision, or outside their approved work processes as outlined in their standards of apprenticeship under chapter 49.04 RCW for the one-year period immediately preceding the first date of advertising for the project.
CITY OF KIRKLAND
BID PROPOSAL

5th St and 6th St Sewer Main Replacement
CIP NO. CSS 0070/CSS 0071
JOB NO. 40-17-PW

To: Director of Finance
    City of Kirkland
    123 Fifth Avenue
    Kirkland, Washington 98033

The undersigned, hereinafter called the Bidder, declares that the only persons or parties interested in this proposal are those named herein; that this proposal is in all respects fair and without fraud; that it is made without collusion with any official or employee of the City of Kirkland, hereinafter called the Owner; and that the proposal is made without any connection or collusion with any person making another proposal on this contract.

The bidder further declares that it has carefully examined the contract documents for the construction of the project; that it has personally inspected the site; that it has satisfied itself as to the quantities involved, including materials and equipment and conditions of work involved, including the fact that the description of the quantities of work materials, as included herein, is brief and is intended only to indicate the general nature of the work and to identify the said quantities with the detailed requirements of the contract documents; and that this proposal is made according to the provisions and under the terms of the contract documents, which documents are hereby made a part of this proposal.

The bidder further agrees that it has exercised its own judgment regarding the interpretation of subsurface information and has utilized all data which it believes pertinent from the engineer-architect, owner, and other sources in arriving at its conclusions.

The bidder agrees to hold its bid proposal open for 45 days after the actual date of bid opening and to accept the provisions of the Instructions to Bidders regarding disposition of bid bond.

The bidder agrees that if this proposal is accepted, it will, within ten (10) calendar days after notification of acceptance, execute the contract with the Owner in the form of contract included in the contract documents, and will, at the time of execution of the contract, deliver to the Owner the Performance and Payment Bond and all Certificates of Insurance required therein, and will, to the extent of its proposals, furnish all machinery, tools, apparatus, and other means of construction and do the work in the manner, in the time, and according to the methods as specified in the contract documents and required by the engineer or other project manager designated thereunder.

The bidder further agrees, if awarded the contract, to begin work within ten (10) calendar days after the date of the execution of the contract and to complete the construction within the time specified in Section 1-08.5 of the Special Provisions.

In the event the bidder is awarded the contract and shall fail to complete the work within the time limit or extended time limit agreed upon as more particularly set forth in the contract documents, liquidated damages shall be paid to the Owner per the specifications contained in the contract documents.
The bidder further proposes to accept as full payment for the work proposed herein, the amounts computed under the provisions of the contract documents and based upon the lump sum and unit price amounts entered by the bidder for the various bid items included in the Bid Schedule. The bidder further agrees the lump sum and unit prices entered for the various bid items included in the Bid Schedule include all use taxes, overhead, profit, bond premiums, insurance premiums and all other miscellaneous and incidental expenses as well as all costs of materials, labor, tools and equipment required to perform and complete the work.

The evaluation of bid and determination of the low responsive bid shall be based on the Base Bid (Schedules A + B) and the Additive Alternates (Schedule C + D) from the bid schedules. Contract award shall include the Base Bid schedules and any combination of the Additive Alternate schedules, in the sole discretion of the City of Kirkland.

The undersigned bids and agrees to complete all construction of the 5th St and 6th St Sewer Main Replacement project; JOB NO. 40-17-PW for the following:

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<td>$_____________</td>
<td>$_____________</td>
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<td>B – Base Bid – 6th St Sewer Replacement</td>
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<td>TOTAL BASE BID (in figures)</td>
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<td>TOTAL BASE BID (in words)</td>
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<tr>
<td>C – Additive Alternate 1 – 5th St and Alley Sewer Replacement</td>
<td>$_____________</td>
<td>$_____________</td>
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<tr>
<td>D – Additive Alternate 2 – Pavement Overlay and Curb Ramp Replacement</td>
<td>$_____________</td>
<td>$(not applicable - subject to Rule 171)</td>
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<td>TOTAL ADDITIVE ALTERNATES (in figures)</td>
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To be considered responsible, the bidder shall submit a price on each and every item of work included in Schedules A, B, C and D.
Receipt of Addenda No(s). ________________ is hereby acknowledged.

CONTRACTOR (Firm Name)

By ___________________________________________ Name and title of person signing

(Indicate whether Contractor is Partnership, Corporation, or Sole Proprietorship) Date

Washington State Contractor’s Registration Number Contractor’s Industrial Insurance Account Number

Employment Security Identification Number Uniform Business Identification (UBI) Number

Contractor’s Address:

________________________________________________________________________ Telephone Number

________________________________________________________________________ Fax Number

________________________________________________________________________ EMAIL

** Bid proposal to be submitted in a sealed envelope marked "Bid Enclosed" for 5th St and 6th St Sewer Main Replacement, JOB NO. 40-17-PW.
CITY OF KIRKLAND
BID SCHEDULE
5th St and 6th St Sewer Main Replacement
JOB NO. 40-17-PW

BID SCHEDULE A: Sanitary Sewer Main - 5th St. to 8th Ave.

The following bid items include all use, compensating and other taxes except applicable Washington State sales tax, which will be added to the moneys actually due the Contractor.

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<td>PSIPE - Burgandy Wine Heavenly Bamboo (5 gallon, 5 canes minimum)</td>
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<td>PSIPE - Evergold Japanese Sedge (2 gallon)</td>
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<td>PSIPE - Lipstick Beach Strawberry (1 gallon)</td>
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<td>A31</td>
<td>Decommission Monitoring Well</td>
<td>2-27</td>
<td>1</td>
<td>EA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A32</td>
<td>Reference and Replace Survey Monument</td>
<td>8-13</td>
<td>2</td>
<td>EA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A33</td>
<td>Record Drawings (min. Bid $8,000.00)</td>
<td>1-05</td>
<td>1</td>
<td>LS</td>
<td></td>
<td></td>
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<tr>
<td>A34</td>
<td>Miscellaneous Work</td>
<td>1-09</td>
<td>1</td>
<td>FA</td>
<td>$17,000.00</td>
<td>$17,000.00</td>
</tr>
</tbody>
</table>

**TOTAL COMPUTED PRICE – Bid Schedule A (Base Bid): $**

(\text{figures})

**BID SCHEDULE B: Sanitary Sewer Main- 6th St. from 9th Ave. to 10th Ave**

The following bid items include all use, compensating and other taxes except applicable Washington State sales tax, which will be added to the moneys actually due the Contractor.

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>Item Description</th>
<th>Spec Ref.</th>
<th>Est. Qty.</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>B40</td>
<td>Project Temporary Traffic Control (min. Bid $10,000.00)</td>
<td>1-10</td>
<td>1</td>
<td>LS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bid No.</td>
<td>Description</td>
<td>Quantity</td>
<td>Unit</td>
<td>Rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
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<td>------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B41</td>
<td>Construction Surveying</td>
<td>1-05</td>
<td>LS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B42</td>
<td>Erosion Water/Pollution Control (min. Bid $5,000.00)</td>
<td>8-01</td>
<td>LS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B43</td>
<td>Trench Safety Systems (Shoring)</td>
<td>7-08</td>
<td>LF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B44</td>
<td>PVC Sanitary Sewer Pipe 8 In. Diameter</td>
<td>7-17</td>
<td>LF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B45</td>
<td>PVC Sanitary Sewer Pipe 6 In. Diameter</td>
<td>7-18</td>
<td>LF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B46</td>
<td>Remove and Replace 48 In. Diameter Sanitary Sewer Manhole</td>
<td>7-05</td>
<td>EA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B47</td>
<td>Connection to Existing Main</td>
<td>7-05</td>
<td>EA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B48</td>
<td>Side Sewer Connection</td>
<td>7-18</td>
<td>EA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B49</td>
<td>Side Sewer Cleanout</td>
<td>7-19</td>
<td>EA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B50</td>
<td>Remove and Replace Cement Conc. Sidewalk</td>
<td>8-14</td>
<td>SY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B51</td>
<td>Remove and Replace Cement Conc. Traffic Curb and Gutter</td>
<td>8-04</td>
<td>LF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B52</td>
<td>Sawcut Pavement</td>
<td>2-02</td>
<td>LF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B53</td>
<td>Crushed Surfacing Top Course</td>
<td>4-04</td>
<td>TN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B54</td>
<td>Crushed Surfacing Base Course</td>
<td>4-04</td>
<td>TN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B55</td>
<td>Unsuitable Foundation Excavation Inc. Haul</td>
<td>2-09</td>
<td>CY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B56</td>
<td>HMA Cl. 1/2&quot; PG 64-22 for Trench Restoration (Temporary)</td>
<td>5-04</td>
<td>TN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B57</td>
<td>HMA Cl. 1/2&quot; PG 64-22 for Trench Restoration (Permanent)</td>
<td>5-04</td>
<td>TN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B58</td>
<td>Landscape Restoration</td>
<td>8-02</td>
<td>EA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B59</td>
<td>Reference and Replace Survey Monument</td>
<td>8-13</td>
<td>EA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B60</td>
<td>Miscellaneous Work</td>
<td>1-09</td>
<td>FA</td>
<td>$8,000.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTAL COMPUTED PRICE – Bid Schedule B (Base Bid): $______________________________

(figures)
BID SCHEDULE C: Sanitary Sewer Main- 8th Ave. to 9th Ave

The following bid items include all use, compensating and other taxes except applicable Washington State sales tax, which will be added to the moneys actually due the Contractor.

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>Item Description</th>
<th>Spec Ref.</th>
<th>Est. Qty.</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>C70</td>
<td>Mobilization - Schedule C</td>
<td>1-09</td>
<td>1</td>
<td>LS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C71</td>
<td>Type B Progress Schedule - Schedule C Supplement (min. Bid $2,000.00)</td>
<td>1-08</td>
<td>1</td>
<td>LS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C72</td>
<td>Project Temporary Traffic Control (min. Bid $10,000.00)</td>
<td>1-10</td>
<td>1</td>
<td>LS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C73</td>
<td>Construction Surveying</td>
<td>1-05</td>
<td>1</td>
<td>LS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C74</td>
<td>Erosion Water/Pollution Control (min. Bid $5,000.00)</td>
<td>8-01</td>
<td>1</td>
<td>LS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C75</td>
<td>Trench Safety Systems (Shoring)</td>
<td>7-08</td>
<td>701</td>
<td>LF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C76</td>
<td>PVC Sanitary Sewer Pipe 8 In. Diameter</td>
<td>7-17</td>
<td>625</td>
<td>LF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C77</td>
<td>PVC Sanitary Sewer Pipe 6 In. Diameter</td>
<td>7-18</td>
<td>76</td>
<td>LF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C78</td>
<td>Remove and Replace 48 In. Diameter Sanitary Sewer Manhole</td>
<td>7-05</td>
<td>3</td>
<td>EA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C79</td>
<td>Connection to Existing Main</td>
<td>7-05</td>
<td>3</td>
<td>EA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C80</td>
<td>Side Sewer Cleanout</td>
<td>7-05</td>
<td>3</td>
<td>EA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C81</td>
<td>Ductile Iron Pipe for Water Main 6, 8 or 10 In. Diam.</td>
<td>7-09</td>
<td>60</td>
<td>LF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C82</td>
<td>Gate Valve 6, 8 or 10 In.</td>
<td>7-09</td>
<td>4</td>
<td>EA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C83</td>
<td>Remove and Replace Cement Conc. Sidewalk</td>
<td>8-14</td>
<td>9</td>
<td>SY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C84</td>
<td>Remove and Replace Cement Conc. Traffic Curb and Gutter</td>
<td>8-04</td>
<td>40</td>
<td>LF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C85</td>
<td>Sawcut Pavement</td>
<td>2-02</td>
<td>1,200</td>
<td>LF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C86</td>
<td>Crushed Surfacing Top Course</td>
<td>4-04</td>
<td>1,900</td>
<td>TN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C87</td>
<td>Crushed Surfacing Base Course</td>
<td>4-04</td>
<td>200</td>
<td>TN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C88</td>
<td>Unsuitable Foundation Excavation Inc. Haul</td>
<td>2-09</td>
<td>50</td>
<td>CY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C89</td>
<td>HMA Cl. 1/2&quot; PG 64-22 for Trench Restoration</td>
<td>5-04</td>
<td>80</td>
<td>TN</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**MUST BE SUBMITTED WITH PROPOSAL**

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>Item Description</th>
<th>Spec Ref.</th>
<th>Est. Qty.</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>C90</td>
<td>HMA Cl. 1/2” PG 64-22 for Trench Restoration (Permanent)</td>
<td>5-04</td>
<td>200</td>
<td>TN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C91</td>
<td>Landscape Restoration</td>
<td>8-02</td>
<td>1</td>
<td>EA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C92</td>
<td>Reference and Replace Survey Monument</td>
<td>8-13</td>
<td>1</td>
<td>EA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C93</td>
<td>Miscellaneous Work</td>
<td>1-09</td>
<td>1</td>
<td>FA</td>
<td>$11,000.00</td>
<td>$11,000.00</td>
</tr>
</tbody>
</table>

**TOTAL COMPUTED PRICE** – Bid Schedule C (Additive Alternate 1): $ ______________________ (figures)

**BID SCHEDULE D: 5th St. and 6th St. Pavement Overlay**

The following bid items are eligible for WAC 458-20-171 (Rule 171). Amounts shown shall include applicable Washington State Taxes and no Additional payments will be made.

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>Item Description</th>
<th>Spec Ref.</th>
<th>Est. Qty.</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>D100</td>
<td>Mobilization - Schedule D</td>
<td>1-09</td>
<td>1</td>
<td>LS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D101</td>
<td>Type B Progress Schedule - Schedule D Supplement (min. Bid $2,000.00)</td>
<td>1-08</td>
<td>1</td>
<td>LS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D102</td>
<td>Project Temporary Traffic Control (min. Bid $10,000.00)</td>
<td>1-10</td>
<td>1</td>
<td>LS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D103</td>
<td>Construction Surveying</td>
<td>1-05</td>
<td>1</td>
<td>LS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D104</td>
<td>Erosion Water/Pollution Control (min. Bid $5,000.00)</td>
<td>8-01</td>
<td>1</td>
<td>LS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D105</td>
<td>Remove and Replace Cement Conc. Sidewalk</td>
<td>8-14</td>
<td>80</td>
<td>SY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D106</td>
<td>Remove and Replace Cement Conc. Traffic Curb and Gutter</td>
<td>8-04</td>
<td>220</td>
<td>LF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D107</td>
<td>Cement Conc. Pedestrian Curb</td>
<td>8-04</td>
<td>270</td>
<td>LF</td>
<td></td>
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</tr>
<tr>
<td>D108</td>
<td>Sawcut Pavement</td>
<td>2-02</td>
<td>300</td>
<td>LF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D109</td>
<td>Crushed Surfacing Top Course</td>
<td>4-04</td>
<td>45</td>
<td>TN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D110</td>
<td>Landscape Restoration</td>
<td>8-02</td>
<td>10</td>
<td>EA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D111</td>
<td>Remove and Replace Cement Conc. Curb Ramp</td>
<td>8-14</td>
<td>10</td>
<td>EA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D112</td>
<td>Planing Bituminous Pavement</td>
<td>5-04</td>
<td>6,600</td>
<td>SY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D113</td>
<td>HMA Cl. 1/2” PG 64-22 for Overlay</td>
<td>5-04</td>
<td>1,100</td>
<td>TN</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Unit</td>
<td>Quantity</td>
<td>Location</td>
<td>Price</td>
<td></td>
</tr>
<tr>
<td>---</td>
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<td></td>
</tr>
<tr>
<td>D114</td>
<td>HMA Cl. 1/2&quot; PG 64-22 for Curb Ramp Restoration</td>
<td></td>
<td>5-04</td>
<td>TN</td>
<td>$9,000.00</td>
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</tr>
<tr>
<td>D115</td>
<td>Miscellaneous Work</td>
<td></td>
<td>1-09</td>
<td>FA</td>
<td>$9,000.00</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL COMPUTED PRICE – Bid Schedule D (Additive Alternate 2):** $________________________

*(figures)*
BID DEPOSIT

Herewith find deposit in the form of a cashier’s check or certified check in the amount of
$_________________, which amount is not less than five percent (5%) of the total bid.

SIGN HERE__________________________________

BID BOND

KNOW ALL MEN BY THESE PRESENTS:
That we, ______________________________________________________________, as Principal, and
______________________________________________________________________, as Surety, are
held and firmly bound unto the City of Kirkland, as Obligee, in the penal sum of____________________
_________________________________________________ dollars, for the payment of which the
Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns,
jointly and severally, by these presents.

The condition of this obligation is such that if the Obligee shall make any award to the Principal for

Project Name ___________________________________________  Job Number

according to the terms of the proposal or bid made by the Principal therefor, and the Principal shall duly
make and enter into a contract with the Obligee in accordance with the terms of said proposal or bid and
award and shall give bond for faithful performance thereof, with Surety or Sureties approved by the
Obligee; or if the Principal shall, in case of failure to do so, pay and forfeit to the Obligee the penal
amount of the deposit specified in the call for bids, then this obligation shall be null and void; otherwise it
shall be and remain in full force and effect and the Surety shall forthwith pay and forfeit to the Obligee, as
penalty and liquidated damages, the amount of this bond.

SIGNED, SEALED AND DATED THIS _______________ DAY OF __________________, 20______.

PRINCIPAL:                                                   SURETY:

________________________________________________________________________

________________________________________________________________________

Note: If a Bid Bond is provided, it must be accompanied by a power of attorney which appoints the
Surety’s true and lawful attorney-in-fact to make, execute, seal and deliver this Bid Bond.
CITY OF KIRKLAND
NONCOLLUSION AFFIDAVIT
5th St and 6th St Sewer Main Replacement
CIP NO. CSS 0070/CSS 0071
JOB NO. 40-17-PW

STATE OF WASHINGTON   )
COUNTY OF KING        ) SS

The undersigned, being duly sworn, on oath deposes and says that the person(s), firm, association, partnership or corporation herein named has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the project for which this proposal is submitted.

Firm Name
Authorized Signature

Type Name
Title

Sworn to before me, this _____ day of __________________________, 20__.

Notary Public in and for the State of Washington
Residing at ________________________________
My Commission Expires ______________________

NOTICE TO ALL BIDDERS
To report bid rigging activities call: 1-800-424-9071

The U.S. Department of Transportation (USDOT) operates the above toll-free “hotline” Monday through Friday, 8:00 a.m. to 5:00 p.m., ET. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the “hotline” to report such activities.

The “hotline” is part of USDOT’s continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the USDOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.
CITY OF KIRKLAND
STATEMENT OF BIDDER'S QUALIFICATIONS

Contractor Name: ____________________________  Contact: ____________________________

Business Address: ________________________________________________________________

Business phone: ____________________________  Fax: ____________________________

Number of years the Contractor has been engaged in the construction business under the present firm name: ____________________________

Describe the general character of work performed by your company: ____________________________

List five projects of a similar nature which Contractor has completed within the last 10 years. Include contract amount and contact information for references:

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Amount</th>
<th>Owner/Agency</th>
<th>Contact</th>
<th>Phone</th>
<th>Year Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

List major equipment anticipated to be used on this project; indicate whether Contractor-owned or to be leased from others:

__________________________________________________________________________

__________________________________________________________________________

Bank reference(s): ____________________________

Washington State Contractor Registration No.: ____________________________

Uniform Business Identification No.: ____________________________

I certify that other contracts now in progress or hereafter obtained will not interfere with timely performance of the City of Kirkland project should I become the successful bidder.

Authorized Signature: ____________________________

Print Name: ____________________________  Title: ____________________________
CITY OF KIRKLAND
SUBCONTRACTOR IDENTIFICATION FOR CONTRACTS ESTIMATED TO BE
IN EXCESS OF ONE MILLION DOLLARS ($1,000,000.00)

RCW 39.30.060 requires the following:

“Every invitation to bid on a prime contract that is expected to cost one million dollars or more for the construction, alteration, or repair of any public building or public work of the state or a state agency or municipality as defined under RCW 39.04.010 … shall require each prime contract bidder to submit as part of the bid, or within one hour after the published bid submittal time [see note below], the names of the subcontractors with whom the bidder, if awarded the contract, will subcontract for performance of the work of: HVAC (heating, ventilation, and air conditioning); plumbing as described in chapter 18.106 RCW; and electrical as described in chapter 19.28 RCW, or to name itself for the work. The prime contract bidder shall not list more than one subcontractor for each category of work identified, unless subcontractors vary with bid alternates, in which case the prime contract bidder must indicate which subcontractor will be used for which alternate. Failure of the prime contract bidder to submit as part of the bid the names of such subcontractors or to name itself to perform such work or the naming of two or more subcontractors to perform the same work shall render the prime contract bidder’s bid non-responsive and, therefore, void.”

NOTE: The City of Kirkland has elected not to allow bidders to submit the information required by RCW 39.30.060 after the published bid submittal time. A proposal will be considered irregular and will be rejected if the bidder does not provide the above list as part of its proposal when submitting its bid.

Each bidder shall submit a list of:

1. HVAC, plumbing, and electrical subcontractors; and
2. The specific items of work those subcontractors will perform on the contract; and
3. The specific items of work that will be performed by the bidder on the contract.
CITY OF KIRKLAND
SUBCONTRACTOR IDENTIFICATION LIST

*REQUIRED IF ESTIMATE AMOUNT EXCEEDS $1,000,000 (Reference RCW 39.30.060 RCW)

Proposed Subcontractors and items of work to be performed:
Subcontractor Name: ____________________________________________________________
Item Numbers: ________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
Subcontractor Name: __________________________________________________________
Item Numbers: ________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
Subcontractor Name: __________________________________________________________
Item Numbers: ________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

- make additional pages if necessary -

Work to be performed by Prime Contractor:
Item Numbers: ________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
CITY OF KIRKLAND
MANDATORY BIDDER RESPONSIBILITY CONFIRMATION

In accordance with RCW 39.04.350 subsection (1) (g), bidder asserts that:

Within the three-year period immediately preceding the date of the bid solicitation for this Project, bidder has not been determined by a final and binding citation and notice of assessment issued by the department of labor and industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW 49.48.082, any provision of chapter 49.46, 49.48, or 49.52 RCW.

I certify (or declare) under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct:

_____________________________
Firm Name

________________________________
Authorized Signature

________________________________
Type Name

________________________________
Title

(For corporations, LLC’s and other legal entities)

STATE OF WASHINGTON    )
) SS
COUNTY OF KING    )

On this day before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ______________________________, to me known to be the _______________________ of ______________________, the legal entity that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said legal entity, for the uses and purposes therein set forth, and on oath stated that he/she was authorized to sign said instrument.

Given under my hand and official seal this ______ day of ________________, 2017.

________________________________
Print Name: ________________________
NOTARY PUBLIC in and for the State of Washington, residing __________
Commission expires: __________
(For individuals and d/b/a’s)

STATE OF WASHINGTON )
 ) SS
COUNTY OF KING )

On this day before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ___________________________ and ___________________________ to me known to be the individual(s) described herein and who executed the foregoing instrument, and acknowledged that he/she/they signed the same as his/her/their free and voluntary act and deed, for the uses and purposes therein mentioned.

Given under my hand and official seal this ______ day of ________________, 2017.

__________________________________  
Print Name: ________________________

NOTARY PUBLIC in and for the State of Washington, residing __________
Commission expires: __________
CITY OF KIRKLAND
BIDDER'S CHECKLIST

1. Have you reviewed the Bidder Responsibility and Subcontractor Responsibility Criteria?
2. Have you enclosed a bid bond or certified check with your bid? (Must be at least 5% of the total amount bid)
3. Have you entered a bid amount for all items and all schedules?
4. Do the written amounts of the proposal agree with the amounts shown in the figures?
5. Have you acknowledged receipt of addenda?
6. Has the proposal been properly completed and signed?
7. Have you completed the Statement of Bidder's Qualifications?
8. Have you completed the City of Kirkland Non-collusion Affidavit?
9. Have you completed the Subcontractor Identification List? (This is to be completed for HVAC, plumbing, and electrical subcontractors if the estimate amount exceeds $1,000,000.)
10. Have you completed the Mandatory Bidder Responsibility Confirmation?
11. Bid proposal to be submitted in a sealed envelope marked "Bid Enclosed" for 5th St and 6th St Sewer Main Replacement, JOB NO. 40-17-PW
This agreement is made and entered into this __________ day of ____________, 2017, by and between CONTRACTOR NAME, hereinafter called the "Contractor" and the City of Kirkland, hereinafter called the "Owner."

W I T N E S S E T H:

Whereas, pursuant to the invitation of the Owner extended through an officially published "Invitation to Bid," the Contractor did, in accordance therewith, file with the Owner a proposal containing an offer which was invited by said notice, and

Whereas, the Owner has heretofore determined that said offer was the lowest responsible bid submitted; now, therefore, it is agreed:

Section 1. That Contractor shall comply in every way with the requirements of those certain specifications entitled: "5th St and 6th St Sewer Main Replacement, Job No. 40-17-PW"

The further terms, conditions and covenants of the contract are set forth in the following contract documents which are hereby made a part of this agreement by actual attachment or by this reference thereto as follows:

A. Any Invitation to Bid, as published by the Owner.

B. Any Specifications prepared for this project by the Owner and named above by title.

C. Any detailed Plans listed and described in said Specifications, together with those which may be issued as supplements thereof.

D. The bid proposals submitted by the Contractor as to those items and/or alternatives accepted by the Owner.

E. Any change orders, additions or deletions, if any, issued by the Owner.

Section 2. In consideration of faithful compliance with the terms and conditions of this agreement, whether set forth herein or incorporated by reference, the Owner shall pay to the Contractor, at the times and in the manner provided in said specifications, the total sum of __________________________ dollars ($__________) which sum is subject, however, to increase or decrease in such proportion as the quantities named in said proposal are so changed, all as in said specifications and proposal provided.

In witness whereof, said Contractor and said Owner have caused this agreement to be executed on the day and year first written above.

CONTRACTOR (Firm Name)

Signature of authorized officer ___________________________ Name and title of officer (print or type) ___________________________
WA Contractor's Registration Number

Industrial Insurance Account Number

Uniform Business Identification (UBI) Number

Phone Number

(For corporations, LLC's and other legal entities)

STATE OF WASHINGTON  
) SS
COUNTY OF KING  
)

On this day before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ________________________________, to me known to be the _____________________ of ______________________, the legal entity that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said legal entity, for the uses and purposes therein set forth, and on oath stated that he/she was authorized to sign said instrument.

Given under my hand and official seal this ______ day of ________________, 2017.

Print Name: ________________________
NOTARY PUBLIC in and for the State of Washington, residing __________
Commission expires: __________

(For individuals and d/b/a's)

STATE OF WASHINGTON  
) SS
COUNTY OF KING  
)

On this day before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ________________________________ and ________________________________ to me known to be the individual(s) described herein and who executed the foregoing instrument, and acknowledged that he/she/they signed the same as his/her/their free and voluntary act and deed, for the uses and purposes therein mentioned.

Given under my hand and official seal this ______ day of ________________, 2017.

Print Name: ________________________
NOTARY PUBLIC in and for the State of Washington, residing __________
Commission expires: __________

CITY OF KIRKLAND

BY:
Marilynne Beard, Deputy City Manager
PERFORMANCE BOND
Surety to have an A.M. Best rating of A:VII or better.

Bond No. ____________________________

KNOW ALL PERSONS BY THESE PRESENTS, that CONTRACTOR NAME, as Principal, and ____________________________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ________________, (insert Surety’s state of incorporation), and authorized to do business as a surety in the State of Washington, are held and firmly bound unto the City of Kirkland (City) in the sum of ____________________________ dollars ($______________), lawful money of the United States of America, plus the total amount of extra orders issued by the City to the Principal pursuant to the terms of the Contract referred to in the next succeeding paragraph hereof, for the payment whereof Principal and Surety bind ourselves, and our heirs, executors, administrators, representatives, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has been awarded, and is about to enter into, a written Contract with the City for 5th St and 6th St Sewer Main Replacement, Job No. 40-17-PW, which is hereby made a part of this bond as if fully set forth herein;

NOW, THEREFORE, the condition of this bond is such that:

1. If the Principal shall completely and faithfully perform all of its obligations under the Contract, including any warranties required thereunder, and all modifications, amendments, additions, and alterations thereto, including modifications which increase the contract price or time for completion, with or without notice to the surety; and
2. If the Principal shall indemnify and hold the City harmless from any and all losses, liability, damages, claims, judgments, liens, costs, and fees of any type that the City may be subject to because of the failure or default of the Principal in the performance of any of the terms, conditions, or obligations of the Contract, including all modifications, amendments, additions, and alterations thereto, and any warranties required thereunder;

THEN THIS obligation shall be null and void; otherwise to remain in full force and effect. If the City shall declare Principal to be in default of the Contract, and shall so notify Surety, Surety shall, within a reasonable time which shall not exceed 14 days, except for good cause shown, notify the City in writing of the manner in which surety will satisfy its obligations under this Bond.

Nonpayment of the Bond premium will not invalidate this Bond nor shall the City be obligated for the payment thereof. The Surety hereby waives notice of any modification of the Contract or extension of time made by the City.

Signed this __________ day of ____________________________, 2017.

Principal: ____________________________ Surety: ____________________________

By: ____________________________ By: ____________________________

Title: ____________________________ Title: ____________________________

Address: ____________________________ Address: ____________________________

City/Zip: ____________________________ City/Zip: ____________________________

Telephone: ( ) ____________________________ Telephone: ( ) ____________________________

Note: A power of attorney must be provided which appoints the Surety’s true and lawful attorney-in-fact to make, execute, seal and deliver this performance bond.
LAWBOR, MATERIAL AND TAXES PAYMENT BOND
Surety to have an A.M. Best rating of A:VII or better.

Bond No. _______________________________________

KNOW ALL PERSONS BY THESE PRESENTS, that, CONTRACTOR NAME, as Principal, and
___________________________________________, (insert name of surety), as Surety, a corporation
duly organized under the laws of the State of __________________ (insert Surety's state of
incorporation), and authorized to do business as a surety in the State of Washington, are held and
firmly bound unto the City of Kirkland (City) for the use and benefit of claimants as hereinafter defined,
in the sum of ___________________________ Dollars ($__________), lawful money of the
United States of America, plus the total amount of any extra orders issued by the City, for the payment
whereof Principal and Surety bind themselves, their heirs, executors, administrators, representatives,
successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has been awarded, and is about to enter into, a Contract with City of Kirkland for
5th St and 6th St Sewer Main Replacement, Job No. 40-17-PW, which contract is by this
reference made a part hereof;

WHEREAS, the contract is a public works contract, subject to the provisions of RCW Titles 39 and 60;

NOW, THEREFORE, the conditions of this obligation are such that, if the Principal shall promptly make
payment to all claimants as hereinafter defined, for (a) all labor and material used or reasonably
required for use in the performance of the contract and (b) all taxes, increases, and penalties incurred
on the above-referenced contract under Titles 50, 51, and 82 RCW which may be due, then this
obligation shall be void; otherwise, it shall remain in full force and effect, subject, however, to the
following conditions: A claimant is defined as and includes (a) a person claiming to have supplied labor
or materials for the prosecution of the work provided for in the contract, including any person having
direct contractual relationship with the contractor furnishing the bond or direct contractual relationship
with any subcontractor, or an assignee of such person, (b) the state with respect to taxes incurred on
the above-referenced contract under Titles 50, 51, and 82 RCW which may be due and (c) any other
person or entity as allowed or required by law.

3. The Principal and Surety hereby jointly and severally agree with the City that every claimant as
herein defined, who has not been paid in full prior to Final Acceptance of the project, or materials
were furnished by such claimant, has an action on this bond for such sum or sums as may be
justly due claimant, and may have execution thereon. The City shall not be liable for the payment
of any costs or expenses of any such suit or action.

(Form continues on next page)
4. No suit or action shall be commenced hereunder by any claimant (except the state with respect to taxes, increases, and penalties incurred on the above-referenced contract under Titles 50, 51, and 82 RCW which may be due) unless the claimant has sent the written notice required under RCW Title 39 to the Principal and to the City’s Purchasing Agent by registered or certified mail, or by hand delivery, no later than 30 days after Final Acceptance of the Project.

The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed of record against the improvement, whether or not claim for the amount of such lien be presented under and against this bond.

The Surety hereby waives notice of any modification of the contract or extension of time made by the City.

Signed this ________________ day of ________________, 2017
Principal: ________________________________ Surety: ________________________________
By: ________________________________ By: ________________________________
Title: ________________________________ Title: ________________________________
Address: ________________________________ Address: ________________________________
City/Zip: ________________________________ City/Zip: ________________________________
Telephone: ( ) ________________________________ Telephone: ( ) ________________________________

Note: A power of attorney must be provided which appoints the Surety's true and lawful attorney-in-fact to make, execute, seal and deliver this performance bond.

END OF LABOR, MATERIAL AND TAXES PAYMENT BOND FORM
CITY OF KIRKLAND
CONTRACTOR'S DECLARATION OF OPTION FOR MANAGEMENT
OF STATUTORY RETAINED PERCENTAGE
5th St and 6th St Sewer Main Replacement
JOB NO. 40-17-PW

Monies reserved under provisions of Chapter 60.28 RCW, at the option of the Contractor, shall be:

Select One

[ ] (1) Retained in a fund by the City. No interest will be earned on the retained percentage amount under this election.

[ ] (2) Retainage Bond

[ ] (3) Placed in escrow with a bank or trust company by the City. When the monies reserved are to be placed in escrow, the City will issue a check representing the sum of the monies reserved payable to the bank or trust company and the Contractor jointly. Such check shall be converted into bonds and securities chosen by the Contractor and approved by the City and the bonds and securities held in escrow. (For the convenience of those Contractors choosing option (3) a City approved Form of Escrow Agreement is included on the next page and should be completed and submitted with the executed contract.)

The Contractor in choosing option (3) agrees to assume full responsibility to pay all costs which may accrue from escrow services, brokerage charges or both, and further agrees to assume all risks in connection with the investment of the retained percentages in securities.

[ ] (4) Deposited by the City in an interest-bearing account at the FDIC insured bank currently providing contracted banking services to the City of Kirkland. Interest on such account shall be paid to the contractor. Any fees incurred shall be the responsibility of the contractor.

CONTRACTOR:

Signature: ________________________________

Print or Type Name: ________________________________

Title: ________________________________

Date: ________________________________
**RETAINAGE BOND**

RETURN THIS FORM IF RETAINAGE BOND OPTION IS SELECTED

<table>
<thead>
<tr>
<th>Contract Title</th>
<th>5th St and 6th St Sewer Main Replacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract Number</td>
<td>40-17-PW</td>
</tr>
<tr>
<td>Contractor Name</td>
<td></td>
</tr>
</tbody>
</table>

The Undersigned, ________________________________________, existing under and by virtue of the laws of the State of Washington and authorized to do business in the State of Washington as Principal, and ______________________________ organized and existing under the laws of the State of ________________ and authorized to transact business in the State of Washington as Surety, are jointly and severally held and bound unto________________, hereinafter called Obligee, and are similarly held and bound unto the beneficiaries of the trust fund created by RCW 60.28, in the penal sum of ($_______________), Which is 5% of the principal’s price on Contract ID_____________.

WHEREAS, on the __________ day of __________, 2017, the said principal herein executed a contract with the Obligee, for the Contract specified above, Contract ID Number_______.

WHEREAS, said contract and RCW 60.28 require the Obligee to withhold from the Principal the sum of ___% from monies earned on estimates during the progress of the construction, herein after referred to as earned retained funds.

NOW WHEREAS, Principal has requested that the Obligee not retain any earned retained funds as allowed under RCW 60.28.

NOW THEREFORE, the condition of the obligation is such that the Principal and Surety are held and bound unto the beneficiaries of the trust fund created by RCW 60.28 in the penal sum of _______________ percent (___%) of the final contract cost which shall include any increases due to change orders, increases in quantities of work or the addition of any new item of work. If the Principal shall use the earned retained funds, which will not be retained, for the trust fund purposes of RCW 60.28, then this obligation shall be null and void; otherwise, it shall remain in full force and effect until release is authorized in writing by the Obligee. This bond and any proceeds therefrom shall be made subject to all claims and liens and in the same manner and priority as set forth for retained percentages in RCW 60.28.

PROVIDED HOWEVER, that:

1. The liability of the surety under this bond shall not exceed 5% or 50% of the total amount earned by the Principal if no monies are retained by the Obligee on estimates during the progress of construction.
2. Any suit under this bond must be instituted within the time provided by applicable law.

Witness our hands this __________ day of ____________ 2017.

**SURETY**

By: ____________________________________________
Name/Title______________________________
OF: ______________________________________

Surety Name and Local Office of Agent:____________________________________________________

Surety Address and Phone of Local Office and Agent:_____________________________________

**PRINCIPAL**

By: ____________________________________________
Name/Title______________________________
OF: ______________________________________

Surety Name and Local Office of Agent:____________________________________________________

Surety Address and Phone of Local Office and Agent:_____________________________________

_______________________________________________________________________________________
CITY OF KIRKLAND
RETAINED PERCENTAGE ESCROW AGREEMENT
5th St and 6th St Sewer Main Replacement
JOB NO. 40-17-PW

Escrow No. __________________________

City of Kirkland
123 Fifth Avenue
Kirkland, Washington  98033

Contractor: __________________________
Address: __________________________

Project Description: __________________________

TO:  Escrow Bank or Trust Company:
Name: __________________________
Address: __________________________
Attention: __________________________

The undersigned, _____________________________________________, herein referred to as the Contractor, has directed the City of Kirkland to deliver to you its warrants, which shall be payable to you and the Contractor jointly.  Such warrants are to be held and disposed of by you in accordance with the following instructions and upon the terms and conditions hereinafter set forth.

INSTRUCTIONS

1.  Warrants or checks made payable to you and the Contractor jointly upon delivery to you shall be endorsed by you and forwarded for collection.  The moneys will then be used by you to purchase, as directed by the Contractor, bonds or other securities chosen by the Contractor and approved by the City of Kirkland.  Attached is a list of such bonds, or other securities approved by the City of Kirkland.  Other bonds or securities, except stocks, may be selected by the Contractor, subject to the express written approval of the City of Kirkland.  Purchase of such bonds or other securities shall be in a form which shall allow you alone to reconvert such bonds or other securities into money if you are required to do so at the direction of the City of Kirkland and Contractor.

2.  When and as interest on the securities held by you pursuant to this agreement accrues and is paid, you shall collect such interest and forward it to the Contractor at its address designated below unless otherwise directed by the Contractor.

3.  You are not authorized to deliver to the Contractor all or any part of the securities held by you pursuant to this agreement (or any moneys derived from the sale of such securities, or the
negotiation of the City of Kirkland’s warrants) except in accordance with written instructions from the City of Kirkland. Compliance with such instructions shall relieve you of any further liability related thereto. The estimated completion date on the contract underlying this Escrow Agreement is _____________________________.

4. The Contractor agrees to pay you as compensation for your services hereunder as follows:

Payment of all fees shall be the sole responsibility of the Contractor and shall not be deducted from any property placed with you pursuant to this agreement until and unless the City of Kirkland directs the release to the Contractor of the securities and moneys held hereunder whereupon you shall be granted a first lien upon such property released and shall be entitled to reimburse yourself from such property for the entire amount of your fees as provided for hereinabove. In the event that you are made a party to any litigation with respect to the property held by you hereunder, or in the event that the conditions of this escrow are not promptly fulfilled or that you are required to render any service not provided for in these instructions, or that there is any assignment of the interests of this escrow or any modification hereof, you shall be entitled to reasonable compensation for such extraordinary services from the Contractor and reimbursement from the Contractor for all costs and expenses, including attorneys fees occasioned by such default, delay, controversy, or litigation.

5. This agreement shall not be binding until executed by the Contractor and the City of Kirkland and accepted by you.

6. This instrument contains the entire agreement between you, the Contractor and the City of Kirkland, with respect to this escrow and you are not a part nor bound by any instrument or agreement other than this; you shall not be required to take notice of any default or any other matter nor be bound by nor required to give notice or demand, nor required to take any action whatever, except as herein expressly provided; you shall not be liable for any loss or damage not caused by your own negligence or willful misconduct.

7. The foregoing provisions shall be binding upon the assigns, successors, personal representatives, and heirs of the parties hereto.

8. The Contractor’s Federal Income Tax Identification number is _____________________________.

** Please note: Written release will be issued by the Director of Finance & Administration. For further information, contact the Purchasing Agent at (425) 587-3123.
The undersigned have read and hereby approve the instructions as given above governing the administration of this escrow and do hereby execute this agreement on this _____ day of ____________________, 2017.

CONTRACTOR: 

By: ____________________________

Signature

Print or Type Name

Address: ____________________________

123 Fifth Avenue
Kirkland, Washington 98033

CITY OF KIRKLAND:

By: ____________________________

Signature

Print or Type Name

Title

Address: 123 Fifth Avenue
Kirkland, Washington 98033

The above escrow instructions received and accepted this _____ day of ____________________, 2017.

ESCROW BANK OR TRUST CO:

By: ____________________________

Authorized Signature

Print or Type Name

Title

Securities Authorized by City of Kirkland (select one):

1. Bills, certificates, notes or bonds of the United States;
2. Other obligations of the United States or its agencies;
3. Obligations of any corporation wholly-owned by the government of the United States;
4. Indebtedness of the Federal National Mortgage Association; and
5. Time deposits in commercial banks.

RETURN THIS SIGNED AGREEMENT TO:

City of Kirkland
Attn: Purchasing Agent
123 Fifth Avenue
Kirkland, Washington 98033
CITY OF KIRKLAND
RETAINAGE RELEASE REQUIREMENTS

DOCUMENTS REQUIRED TO BE ON FILE PRIOR TO RELEASE OF RETAINAGE

1. Intent to Pay Prevailing Wage (Contractor must generate including for subcontractors)
   Department of Labor/Industries
   Employment Standards Division
   General Administration Building
   Olympia, Washington  98504
   (360) 956-5335

2. Notice of Completion of Public Works Contract (City generates)
   Department of Revenue
   Excise Tax Division
   Olympia, Washington  98504

3. Affidavit of Wages Paid (Contractor must generate including for subcontractors)
   Department of Labor/Industries

4. Certificate of Release - State Excise Tax by Public Works Contractor (Letter from State to City)
   Department of Revenue
   Department of Labor and Industries
   Employment Security Department

5. Receipt for Payment in full or Release of Lien signed by Lien Claimant and filed with City (Responsibility of Contractor to obtain)
   Claims against retainage or Payment Bond filed with City by any such subcontractor, workman, or material supplier.

6. Current insurance certificate through retainage release (Contractor generates)

7. Produce final invoice for retainage if bond is not selected (Contractor generates)
AMENDMENTS TO THE STANDARD SPECIFICATIONS
INTRODUCTION

The following Amendments and Special Provisions shall be used in conjunction with the 2016 Standard Specifications for Road, Bridge, and Municipal Construction.

AMENDMENTS TO THE STANDARD SPECIFICATIONS

The following Amendments to the Standard Specifications are made a part of this contract and supersede any conflicting provisions of the Standard Specifications. For informational purposes, the date following each Amendment title indicates the implementation date of the Amendment or the latest date of revision.

Each Amendment contains all current revisions to the applicable section of the Standard Specifications and may include references which do not apply to this particular project.

1-01.AP1
Section 1-01, Definitions and Terms
August 1, 2016

1-01.3 Definitions
The following new term and definition is inserted after the eighth paragraph:

Cold Weather Protection Period – A period of time 7 days from the day of concrete placement or the duration of the cure period, whichever is longer.

1-02.AP1
Section 1-02, Bid Procedures and Conditions
April 4, 2016

1-02.4(1) General
The first sentence of the last paragraph is revised to read:

Any prospective Bidder desiring an explanation or interpretation of the Bid Documents, shall request the explanation or interpretation in writing by close of business on the Thursday preceding the bid opening to allow a written reply to reach all prospective Bidders before the submission of their Bids.

1-02.9 Delivery of Proposal
The last sentence of the third paragraph is revised to read:

The Contracting Agency will not open or consider any Proposal when the Proposal or Bid deposit is received after the time specified for receipt of Proposals or received in a location other than that specified for receipt of Proposals unless an emergency or unanticipated event interrupts normal work processes of the Contracting Agency so that Proposals cannot be received.

The following new paragraph is inserted before the last paragraph:

If an emergency or unanticipated event interrupts normal work processes of the Contracting Agency so that Proposals cannot be received at the office designated for receipt of bids as specified in Section 1-02.12 the time specified for receipt of the
Proposal will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which the normal work processes of the Contracting Agency resume.

1-02.12 Public Opening of Proposals
This section is supplemented with the following new paragraph:

If an emergency or unanticipated event interrupts normal work processes of the Contracting Agency so that Proposals cannot be opened at the time indicated in the call for Bids the time specified for opening of Proposals will be deemed to be extended to the same time of day on the first work day on which the normal work processes of the Contracting Agency resume.

1-04.AP1
Section 1-04, Scope of the Work
January 3, 2017

1-04.2 Coordination of Contract Documents, Plans, Special Provisions, Specifications, and Addenda
The following new paragraph is inserted before the second to last paragraph:

Whenever reference is made in these Specifications or the Special Provisions to codes, rules, specifications, and standards, the reference shall be construed to mean the code, rule, specification, or standard that is in effect on the Bid advertisement date, unless otherwise stated or as required by law.

1-04.3 Reference Information
This section is supplemented with the following new sentence:

If a document that is provided as reference information contains material also included as a part of the Contract, that portion of the document shall be considered a part of the Contract and not as Reference Information.

1-06.AP1
Section 1-06, Control of Material
January 4, 2016

This section is supplemented with the following new section and subsections:

1-06.6 Recycled Materials
The Contractor shall make their best effort to utilize recycled materials in the construction of the project; the use of recycled concrete aggregate as specified in Section 1-06.6(1)A is a requirement of the Contract.

The Contractor shall submit a Recycled Material Utilization Plan as a Type 1 Working Drawing within 30 calendar days after the Contract is executed. The plan shall provide the Contractor’s anticipated usage of recycled materials for meeting the requirements of these Specifications. The quantity of recycled materials will be provided in tons and as a percentage of the Plan quantity for each material listed in Section 9-03.21(1)E Table on Maximum Allowable Percent (By Weight) of Recycled Material. When a Contract does not include Work that requires the use of a material that is included in the
requirements for using materials the Contractor may state in their plan that no recycled materials are proposed for use.

Prior to Physical Completion the Contractor shall report the quantity of recycled materials that were utilized in the construction of the project for each of the items listed in Section 9-03.21. The report shall include hot mix asphalt, recycled concrete aggregate, recycled glass, steel furnace slag and other recycled materials (e.g. utilization of on-site material and aggregates from concrete returned to the supplier).

The Contractor’s report shall be provided on DOT Form 350-075 Recycled Materials Reporting.

1-06.6(1) Recycling of Aggregate and Concrete Materials

1-06.6(1)A General
The minimum quantity of recycled concrete aggregate shall be 25 percent of the total quantity of aggregate that is incorporated into the Contract for those items listed in Section 9-03.21(1)E Table on Maximum Allowable Percent (By Weight) of Recycled Material that allow the use of recycled concrete aggregate. The percentage of recycled material incorporated into the project for meeting the required percentage will be calculated in tons based on the quantity of recycled concrete used on the entire Contract and not as individual items.

If the Contractor’s total cost for Work with recycled concrete aggregate is greater than without the Contractor may choose to not use recycled concrete aggregate. When the Contractor does not meet the minimum requirement of 25 percent recycled concrete aggregate for the Contract due to costs or any other reason the following shall be submitted:

1. A cost estimate for each material listed in Section 9-03.21(1)E that is utilized on the Contract. The cost estimate shall include the following:
   a. The estimated costs for the Work for each material with 25 percent recycled concrete aggregate. The cost estimate shall include for each material a copy of the price quote from the supplier with the lowest total cost for the Work.
   b. The estimated costs for the Work for each material without recycled concrete aggregate.

The Contractor’s cost estimates shall be submitted as an attachment to the Recycled Materials Reporting form.

1-07.AP1
Section 1-07, Legal Relations and Responsibilities to the Public
January 3, 2017

1-07.1 Laws to be Observed
In the second to last sentence of the third paragraph, “WSDOT” is revised to read “Contracting Agency”.

AMENDMENTS TO THE 2016 STANDARD SPECIFICATIONS BOOK
Revised: 4/3/17
1-07.2(2) State Sales Tax: WAC 458-20-170 – Retail Sales Tax
The last three sentences of the first paragraph are deleted and replaced with the following new sentence:

The Contractor (Prime or Subcontractor) shall include sales or use tax on the purchase or rental of tools, machinery, equipment, or consumable supplies not integrated into the project, in the unit bid prices.

1-07.3(1) Forest Fire Prevention
This section is supplemented with the following new subsections:

1-07.3(1)A Fire Prevention Control and Countermeasures Plan
The Contractor shall prepare and implement a project-specific fire prevention, control, and countermeasures plan (FPCC Plan) for the duration of the project. The Contractor shall submit a Type 2 Working Drawing no later than the date of the preconstruction conference.

1-07.3(1)A1 FPCC Plan Implementation Requirements
The Contractor’s FPCC Plan shall be fully implemented at all times. The Contractor shall update the FPCC Plan throughout project construction so that the plan reflects actual site conditions and practices. The Contractor shall update the FPCC Plan at least annually and maintain a copy of the updated FPCC Plan that is available for inspection on the project site. Revisions to the FPCC Plan and the Industrial Fire Precaution Level (IFPL) shall be discussed at the weekly project safety meetings.

1-07.3(1)A2 FPCC Plan Element Requirements
The FPCC Plan shall include the following:

1. The names, titles, and contact information for the personnel responsible for implementing and updating the plan.

2. The names and telephone numbers of the Federal, State, and local agencies the Contractor shall notify in the event of a fire.

3. All potential fire causing activities such as welding, cutting of metal, blasting, fueling operations, etc.

4. The location of fire extinguishers, water, shovels, and other firefighting equipment.

5. The response procedures the Contractor shall follow in the event of a fire.

Most of Washington State is covered under the IFPL system which, by law, is managed by the Department of Natural Resources (DNR). It is the Contractor’s responsibility to be familiar with the DNR requirements and to verify whether or not IFPL applies to the specific project.

If the Contractor wishes to continue a work activity that is prohibited under an industrial fire precaution level, the Contractor shall obtain a waiver from the DNR and provide a copy to the Engineer prior to continuation of work on the project.
If the IFPL requirements prohibit the Contractor from performing Work the
Contractor may be eligible for an unworkable day in accordance with Section 1-
08.5.

The Contractor shall comply with the requirements of these provisions at no
additional cost to the Contracting Agency.

1-07.8 High-Visibility Apparel

The last paragraph is revised to read:

High-visibility garments shall be labeled as, and in a condition compliant with the
ANSI/ISEA 107 (2004 or later version) and shall be used in accordance with
manufacturer recommendations.

1-07.8(1) Traffic Control Personnel

In this section, references to “ANSI/ISEA 107-2004” are revised to read “ANSI/ISEA 107”.

1-07.8(2) Non-Traffic Control Personnel

In this section, the reference to “ANSI/ISEA 107-2004” is revised to read “ANSI/ISEA 107”.

1-07.9(2) Posting Notices

Items 1 and 2 are revised to read:

1. EEOC - P/E-1 (revised 11/09, supplemented 09/15) – Equal Employment
   Opportunity IS THE LAW published by US Department of Labor. Post for projects
   with federal-aid funding.

2. FHWA 1022 (revised 05/15) – NOTICE Federal-Aid Project published by Federal
   Highway Administration (FHWA). Post for projects with federal-aid funding.

Items 5, 6 and 7 are revised to read:

5. WHD 1420 (revised 02/13) – Employee Rights and Responsibilities Under The
   Family And Medical Leave Act published by US Department of Labor. Post on all
   projects.

6. WHD 1462 (revised 01/16) – Employee Polygraph Protection Act published by
   US Department of Labor. Post on all projects.

   Washington State Department of Labor and Industries. Post on all projects.

Items 9 and 10 are revised to read:

9. F700-074-909 (revised 06/13) – Your Rights as a Worker in Washington State
   by Washington State Department of Labor and Industries (L&I). Post on all projects.

10. EMS 9874 (revised 10/15) – Unemployment Benefits published by Washington
    State Employment Security Department. Post on all projects.

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

The second sentence of the first paragraph is deleted.
The first sentence of the second paragraph is revised to read:

The SPCC Plan shall address all fuels, petroleum products, hazardous materials, and other materials defined in Chapter 447 of the WSDOT Environmental Manual M 31-11.

Item number four of the fourth paragraph (up until the colon) is revised to read:

4. **Potential Spill Sources** – Describe each of the following for all potentially hazardous materials brought or generated on-site, including but not limited to materials used for equipment operation, refueling, maintenance, or cleaning:

The first sentence of item 7e of the fourth paragraph is revised to read:

BMP methods and locations where they are used to prevent discharges to ground or water during mixing and transfer of hazardous materials and fuel.

The last paragraph is deleted.

Section 1-08, Prosecution and Progress

January 3, 2017

1-08.1 Subcontracting

The second sentence of the second to last paragraph is revised to read:

Whenever the Contractor withholds payment to a Subcontractor for any reason including disputed amounts, the Contractor shall provide notice within 10 calendar days to the Subcontractor with a copy to the Contracting Agency identifying the reason for the withholding and a clear description of what the Subcontractor must do to have the withholding released.

The fourth sentence of the second to last paragraph is revised to read:

The Monthly Payment Summary shall include all Subcontractors that performed work that was paid on the progress estimate by the Contracting Agency.

1-08.1(1) Prompt Payment, Subcontract Completion and Return of Retainage Withheld

In item number 5 of the first paragraph, “WSDOT” is revised to read “Contracting Agency”.

The last sentence in item number 11 of the first paragraph is revised to read:

The Contractor may also require any documentation from the Subcontractor that is required by the subcontract or by the Contract between the Contractor and Contracting Agency or by law such as affidavits of wages paid, and material acceptance certifications to the extent that they relate to the Subcontractor’s Work.

Item number 12 of the first paragraph is revised to read:

12. If the Contractor fails to comply with the requirements of the Specification and the Subcontractor’s retainage or retainage bond is wrongfully withheld, the Contractor
will be subject to the actions described in No. 7 listed above. The Subcontractor may also seek recovery against the Contractor under applicable prompt pay statutes in addition to any other remedies provided for by the subcontract or by law.

1-08.5 Time for Completion
In item 2c of the last paragraph, “Quarterly Reports” is revised to read “Monthly Reports”.

1-09.AP1
Section 1-09, Measurement and Payment
April 4, 2016

1-09.6 Force Account
The second sentence of item number 4 is revised to read:
A “specialized service” is a work operation that is not typically done by worker classifications as defined by the Washington State Department of Labor and Industries and by the Davis Bacon Act, and therefore bills by invoice for work in road, bridge and municipal construction.

1-10.AP1
Section 1-10, Temporary Traffic Control
January 3, 2017

1-10.1(2) Description
The first paragraph is revised to read:
The Contractor shall provide flaggers and all other personnel required for labor for traffic control activities that are not otherwise specified as being furnished by the Contracting Agency.
In the third paragraph, “Project Engineer” is revised to read “Engineer”.

The following new paragraph is inserted after the third paragraph:
The Contractor shall keep lanes, on-ramps, and off-ramps, open to traffic at all times except when Work requires closures. Ramps shall not be closed on consecutive interchanges at the same time, unless approved by the Engineer. Lanes and ramps shall be closed for the minimum time required to complete the Work. When paving hot mix asphalt the Contractor may apply water to the pavement to shorten the time required before reopening to traffic.

1-10.3(2)C Lane Closure Setup/Takedown
The following new paragraph is inserted before the last paragraph:
Channelization devices shall not be moved by traffic control personnel across an open lane of traffic. If an existing setup or staging of traffic control devices require crossing an open lane of traffic, the traffic control devices shall be taken down completely and then set up in the new configuration.
2-03.AP2
Section 2-03, Roadway Excavation and Embankment
August 1, 2016

2-03.3(7)C Contractor-Provided Disposal Site
The second paragraph is revised to read:

The Contractor shall acquire all permits and approvals required for the use of the
disposal sites before any waste is hauled off the project. The Contractor shall submit a
Type 1 Working Drawing consisting of copies of the permits and approvals for any
disposal sites to be used. The cost of any such permits and approvals shall be included
in the Bid prices for other Work.

The third paragraph is deleted.

2-06.AP2
Section 2-06, Subgrade Preparation
January 3, 2017

2-06.3(2) Subgrade for Pavement
The second sentence in the first paragraph is revised to read:

The Contractor shall compact the Subgrade to a depth of 6 inches to 95 percent of
maximum density as determined by the compaction control tests for granular materials.

3-04.AP3
Section 3-04, Acceptance of Aggregate
January 3, 2017

3-04.5 Payment
In Table 1, the Contingent Unit Price Per Ton value for the item HMA Aggregate is revised
to read “$15.00”.

4-04.AP4
Section 4-04, Ballast and Crush Surfacing
January 3, 2017

4-04.3(5) Shaping and Compaction
The first sentence is revised to read:

Immediately following spreading and final shaping, each layer of surfacing shall be
compacted to at least 95 percent of maximum density determined by the requirements
of Section 2-03.3(14)D before the next succeeding layer of surfacing or pavement is
placed.

5-01.AP5
Section 5-01, Cement Concrete Pavement Rehabilitation
January 3, 2017

In this section, “portland cement” is revised to read “cement”.

AMENDMENTS TO THE 2016 STANDARD SPECIFICATIONS BOOK
Revised: 4/3/17
5-01.2 Materials
In the first paragraph, the following item is inserted after the item “Joint Sealants”:

Closed Cell Foam Backer Rod 9-04.2(3)A

5-01.3(1)A Concrete Mix Designs
This section, including title, is revised to read:

5-01.3(1)A Mix Designs
The Contractor shall use either concrete patching materials or cement concrete for the rehabilitation of cement concrete pavement. Concrete patching materials shall be used for spall repair and dowel bar retrofitting and cement concrete shall be used for concrete panel replacement.

5-01.3(1)A1 Concrete Patching Materials
Item number 1 is revised to read:

1. Materials – The prepackaged concrete patching material and the aggregate extender shall conform to Section 9-20.

5-01.3(1)A2 Portland Cement Concrete
This section, including title, is revised to read:

5-01.3(1)A2 Cement Concrete for Panel Replacement
Cement concrete for panel replacement shall meet the requirements of Sections 5-05.3(1) and 5-05.3(2) and be air entrained with a design air content of 5.5 percent. Cement concrete for panel replacement may use rapid hardening hydraulic cement meeting the requirements of Section 9-01.2(2). Rapid hardening hydraulic cement will be considered a cementitious material for the purpose of calculating the water/cementitious materials ratio and the minimum cementitious materials requirement.

5-01.3(1)B Equipment
This section’s title is revised to read:

Equipment for Panel Replacement

5-01.3(2)B Portland Cement Concrete
This section’s title is revised to read:

Cement Concrete for Panel Replacement

This section is supplemented with the following new subsection:

5-01.3(2)B1 Conformance to Mix Design
Acceptance of cement concrete pavement for panel replacement shall be in accordance with Section 5-01.3(2)B. The cement, coarse, and fine aggregate weights shall be within the tolerances of the mix design in accordance with Section 5-05.3(1).

5-01.3(2)B1 Rejection of Concrete
This section is renumbered as follows:
5-01.3(2)B2 Rejection of Concrete

5-01.3(4) Replace Portland Cement Concrete Panel
This section’s title is revised to read:

Replace Cement Concrete Panel

5-01.3(8) Sealing Existing Transverse and Longitudinal Joints
This section’s title is revised to read:

Sealing Existing Longitudinal and Transverse Joint

The first paragraph is revised to read:

The Contractor shall clean and seal existing longitudinal and transverse joints where shown in the Plans or as marked by the Engineer.

The first sentence of the second paragraph is revised to read:

Old sealant and incompressible material shall be completely removed from the joint to the depth of the new reservoir with a diamond blade saw in accordance with the detail shown in the Standard Plans.

The fifth paragraph is revised to read:

Immediately prior to sealing, the cracks shall be blown clean with dry oil-free compressed air. If shown in the Plans, a backer rod shall be placed at the base of the sawn reservoir. The joints shall be completely dry before the sealing installation may begin. Immediately following the air blowing and backer rod placement, if required, the sealant material shall be installed in conformance to manufacturer’s recommendations and in accordance with Section 5-05.3(8)B.

5-01.3(9) Portland Cement Concrete Pavement Grinding
This section’s title is revised to read:

Cement Concrete Pavement Grinding

5-01.3(11) Concrete Slurry and Grinding Residue
The last sentence of the first paragraph is revised to read:

Slurry shall not be allowed to drain into an area open to traffic, off of the paved surface, into any drainage structure, water of the state, or wetlands.

The following new sentence is inserted at the end of the second paragraph:

The Contractor shall submit copies of all disposal tickets to the Engineer within 5 calendar days.

5-01.4 Measurement
The fourth paragraph is revised to read:
Sealing existing longitudinal and transverse joint will be measured by the linear foot, measured along the line of the completed joint.

5-01.5 Payment
The Bid item “Sealing Transverse and Longitudinal Joints”, per linear foot and the paragraph following Bid item are revised to read:

“Sealing Existing Longitudinal and Transverse Joint”, per linear foot.

The unit Contract price per linear foot for “Sealing Existing Longitudinal and Transverse Joint”, shall be full payment for all costs to complete the Work as specified, including removing incompressible material, preparing and sealing existing transverse and longitudinal joints where existing transverse and longitudinal joints are cleaned and for all incidentals required to complete the Work as specified.

5-02.AP5
Section 5-02, Bituminous Surface Treatment
April 4, 2016

5-02.3(2) Preparation of Roadway Surface
This section is supplemented with the following new subsection:

5-02.3(2)E Crack Sealing
Where shown in the Plans, seal cracks and joints in the pavement in accordance with Section 5-04.3(4)A1 and the following:

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

5-04.AP5
Section 5-04, Hot Mix Asphalt
April 3, 2017

This section (and all subsections) is revised to read:

This Section 5-04 is written in a style which, unless otherwise indicated, shall be interpreted as direction to the Contractor.

5-04.1 Description
This Work consists 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.

HMA shall be composed of asphalt binder and mineral materials as required, and may include reclaimed asphalt pavement (RAP) or reclaimed asphalt shingles (RAS), mixed in the proportions specified to provide a homogeneous, stable, and workable mix.

5-04.2 Materials
Provide materials as specified in these sections:
5-04.2(1) How to Get an HMA Mix Design on the QPL

Comply with each of the following:

- Develop the mix design in accordance with WSDOT SOP 732.
- Develop a mix design that complies with Sections 9-03.8(2) and 9-03.8(6).
- Develop a mix design no more than 6 months prior to submitting it for QPL evaluation.
- Submit mix designs to the WSDOT State Materials Laboratory in Tumwater, including WSDOT Form 350-042.
- Include representative samples of the materials that are to be used in the HMA production as part of the mix design submittal.
- Identify the brand, type, and percentage of anti-stripping additive in the mix design submittal.
- Include with the mix design submittal a certification from the asphalt binder supplier that the anti-stripping additive is compatible with the crude source and the formulation of asphalt binder proposed for use in the mix design.
- Do not include warm mix asphalt (WMA) additives when developing a mix design or submitting a mix design for QPL evaluation. The use of warm mix asphalt (WMA) additives is not part of the process for obtaining approval for listing a mix design on the QPL. Refer to Section 5-04.2(2)B.

The Contracting Agency’s basis for approving, testing, and evaluating HMA mix designs for approval on the QPL is dependent on the contractual basis for acceptance of the HMA mixture, as shown in Table 1.

<table>
<thead>
<tr>
<th>Contractual Basis for Acceptance of HMA Mixture (see Basis for Contracting Agency Approval of Mix Design for Contracting Agency Materials Testing for Evaluation of the Mix)</th>
<th>Basis for Contracting Agency Evaluation of HMA Mix Designs for Approval on the QPL</th>
</tr>
</thead>
</table>

AMENDMENTS TO THE 2016 STANDARD SPECIFICATIONS BOOK
Revised: 4/3/17
If the Contracting Agency approves the mix design, it will be listed on the QPL for 12 consecutive months. The Contracting Agency may extend the 12 month listing provided the Contractor submits a certification letter to the Qualified Products Engineer verifying that the aggregate source and job mix formula (JMF) gradation, and asphalt binder crude source and formulation have not changed. The Contractor may submit the certification no sooner than three months prior to expiration of the initial 12 month mix design approval. Within 7 calendar days of receipt of the Contractor’s certification, the Contracting Agency will update the QPL. The maximum duration for approval of a mix design and listing on the QPL will be 24 months from the date of initial approval or as approved by the Engineer.

5-04.2(1)A Mix Designs Containing RAP and/or RAS
Mix designs are classified by the RAP and/or RAS content as shown in Table 2.

### Table 2

<table>
<thead>
<tr>
<th>RAP/RAS Classification</th>
<th>RAP/RAS Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low RAP/No RAS</td>
<td>0% ≤ RAP% ≤ 20% and RAS% = 0%</td>
</tr>
<tr>
<td>High RAP/Any RAS</td>
<td>20% &lt; RAP% ≤ Maximum Allowable RAP(^2) and/or 0% &lt; RAS% ≤ Maximum Allowable RAS(^2)</td>
</tr>
</tbody>
</table>

\(^1\)Percentages in this table are by total weight of HMA
\(^2\)See Table 4 to determine the limits on the maximum amount RAP and/or RAS.

5-04.2(1)A1 Low RAP/No RAS – Mix Design Submittals for Placement on QPL
For Low RAP/No RAS mix designs, comply with the following additional requirements:

1. Develop the mix design with or without the inclusion of RAP.
2. The asphalt binder grade shall be the grade indicated in the Bid item name or as otherwise required by the Contract.
3. Submit samples of RAP if used in development of the mix design.

4. Testing RAP or RAS stockpiles is not required for obtaining approval for placing these mix designs on the QPL.

5-04.2(1)A2 High RAP/Any RAS - Mix Design Submittals for Placement on QPL

For High RAP/Any RAS mix designs, comply with the following additional requirements:

1. For mix designs with any RAS, test the RAS stockpile (and RAP stockpile if any RAP is in the mix design) in accordance with Table 3.

2. For High RAP mix designs with no RAS, test the RAP stockpile in accordance with Table 3.

3. For mix designs with High RAP/Any RAS, construct a single stockpile for RAP and a single stockpile for RAS and isolate (sequester) these stockpiles from further stockpiling before beginning development of the mix design. Test the RAP and RAS during stockpile construction as required by item 1 and 2 above. Use the test data in developing the mix design, and report the test data to the Contracting Agency on WSDOT Form 350-042 as part of the mix design submittal for approval on the QPL. Account for the reduction in asphalt binder contributed from RAS in accordance with AASHTO PP 78. Do not add to these stockpiles after starting the mix design process.

**Table 3**

<table>
<thead>
<tr>
<th>Test Frequency¹</th>
<th>Test for</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 1/1000 tons of RAP (minimum of 10 per mix design) and • 1/100 tons of RAS (minimum of 10 per mix design)</td>
<td>Asphalt Binder Content and Sieve Analysis of Fine and Coarse Aggregate</td>
<td>FOP for AASHTO T 308 and FOP for WAQTC T 27/T 11</td>
</tr>
</tbody>
</table>

¹"tons", in this table, refers to tons of the reclaimed material before being incorporated into HMA.

4. Limit the amount of RAP and/or RAS used in a High RAP/Any RAS mix design by the amount of binder contributed by the RAP and/or RAS, in accordance with Table 4.

**Table 4**
Maximum Amount of RAP and/or RAS in HMA Mixture

<table>
<thead>
<tr>
<th>Maximum Amount of Binder Contributed from:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>RAP</td>
<td>RAS</td>
</tr>
<tr>
<td>40%(^1) minus contribution of binder from RAS</td>
<td>20%(^2)</td>
</tr>
</tbody>
</table>

\(^1\) Calculated as the weight of asphalt binder contributed from the RAP as a percentage of the total weight of asphalt binder in the mixture.

\(^2\) Calculated as the weight of asphalt binder contributed from the RAS as a percentage of the total weight of asphalt binder in the mixture.

5. Develop the mix design including RAP, RAS, recycling agent, and new binder.

6. Extract, recover, and test the asphalt residue from the RAP and RAS stockpiles to determine the percent of recycling agent and/or grade of new asphalt binder needed to meet but not exceed the performance grade (PG) of asphalt binder required by the Contract.
   
   a. Perform the asphalt extraction in accordance with AASHTO T 164 or ASTM D 2172 using reagent grade solvent.
   
   b. Perform the asphalt recovery in accordance with AASHTO R 59 or ASTM D 1856.
   
   c. Test the recovered asphalt residue in accordance with AASHTO R 29 to determine the asphalt binder grade in accordance with Section 9-02.1(4).
   
   d. After determining the recovered asphalt binder grade, determine the percent of recycling agent and/or grade of new asphalt binder in accordance with ASTM D 4887.
   
   e. Test the final blend of recycling agent, binder recovered from the RAP and RAS, and new asphalt binder in accordance with AASHTO R 29. The final blended binder shall meet but not exceed the performance grade of asphalt binder required by the Contract and comply with the requirements of Section 9-02.1(4).

7. Include the following test data with the mix design submittal:
   
   a. All test data from RAP and RAS stockpile construction.
   
   b. All data from testing the recovered and blended asphalt binder.

8. Include representative samples of the following with the mix design submittal:
a. RAP and RAS.

b. 150 grams of recovered asphalt residue from the RAP and RAS that are to be used in the HMA production.

5-04.2(1)B Commercial HMA - Mix Design Submittal for Placement on QPL

For HMA used in the Bid item Commercial HMA, in addition to the requirements of 5-04.2(1) identify the following in the submittal:

1. Commercial HMA
2. Class of HMA
3. Performance grade of binder
4. Equivalent Single Axle Load (ESAL)

The Contracting Agency may elect to approve Commercial HMA mix designs without evaluation.

5-04.2(1)C Mix Design Resubmittal for QPL Approval

Develop a new mix design and resubmit for approval on the QPL when any of the following changes occur. When these occur, discontinue using the mix design until after it is reapproved on the QPL.

1. Change in the source of crude petroleum used in the asphalt binder.
2. Changes in the asphalt binder refining process.
3. Changes in additives or modifiers in the asphalt binder.
4. Changes in the anti-strip additive, brand, type or quantity.
5. Changes to the source of material for aggregate.
6. Changes to the job mix formula that exceed the amounts as described in item 2 of Section 9-03.8(7), unless otherwise approved by the Engineer.
7. Changes in the percentage of material from a stockpile, when such changes exceed 5% of the total aggregate weight.
   a. For Low RAP/No RAS mix designs developed without RAP, changes to the percentage of material from a stockpile will be calculated based on the total aggregate weight not including the weight of RAP.
   b. For Low RAP/No RAS mix designs developed with RAP, changes to the percentage of material from a stockpile will be calculated based on the total aggregate weight including the weight of RAP.
c. For High RAP/Any RAS mix designs, changes in the percentage of material from a stockpile will be based on total aggregate weight including the weight of RAP (and/or RAS when included in the mixture).

Prior to making any change in the amount of RAS in an approved mix design, notify the Engineer for determination of whether a new mix design is required, and obtain the Engineer’s approval prior to implementing such changes.

5-04.2(2) Mix Design – Obtaining Project Approval
Use only mix designs listed on the Qualified Products List (QPL). Submit WSDOT Form 350-041 to the Engineer to request approval to use a mix design from the QPL. Changes to the job mix formula (JMF) that have been approved on other contracts may be included. The Engineer may reject a request to use a mix design if production of HMA using that mix design on any contract is not in compliance with Section 5-04.3(11)D, E, F, and G for mixture or compaction.

5-04.2(2)A Changes to the Job Mix Formula
The approved mix design obtained from the QPL will be considered the starting job mix formula (JMF) and shall be used as the initial basis for acceptance of HMA mixture, as detailed in Section 5-04.3(9).

During production the Contractor may request to adjust the JMF. Any adjustments to the JMF will require approval of the Engineer and shall be made in accordance with item 2 of Section 9-03.8(7). After approval by the Engineer, such adjusted JMF’s shall constitute the basis for acceptance of the HMA mixture.

5-04.2(2)B Using Warm Mix Asphalt Processes
The Contractor may, at the Contractor’s discretion, elect to use warm mix asphalt (WMA) processes for producing HMA. WMA processes include organic additives, chemical additives, and foaming. The use of WMA is subject to the following:

• Do not use WMA processes in the production of High RAP/Any RAS mixtures.
• Before using WMA processes, obtain the Engineer’s approval using WSDOT Form 350-076 to describe the proposed WMA 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 in Table 5, or when weather conditions otherwise prevent the proper handling or finishing of the HMA.

| Table 5 |
| Minimum Surface Temperature for Paving |
5-04.3(2) Paving Under Traffic

These requirements apply when the Roadway being paved is open to traffic.

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.

During paving operations, maintain temporary pavement markings throughout the project. Install temporary pavement markings on the Roadway prior to opening to traffic. Temporary pavement markings shall comply with Section 8-23.

5-04.3(3) Equipment

5-04.3(3)A Mixing Plant

Equip mixing plants as follows.

1. **Use tanks for storage and preparation of asphalt binder which:**
   - Heat the contents by means that do not allow flame to contact the contents or the tank, such as by steam or electricity.
   - Heat and hold contents at the required temperatures.
   - Continuously circulate contents to provide uniform temperature and consistency during the operating period.
   - Provide an asphalt binder sampling valve, in either the storage tank or the supply line to the mixer.

2. **Provide thermometric equipment:**
   - In the asphalt binder feed line near the charging valve at the mixer unit, capable of detecting temperature ranges expected in the HMA and in a location convenient and safe for access by inspectors.
   - At the discharge chute of the drier to automatically register or indicate the temperature of the heated aggregates, and situated in full view of the plant operator.

3. **When heating asphalt binder:**
   - Do not exceed the maximum temperature of the asphalt binder recommended by the asphalt binder supplier.
   - Avoid local variations in heating.
• Provide a continuous supply of asphalt binder to the mixer at a uniform average temperature with no individual variations exceeding 25°F.

4. **Provide a mechanical sampler for sampling mineral materials that:**

   • Meets the crushing or screening requirements of Section 1-05.6.

5. **Provide HMA sampling equipment that complies with WSDOT T168.**

   • Use a mechanical sampling device installed between the discharge of the silo and the truck transport, approved by the Engineer, or

   • Platforms or devices to enable sampling from the truck transport without entering the truck transport for sampling HMA.

6. **Provide for setup and operation of the Contracting Agency’s field testing:**

   • As required in Section 3-01.2(2).

7. **Provide screens or a lump breaker:**

   • When using any RAP or any RAS, to eliminate oversize RAP or RAS particles from entering the pug mill or drum mixer.

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

Provide HMA hauling equipment with tight, clean, smooth metal beds and a cover of canvas or other suitable material of sufficient size to protect the HMA from adverse weather. Securely attach the cover to protect the HMA whenever the weather conditions during the work shift include, or are forecast to include, precipitation or an air temperature less than 45°F.

Prevent HMA from adhering to the hauling equipment. Spray metal beds with an environmentally benign release agent. Drain excess release agent prior to filling hauling equipment with HMA. Do not use petroleum derivatives or other coating material that contaminate or alter the characteristics of the HMA. For hopper trucks, operate the conveyer during the process of applying the release agent.

5-04.3(3)C **Pavers**

Use self-contained, power-propelled pavers provided with an internally heated vibratory screed that is capable of spreading and finishing courses of HMA in lane widths required by the paving section shown in the Plans.

When requested by the Engineer, provide written certification that the paver is equipped with the most current equipment available from the manufacturer for the prevention of segregation of the coarse aggregate particles. The
certification shall list the make, model, and year of the paver and any
equipment that has been retrofitted to the paver.

Operate the screed in accordance with the manufacturer’s recommendations
and in a manner to produce a finished surface of the required evenness and
texture without tearing, shoving, segregating, or gouging the mixture. Provide
a copy of the manufacturer’s recommendations upon request by the
Contracting Agency. Extensions to the screed will be allowed provided they
produce the same results, including ride, density, and surface texture as
obtained by the primary screed. In the Travelled Way do not use extensions
without both augers and an internally heated vibratory screed.

Equip the paver with automatic screed controls and sensors for either or both
sides of the paver. The controls shall be capable of sensing grade from an
outside reference line, sensing the transverse slope of the screed, and
providing automatic signals that operate the screed to maintain the desired
grade and transverse slope. Construct the sensor so it will operate from a
reference line or a mat referencing device. The transverse slope controller
shall be capable of maintaining the screed at the desired slope within plus or
minus 0.1 percent.

Equip the paver with automatic feeder controls, properly adjusted to maintain a
uniform depth of material ahead of the screed.

Manual operation of the screed is permitted in the construction of irregularly
shaped and minor areas. These areas include, but are not limited to, gore
areas, road approaches, tapers and left-turn channelizations.

When specified in the Contract, provide reference lines for vertical control.
Place reference lines on both outer edges of the Traveled Way of each
Roadway. Horizontal control utilizing the reference line is permitted.
Automatically control the grade and slope of intermediate lanes by means of
reference lines or 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 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.

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

Use a material transfer device (MTD) or material transfer vehicle (MTV) to deliver the HMA from the hauling equipment to the paving machine for any lift in (or partially in) the top 0.30 feet of the pavement section used in traffic lanes. However, an MTD/V is not required for HMA placed in irregularly shaped and minor areas such as tapers and turn lanes, or for HMA mixture that is accepted by Visual Evaluation. At the Contractor’s request the Engineer may approve paving without an MTD/V; the Engineer will determine if an equitable adjustment in cost or time is due. If a windrow elevator is used, the Engineer may limit the length of the windrow in urban areas or through intersections.

To be approved for use, an MTV:

1. Shall be a 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

Operate rollers in accordance with the manufacturer’s recommendations. When requested by the Engineer, provide a Type 1 Working Drawing of the manufacturer’s recommendation for the use of any roller planned for use on the project. Do not use rollers that crush aggregate, produce pickup or washboard, unevenly compact the surface, displace the mix, or produce other undesirable results.
5-04.3(4) Preparation of Existing Paved Surfaces

Before constructing HMA on an existing paved surface, the entire surface of the pavement shall be clean. Entirely remove all fatty asphalt patches, grease drippings, and other deleterious substances from the existing pavement to the satisfaction of the Engineer. Thoroughly clean all pavements or bituminous surfaces of dust, soil, pavement grindings, and other foreign matter. Thoroughly remove any cleaning or solvent type liquids used to clean equipment spilled on the pavement before paving proceeds. Fill all holes and small depressions with an appropriate class of HMA. Level and thoroughly compact the surface of the patched area.

Apply a uniform coat of asphalt (tack coat) to all paved surfaces on which any course of HMA is to be placed or abutted. Apply tack coat to cover the cleaned existing pavement with a thin film of residual asphalt free of streaks and bare spots. Apply a heavy application of tack coat to all joints. For Roadways open to traffic, limit the application of tack coat to surfaces that will be paved during the same working shift. Equip the spreading equipment with a thermometer to indicate the temperature of the tack coat material.

Do not operate equipment on tacked surfaces until the tack has broken and cured. Repair tack coat damaged by the Contractor’s operation, prior to placement of the HMA.

Unless otherwise approved by the Engineer, use cationic emulsified asphalt CSS-1, CSS-1h, STE-1, or Performance Graded (PG) asphalt for tack coat. The CSS-1 and CSS-1h may be diluted with water at a rate not to exceed one part water to one part emulsified asphalt. Do not allow the tack coat material to exceed the maximum temperature recommended by the asphalt supplier.

When shown in the Plans, prelevel uneven or broken surfaces over which HMA is to be placed by using an asphalt paver, a motor patrol grader, or by hand raking, as approved by the Engineer.

5-04.3(4)A Crack Sealing

5-04.3(4)A1 General

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

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

Sand Slurry: For cracks that are to be filled with sand slurry, thoroughly mix the components and pour the mixture into the cracks until full. Add additional CSS-1 cationic emulsified asphalt to the sand slurry as needed for workability to ensure the mixture will completely fill the crack. 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.

**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. Confin hot poured sealant material within the crack. Clean any overflow of sealant from the pavement surface. If, in the opinion of the Engineer, the Contractor’s method of sealing the cracks with hot poured sealant results in an excessive amount of material on the pavement surface, stop and correct the operation to eliminate the excess material.

**5-04.3(4)A2 Crack Sealing Areas Prior to Paving**
In areas where HMA will be placed, use sand slurry to fill the cracks.

**5-04.3(4)A3 Crack Sealing Areas Not to be Paved**
In areas where HMA will not be placed, fill the cracks as follows:

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

**5-04.3(4)B Soil Residual Herbicide**
Where shown in the Plans, apply one application of an approved soil residual herbicide. Comply with Section 8-02.3(3)B. Complete paving within 48 hours of applying the herbicide.

Use herbicide registered with the Washington State Department of Agriculture for use under pavement. Before use, obtain the Engineer’s approval of the herbicide and the proposed rate of application. Include the following information in the request for approval of the material:

1. Brand Name of the Material,
2. Manufacturer,
3. Environmental Protection Agency (EPA) Registration Number,
4. Material Safety Data Sheet, and
5. Proposed Rate of Application.

**5-04.3(4)C Pavement Repair**
Excavate pavement repair areas and backfill these with HMA in accordance with the details shown in the Plans and as staked. Conduct the excavation operations in a manner that will protect the pavement that is to remain. Repair pavement not designated to be removed that is damaged as a result of the
Contractor’s operations to the satisfaction of the Engineer at no cost to the Contracting Agency. Excavate only within one lane at a time unless approved otherwise by the Engineer. Do not excavate more area than can be completely backfilled and compacted during the same shift.

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, sawcut the perimeter of the pavement area to be removed unless the pavement in the pavement repair area is to be removed by a pavement grinder.

Excavated materials shall be 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.

Apply a heavy application of tack coat to all surfaces of existing pavement in the pavement repair area, in accordance with Section 5-04.3(4).

Place the HMA backfill in lifts not to exceed 0.35-foot compacted depth. Thoroughly compact each lift by a mechanical tamper or a roller.

5-04.3(5) Producing/Stockpiling Aggregates, RAP, & RAS
Produce aggregate in compliance with Section 3-01. Comply with Section 3-02 for preparing stockpile sites, stockpiling, and removing from stockpile each of the following: aggregates, RAP, and RAS. Provide sufficient storage space for each size of aggregate, RAP and RAS. Fine aggregate or RAP may be uniformly blended with the RAS as a method of preventing the agglomeration of RAS particles. Remove the aggregates, RAP and RAS from stockpile(s) in a manner that ensures minimal segregation when being moved to the HMA plant for processing into the final mixture. Keep different aggregate sizes separated until they have been delivered to the HMA plant.

5-04.3(5)A Stockpiling RAP or RAS for High RAP/Any RAS Mixes
Do not place any RAP or RAS into a stockpile which has been sequestered for a High RAP/Any RAS mix design. Do not incorporate any RAP or RAS into a High RAP/Any RAS mixture from any source other than the stockpile which was sequestered for approval of that particular High RAP/Any RAS mix design.

RAP that is used in a Low RAP/No RAS mix is not required to come from a sequestered stockpile.

5-04.3(6) Mixing
The asphalt supplier shall introduce anti-striping additive, in the amount designated on the QPL for the mix design, into the asphalt binder prior to shipment to the asphalt mixing plant.

Anti-strip is not required for temporary work that will be removed prior to Physical Completion.
Use asphalt binder of the grade, and from the supplier, in the approved mix design.

Prior to introducing reclaimed materials into the asphalt plant, remove wire, nails, and other foreign material. Discontinue use of the reclaimed material if the Engineer, in their sole discretion, determines the wire, nails, or other foreign material to be excessive.

Size RAP and RAS prior to entering the mixer to provide uniform and thoroughly mixed HMA. If there is evidence of the RAP or RAS not breaking down during the heating and mixing of the HMA, immediately suspend the use of the RAP or RAS until changes have been approved by the Engineer.

After the required amount of mineral materials, RAP, RAS, new asphalt binder and recycling agent have been introduced into the mixer, mix the HMA until complete and uniform coating of the particles and thorough distribution of the asphalt binder throughout the mineral materials, RAP and RAS is ensured.

Upon discharge from the mixer, ensure that the temperature of the HMA does not exceed the optimum mixing temperature shown on the approved Mix Design Report by more than 25°F, or as approved by the Engineer. When a WMA additive is included in the manufacture of HMA, do not heat the WMA additive (at any stage of production including in binder storage tanks) to a temperature higher than 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, reduce the moisture content.

During the daily operation, HMA may be temporarily held in approved storage facilities. Do not incorporate HMA into the Work that has been held for more than 24 hours after mixing. Provide an easily readable, low bin-level indicator on the storage facility that indicates the amount of material in storage. Waste the HMA in storage when the top level of HMA drops 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. Dispose of rejected or waste HMA at no expense to the Contracting Agency.

5-04.3(7) Spreading and Finishing
Do not exceed the maximum nominal compacted depth of any layer in any course, as shown in Table 6, unless approved by the Engineer:

| Table 6 |
|-----------------|-------------------|-------------------|
| **HMA Class**   | **Wearing Course**| **Other than Wearing Course** |
| 1 inch          | 0.35 feet         | 0.35 feet         |
| ¾ and ½ inch    | 0.30 feet         | 0.35 feet         |
| ⅜ inch          | 0.15 feet         | 0.15 feet         |
Use HMA pavers complying with Section 5-04.3(3) to distribute the mix. 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, place the material produced for each JMF with separate spreading and compacting equipment. Do not intermingle HMA produced from more than one JMF. 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**

Sample aggregate for meeting the requirements of Section 3-04 prior to being incorporated into HMA. (The acceptance data generated for the Section 3-04 acceptance analysis will not be commingled with the acceptance data generated for the Section 5-04.3(9) acceptance analysis.) Aggregate acceptance samples shall be taken as described in Section 3-04. Aggregate acceptance testing will be performed by the Contracting Agency. Aggregate contributed from RAP and/or RAS will not be evaluated under Section 3-04.

For aggregate that will be used in HMA mixture which will be accepted by Statistical Evaluation, the Contracting Agency’s acceptance of the aggregate will be based on:

1. Samples taken prior to mixing with asphalt binder, RAP, or RAS;

2. Testing for the materials properties of fracture, uncompacted void content, and sand equivalent;

3. Evaluation by the Contracting Agency in accordance with Section 3-04, including price adjustments as described therein.

For aggregate that will be used in HMA which will be accepted by Visual Evaluation, evaluation in accordance with items 1, 2, and 3 above is at the discretion of the Engineer.

**5-04.3(9) HMA Mixture Acceptance**

The Contracting Agency will evaluate HMA mixture for acceptance by one of two methods as determined from the criteria in Table 7.

<table>
<thead>
<tr>
<th>Basis of Acceptance for HMA Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Visual Evaluation</strong></td>
</tr>
<tr>
<td>Criteria for Selecting the Evaluation Method</td>
</tr>
<tr>
<td>• Commercial HMA placed at any location</td>
</tr>
<tr>
<td>• Any HMA placed in:</td>
</tr>
<tr>
<td>o sidewalks</td>
</tr>
<tr>
<td>o road approaches</td>
</tr>
<tr>
<td>o ditches</td>
</tr>
</tbody>
</table>
amendments to the 2016 standard specifications book
revised: 4/3/17

o slopes
o paths
o trails
o gores
o prelevel
o temporary pavement
o pavement repair
• Other nonstructural applications of HMA as approved by the Engineer

1 Temporary pavement is HMA that will be removed before Physical Completion of the Contract.

5-04.3(9)A Test Sections
This Section applies to HMA mixture accepted by Statistical Evaluation. A test section is not allowed for HMA accepted by Visual Evaluation.

The purpose of a test section is to determine whether or not the Contractor’s mix design and production processes will produce HMA meeting the Contract requirements related to mixture. Construct HMA mixture test sections at the beginning of paving, using at least 600 tons and a maximum of 1,000 tons or as specified by the Engineer. Each test section shall be constructed in one continuous operation.

5-04.3(9)A1 Test Section – When Required, When to Stop
Use Tables 8 and 9 to determine when a test section is required, optional, or not allowed, and to determine when performing test sections may end. Each mix design will be evaluated independently for the test section requirements. If more than one test section is required, each test section shall be evaluated separately by the criteria in table 8 and 9.

<table>
<thead>
<tr>
<th>Table 8</th>
<th>Criteria for Conducting and Evaluating HMA Mixture Test Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(For HMA Mixture Accepted by Statistical Evaluation)</td>
</tr>
<tr>
<td></td>
<td>High RAP/Any RAS</td>
</tr>
<tr>
<td>Is Mixture Test Section Optional or Mandatory?</td>
<td>Mandatory(^1)</td>
</tr>
<tr>
<td>Waiting period after paving the test section.</td>
<td>4 calendar days(^2)</td>
</tr>
<tr>
<td>What Must Happen to Stop Performing Test Sections?</td>
<td>Meet “Results Required to Stop Performing Test Sections” in Table 9 for High RAP/Any RAS.</td>
</tr>
</tbody>
</table>
If a mix design has produced an acceptable test section on a previous contract (paved in the same calendar year, from the same plant, using the same JMF) the test section may be waived if approved by the Engineer.

This is to provide time needed by the Contracting Agency to complete testing and the Contractor to adjust the mixture in response to those test results. Paving may resume when this is done.

Table 9

<table>
<thead>
<tr>
<th>Test Property</th>
<th>Type of HMA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High RAP/Any RAS</td>
</tr>
<tr>
<td>Gradation</td>
<td>Minimum PF$_i$ of 0.95 based on the criteria in Section 5-04.3(9)B4$^2$</td>
</tr>
<tr>
<td>Asphalt Binder</td>
<td>Minimum PF$_i$ of 0.95 based on the criteria in Section 5-04.3(9)B4$^2$</td>
</tr>
<tr>
<td>$V_a$</td>
<td>Minimum PF$_i$ of 0.95 based on the criteria in Section 5-04.3(9)B4$^2$</td>
</tr>
<tr>
<td>Hamburg Wheel Track Indirect Tensile Strength</td>
<td>Meet requirements of Section 9-03.8(2).$^3$ These tests will not be done as part of Test Section.</td>
</tr>
<tr>
<td>Aggregates Sand Equivalent Uncompacted Void Content Fracture</td>
<td>Nonstatistical Evaluation in accordance with the requirements of Section 3-04$^3$</td>
</tr>
</tbody>
</table>

$^1$In addition to the requirements of this table, acceptance of the HMA mixture used in each test section is subject to the acceptance criteria and price adjustments for Statistical Evaluation (see Table 9a).

$^2$Divide the test section lot into three sublots, approximately equal in size. Take one sample from each sublot, and test each sample for the property in the first column.

$^3$Take one sample for each test section lot. Test the sample for the properties in the first column.

$^4$Divide the test section lot into three sublots, approximately equal in size. Take one sample from each sublot, and test each sample for the property in the first column. There are no criteria for discontinuing test sections for these mixes; however, the
contractor must comply with Section 5-04.3(11)F before resuming paving.

5-04.3(9)A2 Test Section – Evaluating the HMA Mixture in a Test Section

The Engineer will evaluate the HMA mixture in each test section for rejection, acceptance, and price adjustments based on the criteria in Table 9a using the data generated from the testing required by Table 9. Each test section shall be considered a separate lot.

Table 9a

<table>
<thead>
<tr>
<th>Test Property</th>
<th>Type of HMA</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High RAP/Any RAS</td>
<td>Low RAP/No RAS</td>
</tr>
<tr>
<td>Gradation</td>
<td>Statistical Evaluation</td>
<td>Statistical Evaluation</td>
</tr>
<tr>
<td>Asphalt Binder</td>
<td>Statistical Evaluation</td>
<td>Statistical Evaluation</td>
</tr>
<tr>
<td>$V_a$</td>
<td>Statistical Evaluation</td>
<td>Statistical Evaluation</td>
</tr>
<tr>
<td>Hamburg Wheel Track</td>
<td>Pass/Fail for the requirements of Section 9-03.8(2)(^1)</td>
<td>N/A</td>
</tr>
<tr>
<td>Indirect Tensile Strength</td>
<td>Nonstatistical Evaluation in accordance with the requirements of Section 3-04</td>
<td>Nonstatistical Evaluation in accordance with the requirements of Section 3-04</td>
</tr>
<tr>
<td>HMA Aggregate</td>
<td>Nonstatistical Evaluation in accordance with the requirements of Section 3-04</td>
<td>Nonstatistical Evaluation in accordance with the requirements of Section 3-04</td>
</tr>
<tr>
<td>Sand Equivalent</td>
<td>Nonstatistical Evaluation in accordance with the requirements of Section 3-04</td>
<td>Nonstatistical Evaluation in accordance with the requirements of Section 3-04</td>
</tr>
<tr>
<td>Uncompacted Void Content</td>
<td>Nonstatistical Evaluation in accordance with the requirements of Section 3-04</td>
<td>Nonstatistical Evaluation in accordance with the requirements of Section 3-04</td>
</tr>
</tbody>
</table>

\(^1\)Failure to meet the specifications for Hamburg and/or IDT will cause the mixture in the test section to be rejected. Refer to Section 5-04.3(11).

5-04.3(9)B Mixture Acceptance – Statistical Evaluation

5-04.3(9)B1 Mixture Statistical Evaluation – Lots and Sublots

HMA mixture which is accepted by Statistical Evaluation will be evaluated by the Contracting Agency dividing that HMA tonnage into mixture lots, and each mixture lot will be evaluated using stratified random sampling by the Contracting Agency sub-dividing each mixture lot into mixture sublots. All mixture in a mixture lot shall be of the same mix design. The mixture sublots will be numbered in the order in which the mixture (of a particular mix design) is paved.

Each mixture lot comprises a maximum of 15 mixture sublots, except:

- The final mixture lot of each mix design on the Contract will comprise a maximum of 25 sublots.
- A mixture lot for a test section will consist of three sublots.

Each mixture subplot shall be approximately uniform in size with the maximum mixture subplot size as specified in Table 10. The quantity of material represented by the final mixture subplot of the project, for
each mix design on the project, may be increased to a maximum of
two times the mixture sublot quantity calculated.

Table 10

<table>
<thead>
<tr>
<th>HMA Original Plan Quantity (tons)</th>
<th>Maximum Sublot Size (tons)²</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 20,000</td>
<td>1,000</td>
</tr>
<tr>
<td>20,000 to 30,000</td>
<td>1,500</td>
</tr>
<tr>
<td>&gt;30,000</td>
<td>2,000</td>
</tr>
</tbody>
</table>

¹ “Plan quantity” means the plan quantity of all HMA of the
same class and binder grade which is accepted by Statistical
Evaluation.
² The maximum sublot size for each combination of HMA class
and binder grade shall be calculated separately.

- For a mixture lot in progress with a mixture CPF less than
  0.75, a new mixture lot will begin at the Contractor's request
  after the Engineer is satisfied that material conforming to the
  Specifications can be produced. See also Section 5-04.3(11)F.

- If, before completing a mixture lot, the Contractor requests a
  change to the JMF which is approved by the Engineer, the
  mixture produced in that lot after the approved change will
  be evaluated on the basis of the changed JMF, and the
  mixture produced in that lot before the approved change will
  be evaluated on the basis of the unchanged JMF; however,
  the mixture before and after the change will be evaluated in
  the same lot. Acceptance of subsequent mixture lots will be
  evaluated on the basis of the changed JMF.

5-04.3(9)B2 Mixture Statistical Evaluation – Sampling
Comply with Section 1-06.2(1).

Samples of HMA mixture which is accepted by Statistical Evaluation
will be randomly selected from within each sublot, with one sample
per sublot. The Engineer will determine the random sample location
using WSDOT Test Method T 716. The Contractor shall obtain the
sample when ordered by the Engineer. The Contractor shall sample
the HMA mixture in the presence of the Engineer and in accordance
with FOP for WAQTC T 168.

5-04.3(9)B3 Mixture Statistical Evaluation – Acceptance Testing
Comply with Section 1-06.2(1).

The Contracting Agency will test the mixture sample from each sublot
(including sublots in a test section) for the properties shown in Table 11.
The mixture samples and tests taken for the purpose of determining acceptance of the test section (as described in Section 5-04.3(9)A) shall also be used as the test results for acceptance of the mixture described in 5-04.3(9)B3, 5-04.3(9)B4, 5-04.3(9)B5, and 5-04.3(9)B6.

5-04.3(9)B4 Mixture Statistical Evaluation – Pay Factors
Comply with Section 1-06.2(2).

The Contracting Agency will determine a pay factor (PF) for each of the properties in Table 11, for each mixture lot, using the quality level analysis in Section 1-06.2(2)D. For Gradation, a pay factor will be calculated for each of the sieve sizes listed in Table 11 which is equal to or smaller than the maximum allowable aggregate size (100 percent passing sieve) of the HMA mixture. The USL and LSL shall be calculated using the Job Mix Formula Tolerances (for Statistical Evaluation) in Section 9-03.8(7).

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)B5 Mixture Statistical Evaluation – Composite Pay Factors (CPF)
Comply with Section 1-06.2(2).

In accordance with Section 1-06.2(2)D4, the Contracting Agency will determine a Composite Pay Factor (CPF) for each mixture lot from the pay factors calculated in Section 5-04.3(9)B4, using the price adjustment factors in Table 12. Unless otherwise specified, the maximum CPF for HMA mixture shall be 1.05.

Table 12

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Factor “f”</th>
</tr>
</thead>
<tbody>
<tr>
<td>All aggregate passing: 1½&quot;, 1&quot;, ¾&quot;, ½&quot;, ⅜&quot; and No.4 sieves</td>
<td>2</td>
</tr>
<tr>
<td>All aggregate passing No. 8 sieve</td>
<td>15</td>
</tr>
<tr>
<td>All aggregate passing No. 200 sieve</td>
<td>20</td>
</tr>
<tr>
<td>Asphalt binder</td>
<td>40</td>
</tr>
<tr>
<td>Air Voids ($V_a$)</td>
<td>20</td>
</tr>
</tbody>
</table>
5-04.3(9)B6  Mixture Statistical Evaluation – Price Adjustments

For each HMA mixture lot, a Job Mix Compliance Price Adjustment will be determined and applied, as follows:

\[ \text{JMCPA} = [0.60 \times (\text{CPF} - 1.00)] \times Q \times \text{UP} \]

Where

- \text{JMCPA} = \text{Job Mix Compliance Price Adjustment for a given lot of mixture ($)}
- \text{CPF} = \text{Composite Pay factor for a given lot of mixture (maximum is 1.05)}
- \text{Q} = \text{Quantity in a given lot of mixture (tons)}
- \text{UP} = \text{Unit price of the HMA in a given lot of mixture ($/ton)}

5-04.3(9)B7  Mixture Statistical Evaluation – Retests

The Contractor may request that a mixture sublot be retested. To request a retest, submit a written request to the Contracting Agency within 7 calendar days after the specific test results have been posted to the website or emailed to the Contractor, whichever occurs first.

The Contracting Agency will send a split of the original acceptance sample for testing by the Contracting Agency to either the Region Materials Laboratory or the State Materials Laboratory as determined by the Engineer. The Contracting Agency will not test the split of the sample with the same equipment or by the same tester that ran the original acceptance test. The sample will be tested for a complete gradation analysis, asphalt binder content, and \( V_a \), and the results of the retest will be used for the acceptance of the HMA mixture in place of the original mixture 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 $250 per sample.

5-04.3(9)C  Vacant

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

Visual Evaluation of HMA mixture will be by visual inspection by the Engineer or, in the sole discretion of the Engineer, the Engineer may sample and test the mixture.

5-04.3(9)D1  Mixture Visual Evaluation – Lots, Sampling, Testing, Price Adjustments

HMA mixture accepted by Visual Evaluation will not be broken into lots unless the Engineer determines that testing is required. When that occurs, the Engineer will identify the limits of the questionable HMA mixture, and that questionable HMA mixture shall constitute a lot. Then, the Contractor will take samples from the truck, or the Engineer will take core samples from the roadway at a minimum of three random locations from within the lot, selected in accordance with WSDOT Test Method T 716, taken from the roadway in accordance with WSDOT SOP 734, and tested in accordance with WSDOT SOP 737. The Engineer will test one of the samples for all constituents in Section 5-04.3(9)B3. If all constituents from that test
When one or more constituents fall outside those tolerance limits, the other samples will be tested for all constituents in Section 5-04.3(9)B3, and a Job Mix Compliance Price Adjustment will be calculated in accordance with Table 13.

### Table 13 Visual Evaluation – Out of Tolerance Procedures

<table>
<thead>
<tr>
<th>Comply with the Following</th>
<th>Section 5-04.3(9)B4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pay Factors</td>
<td>Section 5-04.3(9)B4</td>
</tr>
<tr>
<td>Composite Pay Factors</td>
<td>Section 5-04.3(9)B5</td>
</tr>
<tr>
<td>Price Adjustments</td>
<td>Section 5-04.3(9)B6</td>
</tr>
</tbody>
</table>

1. The Visual Evaluation tolerance limits in Section 9-03.8(7) will be used in the calculation of the PFi.

2. The maximum CPF shall be 1.00.

---

### 5-04.3(9)E Mixture Acceptance – Notification of Acceptance Test Results

The results of all mixture acceptance testing and the Composite Pay Factor (CPF) of the lot after three sublots have been tested will be available to the Contractor through The Contracting Agency’s website.

The Contracting Agency will endeavor to provide written notification (via email to the Contractor’s designee) of acceptance test results through its web-based materials testing system Statistical Analysis of Materials (SAM) within 24 hours of the sample being made available to the Contracting Agency. However, the Contractor agrees:

1. Quality control, defined as the system used by the Contractor to monitor, assess, and adjust its production processes to ensure that the final HMA mixture will meet the specified level of quality, is the sole responsibility of the Contractor.

2. The Contractor has no right to rely on any testing performed by the Contracting Agency, nor does the Contractor have any right to rely on timely notification by the Contracting Agency of the Contracting Agency’s test results (or statistical analysis thereof), for any part of quality control and/or for making changes or correction to any aspect of the HMA mixture.

3. The Contractor shall make no claim for untimely notification by the Contracting Agency of the Contracting Agency’s test results or statistical analysis.

### 5-04.3(10) HMA Compaction Acceptance

For all HMA, the Contractor shall comply with the General Compaction Requirements in Section 5-04.3(10)A. The Contracting Agency will evaluate all HMA for compaction compliance with one of the following - Statistical
Evaluation, Visual Evaluation, or Test Point Evaluation - determined by the criteria in Table 14:

Table 14

<table>
<thead>
<tr>
<th>Criteria for Determining Method of Evaluation for HMA Compaction¹</th>
<th>Statistical Evaluation of HMA Compaction is Required For:</th>
<th>Visual Evaluation of HMA Compaction is Required For:</th>
<th>Test Point Evaluation of HMA Compaction is Required For:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any HMA for which the specified course thickness is greater than 0.10 feet, and the HMA is in:</td>
<td>• Any HMA for which the specified course thickness is greater than 0.10 feet, and the HMA is in:</td>
<td>• “HMA for Preleveling…”</td>
<td>• Any HMA not meeting the criteria for Statistical Evaluation or Visual Evaluation</td>
</tr>
<tr>
<td>o traffic lanes, including but not limited to:</td>
<td>• ramp lanes</td>
<td>• “HMA for Pavement Repair…”</td>
<td></td>
</tr>
<tr>
<td>• truck climbing lanes</td>
<td>• weaving lanes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• speed change lanes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹This table applies to all HMA, and shall be the sole basis for determining the acceptance method for compaction.

The Contracting Agency may, at its sole discretion, evaluate any HMA for compliance with the Cyclic Density requirements of Section 5-04.3(10)B.

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

Immediately after the HMA has been spread and struck off, and after surface irregularities have been adjusted, thoroughly and uniformly compact the mix. The completed course shall be free from ridges, ruts, humps, depressions, objectionable marks, and irregularities and shall conform to the line, grade, and cross-section shown in the Plans. If necessary, alter the JMF in accordance with Section 9-03.8(7) to achieve desired results.

Compact the mix when it is in the proper condition so that no undue displacement, cracking, or shoving occurs. Compact areas inaccessible to large compaction equipment by mechanical or hand tampers. Remove HMA that becomes loose, broken, contaminated, shows an excess or deficiency of asphalt, or is in any way defective. Replace the removed material with new HMA, and compact it immediately 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. An exception shall be that pneumatic tired rollers shall be used for compaction of the wearing course beginning October 1st of any year through March 31st of the following year. Coverage with a steel wheel roller may precede pneumatic tired rolling. Unless
otherwise approved by the Engineer, operate rollers in the static mode when the internal temperature of the mix is less than 175°F. Regardless of mix temperature, do not operate a roller in a mode that results in checking or cracking of the mat.

On bridge decks and on the five feet of roadway approach immediately adjacent to the end of bridge/back of pavement seat, operate rollers in static mode only.

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  HMA Compaction Acceptance – Statistical Evaluation

HMA compaction which is accepted by Statistical Evaluation will be based on acceptance testing performed by the Contracting Agency, and statistical analysis of those acceptance tests results. This will result in a Compaction Price Adjustment.

5-04.3(10)C1  HMA Compaction Statistical Evaluation – Lots and Sublots

HMA compaction which is accepted by Statistical Evaluation will be evaluated by the Contracting Agency dividing the project into compaction lots, and each compaction lot will be evaluated using stratified random sampling by the Contracting Agency sub-dividing each compaction lot into compaction sublots. All mixture in any individual compaction lot shall be of the same mix design. The compaction sublots will be numbered in the order in which the mixture (of a particular mix design) is paved.

Each compaction lot comprises a maximum of 15 compaction sublots, except for the final compaction lot of each mix design on the Contract, which comprises a maximum of 25 sublots.

Each compaction subplot shall be uniform in size as shown in Table 15, except that the last compaction subplot of each day may be increased to a maximum of two times the compaction subplot quantity calculated. Minor variations in the size of any subplot shall not be cause to invalidate the associated test result.

<table>
<thead>
<tr>
<th>HMA Original Plan Quantity (tons)</th>
<th>Compaction Sublot Size (tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;20,000</td>
<td>100</td>
</tr>
<tr>
<td>20,000 to 30,000</td>
<td>150</td>
</tr>
<tr>
<td>&gt;30,000</td>
<td>200</td>
</tr>
</tbody>
</table>

Table 15

AMENDMENTS TO THE 2016 STANDARD SPECIFICATIONS BOOK
Revised: 4/3/17
In determining the plan quantity tonnage, do not include any tons accepted by test point evaluation.

The following will cause one compaction lot to end prematurely and a new compaction lot to begin:

- For a compaction lot in progress with a compaction CPF less than 0.75, a new compaction lot will begin at the Contractor's request after the Engineer is satisfied that material conforming to the Specifications can be produced. See also Section 5-04.3(11)F.

All HMA which is paved on a bridge and accepted for compaction by Statistical Evaluation will compose a bridge compaction lot. If the contract includes such HMA on more than one bridge, compaction will be evaluated on each bridge individually, as separate bridge compaction lots.

Bridge compaction sublots will be determined by the Engineer subject to the following:

- All sublots on a given bridge will be approximately the same size.
- Sublots will be stratified from the lot.
- In no case will there be less than 3 sublots in each bridge compaction lot.
- No sublot will exceed 50 tons.
- Compaction test locations will be determined by the Engineer in accordance with WSDOT FOP for AASHTO T 716.

5-04.3(10)C2 HMA Compaction Statistical Evaluation – Acceptance Testing

Comply with Section 1-06.2(1).

The location of HMA compaction acceptance tests will be randomly selected by the Contracting Agency from within each sublot, with one test per sublot. The Contracting Agency will determine the random sample location using WSDOT Test Method T 716.

Use Table 16 to determine compaction acceptance test procedures and to allocate compaction acceptance sampling and testing responsibilities between the Contractor and the Contracting Agency. HMA cores shall be taken or nuclear density testing shall occur after completion of the finish rolling, prior to opening to traffic, and on the same day that the mix is placed.
### HMA Compaction Acceptance Testing Procedures and Responsibilities

<table>
<thead>
<tr>
<th>Basis for Test:</th>
<th>Cores</th>
<th>Cores&lt;sup&gt;3&lt;/sup&gt;</th>
<th>Nuclear Density Gauge&lt;sup&gt;3&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-Place Density Determined by:</td>
<td>Contractor shall take cores&lt;sup&gt;1&lt;/sup&gt; using WSDOT SOP 734&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Contracting Agency will take cores&lt;sup&gt;1&lt;/sup&gt; using WSDOT SOP 734</td>
<td>Contracting Agency, using WSDOT SOP 734 for AASHTO T 355</td>
</tr>
<tr>
<td>Theoretical Maximum Density Determined by:</td>
<td>Contracting Agency, using FOP for AASHTO T 209</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rolling Average of Theoretical Maximum Densities Determined by:</td>
<td>Contracting Agency, using WSDOT SOP 729</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>1</sup>The core diameter shall be 4-inches unless otherwise approved by the Engineer.

<sup>2</sup>The Contractor shall take the core samples in the presence of the Engineer, at locations designated by the Engineer, and deliver the core samples to the Contracting Agency.

<sup>3</sup>The Contracting Agency will determine, in its sole discretion, whether it will take cores or use the nuclear density gauge to determine in-place density. Exclusive reliance on cores for density acceptance is generally intended for small paving projects and is not intended as a replacement for nuclear gauge density testing on typical projects.

<sup>4</sup>The basis for test of all compaction sublots in a bridge compaction lot shall be cores. These cores shall be taken by the Contractor when the Proposal includes the bid item “HMA Cores – Bridge”. When there is no bid item for “HMA Cores – Bridge”, the Engineer will be
responsible for taking HMA cores for all compaction sublots in a
bridge compaction lot. In either case, the Engineer will determine
core location, in-place density of the core, theoretical maximum
density, rolling average of theoretical maximum density, and percent
compaction using the procedure called for in this Section.

When using the nuclear density gauge for acceptance testing of
pavement density, the Engineer will follow WSDOT SOP 730 for
correlating the nuclear gauge with HMA cores. When cores are
required for the correlation, coring and testing will be by the
Contracting Agency. When a core is taken for gauge correlation at the
location of a sublot, the relative density of the core will be used for the
sublot test result and is exempt from retesting.

5-04.3(10)C3 HMA Statistical Compaction – Price Adjustments

For each HMA compaction lot (that is accepted by Statistical
Evaluation) which has less than three compaction sublots, for which
all compaction sublots attain a minimum of 91 percent compaction
determined in accordance with WSDOT FOP for AASHTO T 355 (or
WSDOT SOP 736 when provided by the Contract), the HMA will be
accepted at the unit Contract price with no further evaluation.

For each HMA compaction lot (that is accepted by Statistical
Evaluation) which does not meet the criteria in the preceding
paragraph, the compaction lot shall be evaluated in accordance with
Section 1-06.2(2) to determine the appropriate Compaction Price
Adjustment (CPA). All of the test results obtained from the
acceptance samples from a given compaction lot shall be evaluated
collectively. Additional testing by either a nuclear density gauge or
cores will be completed as required to provide a minimum of three
tests for evaluation.

For the statistical analysis in Section 1-06.2, use the following values:

\[ x = \text{Percent compaction of each sublot} \]

\[ \text{USL} = 100 \]

\[ \text{LSL} = 91 \]

Each CPA will be determined as follows:

\[ \text{CPA} = \left[ 0.40 \times (\text{CPF} - 1.00) \right] \times Q \times \text{UP} \]

Where

\[ \text{CPA} = \text{Compaction Price Adjustment for the compaction lot} \]

\[ \text{CPF} = \text{Composite Pay Factor for the compaction lot} \]

\[ \text{Q} = \text{Quantity in the compaction lot (tons)} \]

\[ \text{UP} = \text{Unit price of the HMA in the compaction lot ($/ton)} \]
5-04.3(10)C4  HMA Statistical Compaction – Requests for Retesting

For a compaction sublot that has been tested with a nuclear density gauge that did not meet the minimum of 91 percent of the theoretical 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, taken at the same location as the nuclear density test, be used for determination of the relative density of the compaction sublot. The relative density of the core will replace the relative density determined by the nuclear density gauge for the compaction 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 compaction sublot have been provided or made available to the Contractor. 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 retesting. When the CPF for the compaction lot based on the results of the cores is less than 1.00, the Contracting Agency will deduct the cost for the coring 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)D  HMA Compaction – Visual Evaluation

Visual Evaluation will be the basis of acceptance for compaction of the Bid items “HMA for Pavement Repair Cl. ___ PG ___” and “HMA for Prelevelling Class___ PG__”. This HMA shall be thoroughly compacted to the satisfaction of the Engineer. HMA that is used to prelevel wheel ruts shall be compacted with a pneumatic tire roller.

5-04.3(10)E  HMA Compaction – Test Point Evaluation

When compaction acceptance is by Test Point Evaluation, compact HMA based on a test point evaluation of the compaction train. Perform the test point evaluation 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.

5-04.3(10)F  HMA Compaction Acceptance – Notification of Acceptance Test Results

The obligations and responsibilities for notifying the Contractor of compaction acceptance test results are the same as for mixture acceptance test results. See Section 5-04.3(9)E.

5-04.3(11)  Reject Work

This Section applies to HMA and all requirements related to HMA (except aggregates prior to being incorporated into HMA). For rejection of aggregate prior to its incorporation into HMA refer to Section 3-04.

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.

5-04.3(11)B Rejection by Contractor
The Contractor may, prior to acceptance sampling and testing, 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.

No payment will be made for the rejected materials or the removal of the materials unless the Contractor requests the rejected material to be tested. If the Contractor requests testing, acceptance will be by Statistical Evaluation, and a minimum of three samples will be obtained and tested. When uncompacted material is required for testing but not available, the Engineer will determine random sample locations on the roadway in accordance with WSDOT Test Method T 716, take cores in accordance with WSDOT SOP 734, and test the cores in accordance with WSDOT SOP 737.

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 (Mixture or Compaction)
In addition to the random acceptance sampling and testing, the Engineer may also isolate from a mixture or compaction 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. The Contracting Agency will obtain a minimum of three random samples of the suspect material and perform the testing. When uncompacted material is required for testing but is not available, the Engineer will select random sample locations on the roadway in accordance with WSDOT Test Method T 716, take cores samples in accordance with WSDOT SOP 734, and test the material in accordance with WSDOT SOP 737. 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 (Mixture or Compaction)
An entire mixture or compaction sublot that is suspected of being defective may be rejected. When this occurs, a minimum of two additional random
samples from this sublot will be obtained. When uncompacted material is required for the additional samples but the material has been compacted, the Contracting Agency will take and test cores from the roadway as described in Section 5-04.3(11)D. The 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 (Mixture or Compaction)
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 when:

1. the Composite Pay Factor (CPF) of a mixture or compaction lot in progress drops below 1.00 and the Contractor is taking no corrective action, or

2. the Pay Factor (PFᵢ) for any constituent of a mixture or compaction lot in progress drops below 0.95 and the Contractor is taking no corrective action, or

3. either the PFᵢ for any constituent (or the CPF) of a mixture or compaction 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
Conduct operations such that placement of the top or wearing course is a continuous operation or as close to continuous as possible. Unscheduled transverse joints will be allowed, but the roller may pass over the unprotected end of the freshly laid HMA only when the placement of the course is discontinued for such a length of time that the HMA will cool below compaction temperature. When the Work is resumed, cut back the previously compacted HMA to produce a slightly beveled edge for the full thickness of the course.

Construct a temporary wedge of HMA on a 50H:1V where a transverse joint as a result of paving or planing is open to traffic. Separate the HMA in the temporary wedge from the permanent HMA upon which it is placed by strips of heavy wrapping paper or other methods approved by the Engineer. Remove the wrapping paper and trim the joint to a slightly beveled edge for the full thickness of the course prior to resumption of paving.

Waste the material that is cut away and place new HMA against the cut. Use rollers or tamping irons to seal the joint.

5-04.3(12)A2 Longitudinal Joints
Offset the longitudinal joint in any one course from the course immediately below by not more than 6 inches nor less than 2 inches.
Locate all longitudinal joints constructed in the wearing course at a lane line or an edge line of the Traveled Way. Construct a notched wedge joint 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 nor more than ½ of the compacted lift thickness, and then taper down on a slope not steeper than 4H:1V. Uniformly compact the sloped portion of the HMA notched wedge joint.

On one-lane ramps a longitudinal joint may be constructed at the center of the traffic lane, subject to approval by the Engineer, if:

1. The ramp must remain open to traffic, or
2. The ramp is closed to traffic and a hot-lap joint is constructed.
   a. Two paving machines shall be used to construct the hot-lap joint.
   b. The pavement within 6 inches of the hot-lap joint will not be excluded from random location selection for compaction testing.
   c. Construction equipment other than rollers shall not operate on any uncompacted HMA.

When HMA is placed adjacent to cement concrete pavement, construct longitudinal joints between the HMA and the cement concrete pavement. Saw the joint to the dimensions shown on Standard Plan A-40.10 and fill with joint sealant meeting the requirements of Section 9-04.2.

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 HMA overlay.

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

Construct the bridge paving joint seal as specified in the Plans and in accordance with the detail shown in the Standard Plans. Construct the sawcut in accordance with Section 5-05.3(8). Apply the sealant 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 ⅛ 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 ¼ 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, correct the pavement surface by one of the following methods:

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

Correct defects 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 portland cement concrete pavement is to be placed on HMA, the surface tolerance of the HMA shall be such that no surface elevation lies above the Plan grade minus the specified Plan depth of portland cement concrete pavement. Prior to placing the portland cement concrete pavement, bring any such irregularities to the required tolerance by grinding or other means approved by the Engineer.

When utility appurtenances such as manhole covers and valve boxes are located in the Traveled Way, pave the Roadway before the utility appurtenances are adjusted to the finished grade.
5-04.3(14) Planing Bituminous Pavement
Plane in such a manner that the underlying pavement is not torn, broken, or otherwise damaged by the planing operation. Delamination or raveling of the underlying pavement will not be construed as damage due to the Contractor’s operations. Pavement outside the limits shown in the Plans or designated by the Engineer that is damaged by the Contractor’s operations shall be repaired to the satisfaction of the Engineer at no additional cost to the Contracting Agency.

For mainline planing operations, use equipment with automatic controls and with sensors for either or both sides of the equipment. The controls shall be capable of sensing the grade from an outside reference line, or a mat-referencing device. The automatic controls shall have a transverse slope controller capable of maintaining the mandrel at the desired transverse slope (expressed as a percentage) within plus or minus 0.1 percent.

Remove all loose debris from the planed surface before opening the planed surface to traffic. The planings and other debris resulting from the planing operation shall become the property of the Contractor and be disposed of in accordance with Section 2-03.3(7)C, or as otherwise allowed by the Contract.

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
Construct HMA approaches at the locations shown in the Plans or where staked by the Engineer, in accordance with Section 5-04.

5-04.4 Measurement
HMA Cl. ___ PG ___, HMA for ___ Cl. ___ PG ___, and Commercial HMA will be measured by the ton in accordance with Section 1-09.2, with no deduction being made for the weight of asphalt binder, mineral filler, or any other component of the HMA. If the Contractor elects to remove and replace HMA as allowed by Section 5-04.3(11), the material removed will not be measured.

Roadway cores will be measured per each for the number of cores taken.

Crack Sealing-LF will be measured by the linear foot along the line of the crack.

Soil residual herbicide will be measured by the mile for the stated width to the nearest 0.01 mile or by the square yard, whichever is designated in the Proposal.

Pavement repair excavation will be measured by the square yard of surface marked prior to excavation.

Asphalt for fog seal will be measured by the ton, as provided in Section 5-02.4.

Longitudinal joint seals between the HMA and cement concrete pavement will be measured by the linear foot along the line and slope of the completed joint seal.
HMA sawcut and seal, and paved panel joint seal, will be measured by the linear foot along the line and slope of the completed joint seal.

Planing bituminous pavement will be measured by the square yard.

Temporary pavement marking will be measured by the linear foot as provided in Section 8-23.4.

Water will be measured by the M gallon as provided in Section 2-07.4.

5-04.5 Payment
Payment will be made for each of the following Bid items that are included in the Proposal:

"HMA Cl. ___ PG ____", per ton.
"HMA for Approach Cl. ___ PG ____", per ton.
"HMA for Preleveling Cl. ___ PG ____", per ton.
"HMA for Pavement Repair Cl. ___ PG ____", per ton.
"Commercial HMA", per ton.

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

"Crack Sealing-FA", by force account.
"Crack Sealing-FA" will be paid for by force account as specified in Section 1-09.6.

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.

"Crack Sealing-LF", per linear foot.
The unit Contract price per linear foot for "Crack Sealing-LF" shall be full payment for all costs incurred to perform the Work described in Section 5-04.3(4)A.

"Soil Residual Herbicide _____ ft. Wide", per mile, or
"Soil Residual Herbicide", per square yard.
The unit Contract price per mile or per square yard for "Soil Residual Herbicide" shall be full payment for all costs incurred to obtain, provide and install herbicide in accordance with Section 5-04.3(4)B.

"Pavement Repair Excavation Incl. Haul", per square yard.
The unit Contract price per square yard for "Pavement Repair Excavation Incl. Haul" shall be full payment for all costs incurred to perform the Work described in Section 5-04.3(4)C with the exception, however, that all costs involved in the placement of HMA shall be included in the unit Contract price per ton for "HMA for Pavement Repair Cl. ___ PG ____", per ton.

"Asphalt for Fog Seal", per ton.
Payment for "Asphalt for Fog Seal" is described in Section 5-02.5.
"Longitudinal Joint Seal", per linear foot.
The unit Contract price per linear foot for "Longitudinal Joint Seal" shall be full payment for all costs incurred to construct the longitudinal joint between HMA and cement concrete pavement, as described in Section 5-04.3(12)B.

"HMA Sawcut And Seal", per linear foot.
The unit Contract price per linear foot for "HMA Sawcut And Seal" shall be full payment for all costs incurred to perform the Work described in Section 5-04.3(12)B1.

"Paved Panel Joint Seal", per linear foot.
The unit Contract price per linear foot for "Paved Panel Joint Seal" shall be full payment for all costs incurred to perform the Work described in Section 5-04.3(12)B2.

"Planing Bituminous Pavement", per square yard.
The unit Contract price per square yard for "Planing Bituminous Pavement" shall be full payment for all costs incurred to perform the Work described in Section 5-04.3(14).

"Temporary Pavement Marking", per linear foot.
Payment for "Temporary Pavement Marking" is described in Section 8-23.5.

"Water", per M gallon.
Payment for "Water" is described in Section 2-07.5.

"Job Mix Compliance Price Adjustment", by calculation.
"Job Mix Compliance Price Adjustment" will be calculated and paid for as described in Section 5-04.3(9)B6 and 5-04.3(9)D1.

"Compaction Price Adjustment", by calculation.
"Compaction Price Adjustment" will be calculated and paid for as described in Section 5-04.3(10)C3.

"HMA Core – Bridge", per each.
The unit Contract price per each for "HMA Core – Bridge" shall be full payment for all costs, including traffic control, associated with taking HMA density cores in pavement that is on a bridge deck.

"HMA Core – Roadway", per each.
The unit Contract price per each for "HMA Core – Roadway" shall be full payment for all costs, including traffic control, associated with taking HMA density cores in pavement that is not on a bridge deck.

"Cyclic Density Price Adjustment", by calculation.
"Cyclic Density Price Adjustment" will be calculated and paid for as described in Section 5-04.3(10)B.
5-05.3(1) Concrete Mix Design for Paving

In last sentence of the second paragraph of item number 1, the reference to “Section 9-01.2(4)” is revised to read “Section 9-01.2(1)B”.

The following is inserted after item number 2:

3. **Mix Design Modifications** - The Contractor may initiate adjustments to the aggregate proportions of the approved mix design. An adjustment in both the fine and coarse aggregate batch target weights of plus or minus 200 pounds per cubic yard will be allowed without resubmittal of the mix design. The adjusted aggregate weights shall become the new batch target weights for the mix design.

Item number 3 is renumbered to 4 and revised (up until the table) to read:

4. **Conformance to Mix Design** - Cement and coarse and fine aggregate weights shall be within the following tolerances of the batch target weights of the mix design:

<table>
<thead>
<tr>
<th>Portland Cement Concrete Batch Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement</td>
</tr>
<tr>
<td>Coarse Aggregate</td>
</tr>
<tr>
<td>Fine Aggregate</td>
</tr>
</tbody>
</table>

5-05.3(3)B Mixing Equipment

The last sentence of item number 4 is revised to read:

Plant-mixed concrete may be transported in nonagitated vehicles provided that the concrete is in a workable condition when placed and:

a. discharge is completed within 45 minutes after the introduction of mixing water to the cement and aggregates, or

b. discharge is completed within 60 minutes after the introduction of mixing water to the cement and aggregates, provided the concrete mix temperature is 70°F or below during placement, or

c. discharge is completed within 60 minutes after the introduction of mixing water to the cement and aggregates, provided the mix contains an approved set retarder at the manufacturer’s minimum dosage rate.

5-05.3(6) Subgrade

This section, including title, is revised to read:

5-05.3(6) Surface Preparation

The Subgrade surface shall be prepared and compacted a minimum of 3 feet beyond each edge of the area which is to receive concrete pavement in order to accommodate the slip-form equipment.
Concrete shall not be placed during a heavy rainfall. Prior to placing concrete:

1. The surface shall be moist;
2. Excess water (e.g., standing, pooling or flowing) shall be removed from the surface.
3. The surface shall be clean and free of any deleterious materials.
4. The surface temperature shall not exceed 120°F or be frozen.

5-05.3(7)A Slip-Form Construction
The second sentence of the first paragraph is revised to read:
The alignment and elevation of the paver shall be regulated from outside reference lines established for this purpose, or by an electronic control system capable of controlling the line and grade within required tolerances.

6-02.AP6
Section 6-02, Concrete Structures
April 3, 2017

6-02.3(2) Proportioning Materials
In the sixth paragraph, the reference to “Section 9-01.2(4)” is revised to read “9-01.2(1)B”.

6-02.3(2)A Contractor Mix Design
The following new sentence is inserted after the first sentence of the third paragraph:
The mix design submittal shall also include test results no older than one year showing that the Aggregates do not contain Deleterious Substances in accordance with Section 9-03.

6-02.3(2)A1 Contractor Mix Design for Concrete Class 4000D
The following new sentence is inserted after the second sentence of the last paragraph:
Mix designs using shrinkage reducing admixture shall state the specific quantity required.

The following new sentence is inserted before the last sentence of the last paragraph:
Testing samples of mixes using shrinkage reducing admixture shall use the admixture amount specified in the mix design submittal.

6-02.3(2)B Commercial Concrete
The last sentence of the first paragraph is revised to read:
Commercial concrete does not require mix design or source approvals for cement, aggregate, and other admixtures.

6-02.3(6)A1 Hot Weather Protection
This section is revised to read:
The Contractor shall provide concrete within the specified temperature limits. Cooling of the coarse aggregate piles by sprinkling with water is permitted provided the moisture content is monitored and the mixing water is adjusted for the free water in the aggregate. Shading or cooling aggregate piles (sprinkling of fine aggregate piles with water is not allowed). If sprinkling of the coarse aggregates is to be used, the piles moisture content shall be monitored and the mixing water adjusted for the free water in the aggregate. In addition, when removing the coarse aggregate, it shall be removed from at least 1 foot above the bottom of the pile. Refrigerating mixing water; or replacing all or part of the mixing water with crushed ice, provided the ice is completely melted by placing time.

If air temperature exceeds 90°F, the Contractor shall use water spray or other accepted methods to cool all concrete-contact surfaces to less than 90°F. These surfaces include forms, reinforcing steel, steel beam flanges, and any others that touch the mix.

6-02.3(6)A2 Cold Weather Protection
This section is revised to read:

Concrete shall be maintained at or above a temperature of 40°F during the first seven days of the Cold Weather Protection Period and at or above a temperature of 35°F during the remainder of the Cold Weather Protection Period. Cold weather protection requirements do not apply to concrete in shafts and piles placed below the ground line.

Prior to placing concrete in cold weather, the Contractor shall submit a Type 2 Working Drawing with a written procedure for cold weather concreting. The procedure shall detail how the Contractor will adequately cure the concrete and prevent the concrete temperature from falling below the minimum temperature. Extra protection shall be provided for areas especially vulnerable to freezing (such as exposed top surfaces, corners and edges, thin sections, and concrete placed into steel forms). Concrete placement will only be allowed if the Contractor’s cold weather protection plan has been accepted by the Engineer.

Prior to concrete placement, the Contractor shall review the 7-day temperature predictions for the job site from the Western Region Headquarters of the National Weather Service (www.wrh.noaa.gov). When temperatures below 35°F are predicted, the Contractor shall:

1. Install temperature data loggers in each concrete pour. One data logger shall be installed for every 100 yards of concrete placed. Data loggers shall be installed at locations directed by the Engineer, and shall be placed 1.5 inches from the face of concrete.

2. Immediately after concrete placement, temperature data loggers shall be installed on the concrete surface at locations directed by the Engineer. One data logger shall be installed for every 100 yards of concrete placed.

The data loggers shall be operated continuously during the Cold Weather Protection Period. Temperatures shall be measured, recorded and stored a minimum of every 30 minutes. Temperature data shall be submitted to the Engineer as a Type 1 Working Drawing within three days following the end of the Cold Weather Protection Period.
For each day that the concrete temperature falls below 40°F during the first seven days of the Cold Weather Protection Period, no curing time is awarded for that day and the Cold Weather Protection Period is extended for one additional day. If the concrete temperature falls below 35°F during Cold Weather Protection Period, the concrete may be rejected by the Engineer.

6-02.3(7) Concrete Exposed to Sea Water
This section including title is revised to read:

6-02.3(7) Vacant

6-02.3(8) Concrete Exposed to Alkaline Soils or Water
This section including title is revised to read:

6-02.3(8) Vacant

6-02.3(17)K Concrete Forms on Steel Spans
In the last paragraph, “ASTM A325” is revised to read “ASTM F3125 Grade A325”.

6-02.3(17)N Removal of Falsework and Forms
The fifth paragraph is deleted.

6-02.3(25) Prestressed Concrete Girders
Under the heading “Prestressed Concrete Slab Girder”, the second sentence is deleted.

6-02.3(25)A Shop Drawings
The sixth paragraph is deleted.

6-02.3(25)F Prestress Release
The last two sentences of the last paragraph are deleted and replaced with the following single sentence:

This request shall be submitted as a Type 2E Working Drawing analyzing changes in vertical deflection, girder lateral stability and concrete stresses in accordance with Section 6-02.3(25)L2.

6-02.3(25)H Finishing
Item number 2 in the first paragraph is revised to read:

2. The bottoms, sides, and tops of the lower flanges on all girders, including the top of the bottom slab between the tub girder webs.

6-02.3(25)I Fabrication Tolerances
Items 4 and 5 in the first paragraph are revised to read:

4. Flange Depth: ± ¼ inch
5. Strand Position:
   Individual strands: ± ¼ inch
Bundled strands: ± ½ inch

Harped strand group center of gravity at the girder ends: ± 1 inch

Items 7, 8 and 9 in the first paragraph are revised to read:


8. Bearing Recess (center of recess to girder end): ± ¾ inch.

9. Girder Ends (deviation from square or designated skew):
   
   Horizontal: ± ⅛ inch per foot of girder width, up to a maximum of ± ½ inch
   
   Vertical: ± 3/16 inch per foot of girder depth, up to a maximum of ± 1½ inch

Items 14 and 15 in the first paragraph are revised to read:

14. Local smoothness of any surface: ± ¼ inch in 10 feet.

15. Differential Camber between Girders in a Span (measured in place at the job site):

| For wide flange deck and deck bulb tee girders with a cast-in-place reinforced concrete deck: | Cambers shall be equalized when the differences in cambers between adjacent girders exceeds ± ¾ inch |
| For wide flange deck, deck bulb tee and slab girders without a cast-in-place reinforced concrete deck: | Cambers shall be equalized when the differences in cambers between adjacent girders exceeds ± ¼ inch |

Item 17 in the first paragraph is revised to read:

17. Position of Lifting Embedments: ± 3 inches longitudinal, ± ¼ inch transverse.

6-02.3(25)J Horizontal Alignment

This section is revised to read:

The Contractor shall check and record the horizontal alignment (sweep) of each girder at the following times:

1. Initial – Upon removal of the girder from the casting bed

2. Shipment – Within 14 days prior to shipment; and

3. Erection – After girder erection and cutting temporary top strands but prior to any equalization, welding ties or placement of diaphragms.

Horizontal alignment of the top and bottom flanges shall be checked and recorded. Alternatively, the Contractor may check and record the horizontal alignment of the web near mid-height of the girder. Each check shall be made by measuring the maximum offset at mid-span relative to a chord that starts and stops at the girder ends. The Contractor shall check and record the alignment at a time when the girder is not influenced by temporary differences in surface temperature. Records for the initial check
(item 1 above) shall be included in the Contractor’s prestressed concrete certificate of compliance. Records for all other checks shall be submitted as a Type 1 Working Drawing.

For each check (Items 1 to 3 above), the alignment shall not be offset more than ¼ inch for each 10 feet of girder length. Girders not meeting this tolerance for the shipment check (Item 2 above) shall require an analysis of girder lateral stability and stresses in accordance with Section 6-02.3(25)1. The Contractor shall perform this analysis and submit it as a Type 2E Working Drawing prior to shipment of the girder. Any girder that exceeds an offset of ¼ inch for each 10 feet of girder length for the erection check (Item 3 above) shall be corrected at the job site to the ¼ inch maximum offset per 10 feet of girder length before concrete is placed into the diaphragms. The Contractor shall submit a Type 2 Working Drawing for any required corrective action.

The maximum distance between the side of a prestressed concrete slab girder, or the edge of the top flange of a wide flange deck, wide flange thin deck or deck bulb tee girder, and a chord that extends the full length of the girder shall be ±½ inch after erection (Item 3 above).

6-02.3(25)K Vertical Deflection

Items 2 and 3 in the first paragraph are revised to read:

2. Shipment – Within 14 days prior to shipment;

3. Erection – After girder erection and cutting temporary top strands but prior to any equalization, welding ties or placement of diaphragms.

The following new paragraph is inserted after the second paragraph:

Girders with vertical deflections not meeting the limit shown in the Plans for the shipment check (Item 2 above) shall require an analysis of girder lateral stability and stresses in accordance with Section 6-02.3(25)1. The Contractor shall perform this analysis and submit it as a Type 2E Working Drawing prior to shipment.

The following new sentence is inserted after the second sentence of the fourth to last paragraph:

Any diaphragms are assumed to be placed.

The last three paragraphs are deleted and replaced with the following:

If the girder vertical deflection measured for the erection check (Item 3 above) is not between the lower “D” dimension bound shown in the Plans and the upper “D” dimension bound shown in the Plans plus ¾ inches, the Engineer may require corrective action. The Contractor shall submit a Type 2 Working Drawing for any required corrective action.

6-02.3(25)L Handling and Storage

The second paragraph is revised to read:

For strand lift loops, only ½-inch diameter or 0.6-inch diameter strand conforming to Section 9-07.10 shall be used, and a minimum 2-inch diameter straight pin of a shackle
shall be used through the loops. Multiple loops shall be held level in the girder during casting in a manner that allows each loop to carry its share of the load during lifting. The minimum distance from the end of the girder to the centroid of the strand lift loops shall be 3 feet. The loops for all prestressed concrete girders, with the exception of prestressed concrete slab girders, shall project a minimum of 1'-6" from the top of the girder. The loops for prestressed concrete slab girders shall project a minimum of 4 inches. Loops shall extend to within 3 inches clear of the bottom of the girder, terminating with a 9-inch long 90-degree hook. Loads on individual loops shall be limited to 12 kips, and all girders shall be picked up at a minimum angle of 60 degrees from the top of the girder.

The third sentence of the fourth paragraph is revised to read:

Alternatively, these temporary strands may be post-tensioned provided the strands are stressed on the same day that the permanent prestress is released into the girder and the strands are tensioned prior to lifting the girder.

The second to last sentence of the fourth paragraph is revised to read:

When the post-tensioned alternative is used, the Contractor shall be responsible for properly sizing the anchorage plates, and configuring the reinforcement adjacent to the anchorage plates, to prevent bursting or splitting of the concrete in the top flange.

The second to last paragraph is deleted.

This section is supplemented with the following new subsections:

6-02.3(25)L1 Girder Lateral Stability and Stresses

The Contractor shall be responsible for safely lifting, storing, shipping and erecting prestressed concrete girders.

The Contract documents may provide shipping and handling details for girders including lifting embedment locations (L), shipping support locations (L₁ and L₂), minimum shipping support rotational spring constants (K_θ), minimum shipping support center-to-center wheel spacings (W_cc), vertical deflections and number of temporary top strands. These shipping and handling details have been determined in accordance with Section 6-02.3(25)L2.

The Contractor shall submit a Type 2E Working Drawing analyzing girder lateral stability and concrete stresses during lifting, storage, shipping and erection in accordance with Section 6-02.3(25)L2 in the following cases:

1. Any of the analysis assumptions listed in Section 6-02.3(25)L2 are invalid. Determination of validity shall be made by the Contractor, except that analysis assumptions shall be considered invalid if the actual values are outside of the provided tolerances.

2. The Contractor intends to alter the shipping and handling details provided in the Contract documents.

3. The Contract documents do not provide shipping and handling details.
6-02.3(25)L2 Lateral Stability and Stress Analysis

Analysis for girder lateral stability and concrete stresses during lifting, storage, shipping and erection shall be in accordance with the PCI Recommended Practice for Lateral Stability of Precast, Prestressed Concrete Bridge Girders, First Edition, Publication CB-02-16-E and the AASHTO LRFD Bridge Design Specifications edition identified in the Contract documents. The following design criteria shall be met:

1. Factor of Safety against cracking shall be at least 1.0
2. Factor of Safety against failure shall be at least 1.5
3. Factor of Safety against rollover shall be at least 1.5
4. Allowable concrete stresses shall be as specified in Section 6-02.3(25)L3

The analysis shall address any effects on girder vertical deflection (camber), “A” dimensions at centerline of bearings and deck screed cambers (C).

Shipping and handling details provided in the Contract documents have been determined using the following analysis assumptions:

1. Girder dimensions, strand locations and lifting embedment locations are within the tolerances specified in Section 6-02.3(25)I
2. Girder horizontal alignment (sweep) is within the tolerance specified in Section 6-02.3(25)J
3. Girder vertical deflection (camber) at midspan is less than or equal to the value shown in the Plans for shipping
4. Minimum concrete compressive strength at release (f′_c) has been reached before initial lifting from casting bed. Minimum concrete compressive strength at 28 days (f′_c) has been reached before shipping.
5. Height of girder bottom above roadway at shipping supports is less than or equal to 72 inches
6. Height of shipping support roll center above roadway is 24 inches, ± 2 inches
7. Shipping support longitudinal placement (L_1 and L_2) tolerance is ± 6 inches
8. Shipping support lateral placement tolerance is ±1 inches
9. Shipping supports provide the minimum shipping support rotational spring constant (K_θ) and minimum shipping support center-to-center wheel spacings (W_cc) shown in the Plans
10. For shipping at highway speeds a ± 20% dynamic load allowance (impact) is included with a typical roadway superelevation of 2%
11. For turning at slow speeds, no dynamic load allowance (impact) is included with a maximum roadway superelevation of 6%
12. Wind, centrifugal and seismic forces are not considered

### 6-02.3(25)L3 Allowable Stresses

Prestressed concrete girder stresses shall be limited to the following values at all stages of construction and in service:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Stress</th>
<th>Location</th>
<th>Allowable Stress (ksi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temporary Stress at Transfer and Lifting from Casting Bed</td>
<td>Tensile</td>
<td>In areas without bonded reinforcement sufficient to resist the tensile force in the concrete</td>
<td>$0.0948\lambda \sqrt{f_{ct}} \leq 0.2$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In areas with bonded reinforcement sufficient to resist the tensile force in the concrete</td>
<td>$0.24\lambda \sqrt{f_{ct}}$</td>
</tr>
<tr>
<td></td>
<td>Compressive</td>
<td>All locations</td>
<td>$0.65f_{ct}'$</td>
</tr>
<tr>
<td>Temporary Stress at Shipping and Erection</td>
<td>Tensile</td>
<td>In areas without bonded reinforcement sufficient to resist the tensile force in the concrete</td>
<td>$0.0948\lambda \sqrt{f_{ct}} \leq 0.2$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In areas with bonded reinforcement sufficient to resist the tensile force in the concrete</td>
<td>$0.19\lambda \sqrt{f_{ct}}$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In areas with bonded reinforcement sufficient to resist the tensile force in the concrete when shipping at 6% superelevation, without impact</td>
<td>$0.24\lambda \sqrt{f_{ct}}$</td>
</tr>
<tr>
<td></td>
<td>Compressive</td>
<td>All locations</td>
<td>$0.65f_{ct}'$</td>
</tr>
<tr>
<td>Final Stresses at Service Load</td>
<td>Tensile</td>
<td>Precompressed tensile zone</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>Compressive</td>
<td>Effective prestress and permanent loads</td>
<td>$0.45f_{ct}'$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Effective prestress, permanent loads and transient (live) loads</td>
<td>$0.60f_{ct}'$</td>
</tr>
<tr>
<td>Final Stresses at Fatigue Load</td>
<td>Compressive</td>
<td>Fatigue I Load Combination plus one-half effective prestress and permanent loads</td>
<td>$0.40f_{ct}'$</td>
</tr>
</tbody>
</table>

Variables are as defined in the AASHTO LRFD Bridge Design Specifications.

### 6-02.3(25)M Shipping

The last four paragraphs are deleted and replaced with the following:
Girder lateral stability and stresses during shipping shall be in accordance with Section 6-02.3(25)L1.

If the Contractor elects to assemble spliced prestressed concrete girders into shipping configurations not shown in the Contract documents, the Contractor shall submit a Type 2E Working Drawing analyzing girder lateral stability and concrete stresses in accordance with Section 6-02.3(25)L2 before shipping.

6-02.3(25)N Prestressed Concrete Girder Erection
The second sentence of the first paragraph is revised to read:

The erection plan shall conform to Section 6-02.3(25)L1.

The last paragraph is revised to read:

Stop plates and dowel bars for prestressed concrete girders shall be set with either epoxy grout conforming to Section 9-26.3 or type IV epoxy bonding agent conforming to Section 9-26.1.

6-02.3(25)O Girder to Girder Connections
The second paragraph is revised to read:

Prestressed concrete girders shall be constructed in the following sequence:

1. If required, deflections shall be equalized in accordance with the Contractor's equalization plan.

2. Any intermediate diaphragms shall be placed and any weld ties shall be welded in accordance with Section 6-03.3(25). Welding ground shall be attached directly to the steel plates being welded when welding the weld-ties.

3. Any keyways between adjacent girders shown in the Plans to receive grout shall be filled flush with the surrounding surfaces using a grout conforming to Section 9-20.3(2).

4. Equalization equipment shall not be removed and other construction equipment shall not be placed on the structure until intermediate diaphragms and keyway grout have attained a minimum compressive strength of 2,500 psi.

6-02.3(26)D2 Test Block Dimensions
The first sentence is revised to read:

The dimensions of the test block perpendicular to the tendon in each direction shall be the smaller of twice the minimum edge distance or the minimum spacing specified by the special anchorage device manufacturer, with the stipulation that the concrete cover over any confining reinforcing steel or supplementary skin reinforcement shall be appropriate for the project-specific application and circumstances.

6-02.3(26)E2 Ducts for External Exposed Installation
In the first paragraph, "ASTM D3350" is revised to read "ASTM D3035".

In the fourth paragraph, "ASTM D3505" is revised to read "ASTM D3035".
6-02.3(26)G Tensioning
Item number 1 of the second paragraph is revised to read:

1. All concrete has reached a compressive strength of at least 4,000 psi or the strength specified in the Plans. When tensioning takes place prior to 28-day compressive strength testing on concrete sampled in accordance with Section 6-02.3(25)H, compressive strength shall be verified on field cured cylinders in accordance with the FOP for AASHTO T23.

6-02.3(27)A Use of Self-Consolidating Concrete for Precast Units
Item number 2 of the first paragraph is revised to read:

2. Precast reinforced concrete three-sided structures, box culverts and split box culverts in accordance with Section 7-02.3(6).

6-03.AP6
Section 6-03, Steel Structures
January 3, 2017

6-03.3(33) Bolted Connections
In this section, “AASHTO M253” is revised to read “ASTM F3125 Grade A490”, “ASTM F1852” is revised to read “ASTM F3125 Grade F1852”, and “ASTM A325” is revised to read “ASTM F3125 Grade A325”.

6-05.AP6
Section 6-05, Piling
August 1, 2016

In this section, the words “capacity” and “capacities” are replaced with “resistance” and “resistances”, respectively.

6-05.3(1) Piling Terms
The third paragraph is revised to read:

Overdriving – Over-driving of piles occurs when the ultimate bearing resistance calculated from the equation in Section 6-05.3(12), or the wave equation driving criteria if applicable, exceeds the ultimate bearing resistance required in the Contract in order to reach the minimum tip elevation specified in the Contract, or as required by the Engineer.

The first sentence of the last paragraph is revised to read:

Minimum Tip Elevation – The minimum tip elevation is the elevation to which the pile tip shall be driven.
6-05.3(3)A Casting and Stressing
The last sentence of the third paragraph is revised to read:
If the corrective action is not acceptable to the Engineer, the piling(s) will be subject to rejection by the Engineer.

6-05.3(5) Manufacture of Steel Piles
This section is supplemented with the following new paragraph:
At least 14-days prior to the start of production of the piling, the Contractor shall advise the Engineer of the production schedule. The Contractor shall give the Inspector safe and free access to the Work. If the Inspector observes any nonspecification Work or unacceptable quality control practices, the Inspector will advise the plant manager. If the corrective action is not acceptable to the Engineer, the piling(s) will be subject to rejection by the Engineer.

6-05.3(9)A Pile Driving Equipment Approval
The first sentence of the second paragraph is revised to read:
The Contractor shall submit Type 2E Working Drawings consisting of a wave equation analysis for all pile driving systems used to drive piling with required maximum driving resistances of greater than 300 tons.

6-07.AP6
Section 6-07, Painting
April 3, 2017

6-07.3(10)A Containment
The first sentence of the fourth paragraph is replaced with the following two new sentences:
The containment system shall ensure no discharge into waters of the state. When there is no threat of discharging to the waters of the state, emissions shall not exceed the Level 2 Emissions standard in SSPC Technology Guide No. 6, Section 5.5, and assessed by Method A, Visible Emissions.

6-07.3(10)F Collecting, Testing, and Disposal of Containment Waste
The third, fourth and fifth paragraphs are deleted and replaced with the following two new paragraphs:
Containment waste is defined as all paint chips and debris removed from the steel surface and all abrasive blast media, as contained by the containment system. After all waste from the containment system has been collected, the Contractor shall collect representative samples of the components that field screening indicates are lead-contaminated material. The Contractor shall collect at least one representative sample from each container. The Contractor may choose to collect a composite sample of each container, but the composite sample must consist of several collection points (a minimum of 3 random samples) that are representative of the entire contents of the container and representative of the characteristics of the type of waste in the container. In accordance with WAC 173–303-040, a representative sample means “a sample which can be expected to exhibit the average properties of the sample source.”
The debris shall be tested for metals using the Toxicity Characteristics Leaching Procedure (TCLP) and EPA Methods 1311 and 6010. At a minimum, the materials should be analyzed for the Resource Conservation and Recovery Act (RCRA) 8 Metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver). Pursuant to the Dangerous Waste (DW) Regulations Chapter 173-303-90(8)(c) WAC, “Any waste that contains contaminants which occur at concentrations at or above the DW threshold must be designated as DW.” All material within each individual container or containment system that designates as DW shall be disposed of at a legally permitted Subtitle C Hazardous Waste Landfill. All material within each individual container or containment system that designate below the DW threshold, will be designated as “Solid Waste” and shall be disposed of at a legally permitted Subtitle D Landfill. Disposal shall be in accordance with WAC 173-303 for waste designated “Dangerous Waste” and pursuant to WAC 173-350 for waste designated as “Solid Waste”.

Section 6-08, Waterproofing
January 3, 2017

This section and all subsections, including title, is revised to read:

6-08 Bituminous Surfacing on Structure Decks

6-08.1 Description
This Work consists of removing and placing Hot Mix Asphalt (HMA) or Bituminous Surface Treatment (BST) directly on or over a Structure. This Work also includes performing concrete bridge deck repair, applying waterproofing membrane, and sealing paving joints.

6-08.2 Materials
Materials shall meet the requirements of the following sections:

- Bituminous Surface Treatment 5-02.2
- Hot Mix Asphalt 5-04.2
- Joint Sealants 9-04.2
- Closed Cell Foam Backer Rod 9-04.2(3)A
- Waterproofing Membrane (Deck Seal) 9-11
- Bridge Deck Repair Material 9-20.5

6-08.3 Construction Requirements

6-08.3(1) Definitions

Adjusted Removal Depth – the Bituminous Pavement removal depth specified by the Engineer to supersede the Design Removal Depth after review of the Contractor survey of the existing Bituminous Pavement grade profile.

Bituminous Pavement – the surfacing material containing an asphalt binder.

Design Removal Depth – the value shown in the "pavement schedule" or elsewhere in the Plans to indicate the design thickness of Bituminous Pavement to be removed.

Final Grade Profile – the compacted finished grade surface of completed Bituminous Pavement surfacing consisting of a vertical profile and...
superelevation cross-slope, developed by the Engineer for Grade Controlled Structure Decks based on the Contractor survey.

**Grade Controlled** – a Structure Deck requiring restriction of Bituminous Pavement work, including restriction of pavement removal methods and restriction of overlay pavement thicknesses.

**Structure Deck** – the bridge deck (concrete or timber), bridge approach slab, top of concrete box culvert, or other concrete surfaces over or upon which existing Bituminous Pavement is removed and new Bituminous Pavement is applied.

6-08.3(2) **Contractor Survey for Grade Controlled Structure Decks**

Prior to removing existing Bituminous Pavement from a Grade Controlled Structure Deck, the Contractor shall complete a survey of the existing surface for use in establishing the existing cross section and grade profile elevations. When removal of Bituminous Pavement is to be achieved by rotary milling/planing, the Contractor’s survey shall also include the depths of the existing surfacing at each survey point.

The Contractor is responsible for all calculations, surveying, installation of control points, and measuring required for setting, maintaining and resetting equipment and materials necessary for the construction of the overlay to the Final Grade Profile.

6-08.3(2)A **Survey Requirements**

The Contractor shall establish at least two primary survey control points for controlling actual Bituminous Pavement removal depth and the Final Grade Profile. Horizontal control shall be by station and offset which shall be tied to either the Roadway centerline or the Structure centerline. Vertical control may be an assumed datum established by the Contractor.

Primary control points shall be described by station or milepost and offset on the baseline selected by the Contractor. The Contractor may expand the survey control information to include secondary horizontal and vertical control points as needed for the project.

Survey information collected shall include station or milepost, offset, and elevation for each lane line and curb line. Survey information shall be collected at even 20 foot station intervals, and along the centerline of each bridge expansion joint. The survey shall extend 300'-0" beyond the bridge back of pavement seat or end of Structure Deck. The survey information shall include the top of Bituminous Pavement elevation and, when rotary milling/planing equipment is used, the corresponding depth of Bituminous Pavement to the Structure Deck. The Contractor shall ensure a surveying accuracy to within ± 0.01 feet for vertical control and ± 0.2 feet for horizontal control.

Voids in HMA created by the Contractor’s Bituminous Pavement depth measurements shall be filled by material conforming to Section 9-20 or another material acceptable to the Engineer.
6-08.3(2)B  Survey Submittal
The Contractor's survey records shall include descriptions of all survey control points including station/milepost, offset, and elevations of all secondary control points. The Contractor shall maintain survey records of sufficient detail to allow the survey to be reproduced. The Contractor shall submit a Type 2 Working Drawing consisting of the compiled survey records and information. Survey data shall be submitted as an electronic file in Microsoft Excel format.

6-08.3(2)C  Final Grade Profile and Adjusted Removal Depth
Based on the results of the survey, the Engineer may develop a Final Grade Profile and Adjusted Removal Depth. If they are developed, the Final Grade Profile and Adjusted Removal Depth will be provided to the Contractor within three working days after receiving the Contractor's survey information. When provided, the Adjusted Removal Depth supersedes the Design Removal Depth to become the Bituminous Pavement removal depth for that Structure Deck.

6-08.3(3)  General Bituminous Pavement Removal Requirements
The Contractor shall remove Bituminous Pavement and associated deck repair material from Structure Decks to the horizontal limits shown in the Plans and to either the specified or adjusted Bituminous Pavement removal depth as applicable.

Removal of Bituminous Pavement within 12-inches of existing permanent features that limit the reach of the machine or the edge of the following items shall be by hand or by hand operated (nominal 30-pounds class) power tools: existing bridge expansion joint headers; steel expansion joint assemblies; concrete butt joints between back of pavement seats and bridge approach slabs, bridge drain assemblies; thrie beam post steel anchorage assemblies fastened to the side or top of the Structure Deck.

When removing Bituminous Pavement with a planer, Section 5-04.3(14) shall apply. If the planer contacts the Structure Deck in excess of the specified planing depth tolerance, or contacts steel reinforcing bars at any time, the Contractor shall immediately cease planing operations and notify the Engineer. Planing operations shall not resume until completion of the appropriate adjustments to the planing machine and receiving the Engineer’s concurrence to resume.

6-08.3(4)  Partial Depth Removal of Bituminous Pavement from Structure Decks
The depth of surfacing removal, as measured to the bottom of the lowest milling groove generated by the rotary milling/planing machine shall be +0.01, -0.02-feet of the specified or Adjusted Removal Depth as applicable.

6-08.3(5)  Full Depth Removal of Bituminous Pavement from Structure Decks
6-08.3(5)A  Method of Removal
The Contractor shall perform full depth removal by a method that does not damage or remove the Structure Deck in excess of the specified Bituminous Pavement removal tolerance. The Contractor shall submit a
Type 2 Working Drawing consisting of the proposed methods and equipment to be used for full depth removal.

6-08.3(5)B Planer Requirements for Full Depth Removal
The final planed surface shall have a finished surface with a tolerance of +0.01, -0.02 feet within the planed surface profile, as measured from a 10-foot straight edge. Multiple passes of planing to achieve smoothness will not be allowed.

In addition to Section 6-08.3(3), the planing equipment shall conform to the following additional requirements:

1. The cutting tooth spacing on the rotary milling head shall be less than or equal to ¼ inch.

2. The rotary milling/planing machine shall have cutting teeth that leave a uniform plane surface at all times. All teeth on the mill head shall be kept at a maximum differential tolerance of ³⁄₈-inch between the shortest and longest tooth, as measured by a straight edge placed the full width of the rotary milling head.

3. Cutting tips shall be replaced when 30 percent of the total length of the cutting tip material remains.

Prior to each day’s Bituminous Pavement removal operations, the Contractor shall confirm to the satisfaction of the Engineer that the rotary head cutting teeth are within the specified tolerances.

6-08.3(5)C Structure Deck Cleanup after Bituminous Pavement Removal
Waterproofing membrane that is loose or otherwise not firmly bonded to the Structure Deck shall be removed as an incidental component of the Work of surfacing removal. Existing waterproofing membrane bonded to the Structure Deck need not be removed.

6-08.3(6) Repair of Damage due to Bituminous Pavement Removal Operations
All concrete bridge deck, pavement seat, and steel reinforcing bar damage due to the Contractor’s surfacing removal operations shall be repaired by the Contractor in accordance with Section 1-07.13, and as specified below.

Damaged concrete in excess of the specified Bituminous Pavement removal tolerance shall be repaired in accordance with Section 6-08.3(7), with the bridge deck repair material placed to the level of the surrounding bridge deck and parallel to the final grade paving profile.

Damaged steel reinforcing bar shall be repaired as follows:

1. Damage to steel reinforcing bar resulting in a section loss less than 20-percent of the bar with no damage to the surrounding concrete shall be left in place and shall be repaired by removing the concrete to a depth ¾-inches around the top steel reinforcing bar and placing
bridge deck repair material accepted by the Engineer to the level of
the bridge deck and parallel to the final grade paving profile.

2. Damage to steel reinforcing bar resulting in a section loss of 20-
percent or more in one location, bars partially or completely removed
from the bridge deck, or where there is a lack of bond to the concrete,
shall be repaired by removing the adjacent concrete and splicing a
new bar of the same size. Concrete shall be removed to provide a ¾-
inch minimum clearance around the bars. The splice bars shall
extend a minimum of 40 bar diameters beyond each end of the
damage.

6-08.3(7) Concrete Deck Repair
This Work consists of repairing the concrete deck after Bituminous Pavement
has been removed.

6-08.3(7)A Concrete Deck Preparation
The Contractor, with the Engineer, shall inspect the exposed concrete
deck to establish the extent of bridge deck repair in accordance with
Section 6-09.3(6), except item 4 in Section 6-09.3(6) does not apply.
Areas of Structure Deck left with existing well bonded waterproof
membrane after full depth Bituminous Pavement removal are exempt from
this inspection requirement.

All loose and unsound concrete within the repair area shall be removed
with jackhammers or chipping hammers no more forceful than the nominal
30 pounds class, or other mechanical means acceptable to the Engineer,
and operated at angles less than 45 degrees as measured from the
surface of the deck to the tool. If unsound concrete exists around the
existing steel reinforcing bars, or if the bond between concrete and steel
reinforcing bar is broken, the Contractor shall remove the concrete to
provide a ¾ inch minimum clearance to the bar. The Contractor shall take
care to prevent damage to the existing steel reinforcing bars and concrete
to remain.

After removing sufficient concrete to establish the limits of the repair area,
the Contractor shall make ¾ inch deep vertical saw cuts and maintain
square edges at the boundaries of the repair area. The exposed steel
reinforcing bars and concrete in the repair area shall be abrasive blasted
and blown clean just prior to placing the bridge deck repair material.

6-08.3(7)B Ultra-Low Viscosity, Two-Part Liquid, Polyurethane-Hybrid
Polymer Concrete
The ultra-low viscosity, two-part liquid, polyurethane-hybrid polymer
concrete shall be mixed in accordance with the manufacturer’s
recommendations.

Aggregate shall conform to the gradation limit requirements recommended
by the manufacturer. The aggregate and the ultra-low viscosity, two-part
liquid, polyurethane-hybrid polymer concrete shall be applied to the repair
areas in accordance with the sequence and procedure recommended by
the manufacturer.
All repairs shall be float finished flush with the surrounding surface within a tolerance of \( \frac{1}{8} \) inch of a straight edge placed across the full width and breadth of the repair area.

### 6-08.3(7)C Pre-Packaged Cement Based Repair Mortar

The Contractor shall mix the pre-packaged cement based repair mortar using equipment, materials and proportions, batch sizes, and process as recommended by the manufacturer.

All repairs shall be float finished flush with the surrounding surface within a tolerance of \( \frac{1}{8} \) inch of a straight edge placed across the full width and breadth of the repair area.

### 6-08.3(7)D Cure

All bridge deck repair areas shall be cured in accordance with the manufacturer's recommendations and attain a minimum compressive strength of 2,500 psi before allowing vehicular and foot traffic on the repair and placing waterproofing membrane on the bridge deck over the repair.

### 6-08.3(8) Waterproof Membrane for Structure Decks

This work consists of furnishing and placing a waterproof sheet membrane system over a prepared Structure Deck prior to placing an HMA overlay. The waterproof membrane system shall consist of a sheet membrane adhered to the Structure Deck with a primer.

The Contractor shall comply with all membrane manufacturer's installation recommendations.

#### 6-08.3(8)A Structure Deck Preparation

The Structure Deck and ambient air temperatures shall be above 50°F and the Structure Deck shall be surface-dry at the time of the application of the primer and membrane.

All areas of a Structure Deck that have fresh cast bridge deck concrete less than 28 days old (not including bridge deck repair concrete placed in accordance with Section 6-08.3(7)) shall cure for a period of time recommended by the membrane manufacturer, or as specified by the Engineer, before application of the membrane.

The entire Structure Deck and the sides of the curb and expansion joint headers to the height of the HMA overlay shall be free of all foreign material such as dirt, grease, etc. Prior to applying the primer or sheet membrane, all dust and loose material shall be removed from the Structure Deck with compressed air. All surface defects such as spalled areas, cracks, protrusions, holes, sharp edges, ridges, etc., and other surface imperfections greater than \( \frac{1}{4} \) inch in width shall be corrected prior to application of the membrane.

#### 6-08.3(8)B Applying Primer

The primer shall be applied to the cleaned deck surfaces at the rate according to the procedure recommended by the membrane.
manufacturer. All surfaces to be covered by the membrane shall be thoroughly and uniformly coated with primer. Structure Deck areas left with existing well bonded waterproof membrane after bituminous surfacing removal shall receive an application of primer in accordance with the membrane manufacturer's recommendations. Precautionary measures shall be taken to ensure that pools and thick layers of primer are not left on the deck surface. The membrane shall not be applied until the primer has cured or volatile material has substantially dissipated, in accordance with the membrane manufacturer's recommendations.

The primer and waterproof membrane shall extend from the bridge deck up onto the curb face and expansion joint header face the thickness of the HMA overlay. The membrane shall adhere to the vertical surface.

6-08.3(8)C Placing Waterproof Membrane
Membrane application shall begin at the low point on the deck, and continue in a lapped shingle pattern. The overlap shall be a minimum of six inches or greater if recommended by the membrane manufacturer. Membrane seams shall be sealed as recommended by the membrane manufacturer. Hand rollers or similar tools shall be used on the applied membrane to assure firm and uniform contact with the primed Structure surfaces.

The fabric shall be neatly cut and contoured at all expansion joints and drains. The cuts at bridge drains shall be two right angle cuts made to the inside diameter of the bridge deck drain outlet, after which the corners of the waterproof membrane shall be turned down into the drains and laid in a coating of primer.

6-08.3(8)D Membrane Repair and Protection
The waterproof membrane will be visually inspected by the Engineer for uniformity, tears, punctures, bonding, bubbles, wrinkles, voids and other defects. All such deficiencies shall be repaired in accordance with the membrane manufacturer's recommendations prior to placement of the HMA overlay.

The membrane material shall be protected from damage due to the paving operations in accordance with the membrane manufacturer's recommendations. No traffic or equipment except that required for the actual waterproofing and paving operations will be permitted to travel or rest on the membrane until it is covered by the HMA overlay. The use of windrows is not allowed for laydown of HMA on a membrane.

Where waterproofing membrane is placed in stages or applied at different times, a strip of temporary paper shall be used to protect the membrane overlap from the HMA hand removal methods.

6-08.3(9) Placing Bituminous Pavement on Structure Decks
HMA overlay shall be applied on Grade Controlled Structure Decks using reference lines for vertical control in accordance with Section 5-04.3(3)C.
The compacted elevation of the HMA overlay on Structure Decks shall be within ± 0.02 feet of the specified overlay thickness or Final Grade Profile as applicable. Deviations from the final grade paving profile in excess of the specified tolerance and areas of non-conforming surface smoothness shall be corrected in accordance with Section 5-04.3(13).

Final grade Roadway transitions to a Structure Deck with Bituminous Pavement shall not exceed a 0.20 percent change in grade in accordance with the bridge deck transition for HMA overlay Standard Plan, unless shown otherwise in the Plans.

Final grade compacted HMA elevations shall be higher than an adjacent concrete edge by ¼ inch ± ⅛ inch at all expansion joint headers and concrete butt joints as shown in the concrete to asphalt butt joint details of the bridge paving joint seals Standard Plan. This also applies to steel edges within the limits of the overlay such as bridge drain frames and steel joint riser bars at bridge expansion joints.

6-08.3(9)A Protection of Structure Attachments and Embedments
The Contractor is responsible for protecting all Structure attachments and embedments from the application of BST and HMA.

Drainage inlets that are to remain open, and expansion joints, shall be cleaned out immediately after paving is completed. Materials passing through expansion joints shall be removed from the bridge within 10 working days.

All costs incurred by the Contractor in protective measures and clean up shall be included in the unit Contract prices for the associated Bid items of Work.

6-08.3(10) HMA Compaction on Structure Decks
Compaction of HMA on Structure Decks shall be in accordance with Section 5-04.3(10). Work rejected in accordance with Section 5-04.3(11) shall include the materials, work, and incidentals to repair an existing waterproof membrane damaged by the removal of the rejected work.

6-08.3(11) Paved Panel Joint Seals and HMA Sawcut and Seal
Bridge paving joint seals shall be installed in accordance with Section 5-04.3(12)B and the details shown in the Plans and Standard Plans.

When concrete joints are exposed after removal of Bituminous Pavement, the joints shall be cleaned and sealed in accordance with Section 5-01.3(8) and the paved panel joint seal details of the bridge paving joint seals Standard Plan, including placement of the closed cell backer rod at the base of the cleaned joint. If waterproofing membrane is required, the membrane shall be slack or folded at the concrete joint to allow for Structure movements without stress to the membrane. After placement of the HMA overlay, the second phase of the paved panel joint seal shall be completed by sawing the HMA and sealing the sawn joint in accordance with Section 5-04.3(12)B2.
6-08.4 Measurement
Removing existing Bituminous Pavement from Structure Decks will be measured by the square yard of Structure Deck surface area with removed overlay.

Bridge deck repair will be measured by the square foot surface area of deck concrete removed with the measurement taken at the plane of the top mat of steel reinforcing bars.

Waterproof membrane will be measured by the square yard surface area of Structure Deck and curb and header surface area covered by membrane.

6-08.5 Payment
Payment will be made for each of the following Bid items when they are included in the Proposal:

“Structure Surveying”, lump sum.

“Removing Existing Overlay From Bridge Deck___”, per square yard.
The unit Contract price per square yard for "Removing Existing Overlay From Bridge Deck___", shall be full pay for performing the Work as specified for full removal of Bituminous Pavement on Structure Decks, including the removal of existing waterproof membrane and disposing of materials.

“Bridge Deck Repair Br. No.___”, per square foot.
The unit Contract price per square foot for "Bridge Deck Repair Br. No.___" shall be full pay for performing the Work as specified, including removing and disposing of the concrete within the repair area and furnishing, placing, finishing, and curing the repair concrete.

“Waterproof Membrane Br. No.___”, per square yard.
The unit Contract price per square yard for "Waterproof Membrane Br. No.___" shall be full pay for performing the Work as specified, including repairing any damaged or defective waterproofing membrane and repair of damaged HMA overlay.

6-09.AP6
Section 6-09, Modified Concrete Overlays
April 4, 2016

6-09.3(8)A Quality Assurance for Microsilica Modified and Fly Ash Modified Concrete Overlays
The first sentence of the first paragraph is revised to read the following two new sentences:

The Engineer will perform slump, temperature, and entrained air tests for acceptance in accordance with Section 6-02.3(5)D and as specified in this Section after the Contractor has turned over the concrete for acceptance testing. Concrete samples for testing shall be supplied to the Engineer in accordance with Section 6-02.3(5)E.

The last paragraph is deleted.
6-09.3(8)B  Quality Assurance for Latex Modified Concrete Overlays
The first two paragraphs are deleted and replaced with the following:

The Engineer will perform slump, temperature, and entrained air tests for acceptance in accordance with Section 6-02.3(5)D and as specified in this Section after the Contractor has turned over the concrete for acceptance testing. The Engineer will perform testing as the concrete is being placed. Samples shall be taken on the first charge through each mobile mixer and every other charge thereafter. The sample shall be taken after the first 2 minutes of continuous mixer operation. Concrete samples for testing shall be supplied to the Engineer in accordance with Section 6-02.3(5)E.

The second to last sentence of the last paragraph is revised to read:

Recommendations made by the technical representative on or off the jobsite shall be adhered to by the Contractor.

6-10.AP6
Section 6-10, Concrete Barrier
August 1, 2016

6-10.3(5)  Temporary Concrete Barrier
This section title is revised to read:

Temporary Barrier

The first paragraph is revised to read:

For temporary barrier, the Contractor may use precast concrete barrier or temporary steel barrier. Temporary concrete barrier shall comply with Standard Plan requirements and cross-sectional dimensions, except that: (1) it may be made in other lengths than those shown in the Standard Plan, and (2) it may have permanent lifting holes no larger than 4 inches in diameter or lifting loops. Temporary steel barrier shall be certified that it meets NCHRP 350 or MASH crash test requirements and shall be installed in accordance with the manufacturer’s recommendations.

6-10.4  Measurement
The first sentence of the second paragraph is revised to read:

Temporary barrier will be measured by the linear foot along the completed line and slope of the barrier, one time only for each setup of barrier protected area.

6-10.5  Payment
The Bid item “Temporary Conc. Barrier”, per linear foot, and the paragraph following this Bid item, is revised to read:

“Temporary Barrier”, per linear foot.

The unit Contract price per linear foot for “Temporary Barrier” shall be full pay for all costs, including furnishing, installing, connecting, anchoring, maintaining, temporary storage, and final removal of the temporary barrier.
Section 6-12, Noise Barrier Walls
January 3, 2017

6-12.3(9) Access Doors and Concrete Landing Pads
The first sentence of the last paragraph is revised to read:

The Contractor shall construct concrete landing pads for each access door location as shown in the Plans.

6-12.5 Payment
In the paragraph following the bid item “Noise Barrier Wall Access Door”, per each, “concrete landing pad” is revised to read “concrete landing pads”.

Section 6-14, Geosynthetic Retaining Walls
January 3, 2017

6-14.3(2) Submittals
The first sentence of the first paragraph is revised to read:

The Contractor shall submit Type 2E Working Drawings consisting of detailed plans for each wall.

6-14.5 Payment
The bid item “Concrete Fascia Panel”, per square foot, and the paragraph following this bid item are revised to read:

“Concrete Fascia Panel For Geosynthetic Wall”, per square foot.

All costs in connection with constructing the concrete fascia panels as specified shall be included in the unit Contract price per square foot for “Concrete Fascia Panel For Geosynthetic Wall”, including all steel reinforcing bars, premolded joint filler, polyethylene bond breaker strip, joint sealant, PVC pipe for weep holes, exterior surface finish, and pigmented sealer (when specified), constructing and placing the concrete footing, edge beam, anchor beam, anchor rod assembly, and backfill.

Section 6-19, Shafts
January 3, 2017

6-19.3 Construction Requirements
This section is supplemented with the following new subsection:

6-19.3(10) Engineer’s Final Acceptance of Shafts
The Engineer will determine final acceptance of each shaft, based on the nondestructive QA test results and analysis for the tested shafts, and will provide a response to the Contractor within 3 working days after receiving the test results and analysis submittal.
6-19.3(1)B Nondestructive Testing of Shafts
This section’s content is deleted and replaced with the following new subsections:

6-19.3(1)B1 Nondestructive Quality Assurance (QA) Testing of Shafts
Unless otherwise specified in the Special Provisions, the Contractor shall perform
nondestructive QA testing of shafts, except for those constructed completely in the dry.
Either crosshole sonic log (CSL) testing in accordance with ASTM D 6760 or thermal
integrity profiling (TIP) testing in accordance with ASTM D 7949 shall be used.

6-19.3(1)B2 Nondestructive Quality Verification (QV) Testing of Shafts
The Contracting Agency may perform QV nondestructive testing of shafts that have
been QA tested by the Contractor. The Contracting Agency may test up to ten percent
of the shafts. The Engineer will identify the shafts selected for QV testing and the
testing method the Contracting Agency will use.

The Contractor shall accommodate the Contracting Agency’s nondestructive testing.

6-19.3(2) Shaft Construction Submittal
This section is revised to read:

The shaft construction submittal shall be comprised of the following four components:
construction experience; shaft installation narrative; shaft slurry technical assistance;
and nondestructive QA testing personnel. The submittals shall be Type 2 Working
Drawings, except the shaft slurry technical assistance and nondestructive QA testing
personnel submittals shall be Type 1.

This section is supplemented with the following new subsection:

6-19.3(2)D Nondestructive QA Testing Organization and Personnel
The Contractor shall submit the names of the testing organizations, and the names of
the personnel who will conduct nondestructive QA testing of shafts. The submittal shall
include documentation that the qualifications specified below are satisfied. For TIP
testing, the testing organization is the group that performs the data analysis and
produces the final report. The testing organizations and the testing personnel shall meet
the following minimum qualifications:

1. The testing organization shall have performed nondestructive tests on a
   minimum of three deep foundation projects in the last two years.

2. Personnel conducting the tests for the testing organization shall have a
   minimum of one year experience in nondestructive testing and interpretation.

3. The experience requirements for the organization and personnel shall be
   consistent with the testing methods the Contractor has selected for
   nondestructive testing of shafts.

4. Personnel preparing test reports shall be a Professional Engineers, licensed
   under Title 18 RCW, State of Washington, and in accordance with WAC 196-
   23-020.

6-19.3(3) Shaft Excavation
The second paragraph is revised to read:
Shaft excavation shall not be started until the Contractor has received the Engineer’s acceptance for the reinforcing steel centralizers required when the casing is to be pulled during concrete placement.

This section is supplemented with the following:

Except as otherwise noted, the Contractor shall not commence subsequent shaft excavations until receiving the Engineer’s acceptance of the first shaft, based on the results and analysis of the nondestructive testing for the first shaft. The Contractor may commence subsequent shaft excavations prior to receiving the Engineer’s acceptance of the first shaft, provided the following condition is satisfied:

The Engineer permits continuing with shaft construction based on the Engineer’s observations of the construction of the first shaft, including, but not limited to, conformance to the shaft installation narrative in accordance with Section 6-19.3(2)B, and the Engineer’s review of Contractor’s daily reports and Inspector’s daily logs concerning excavation, steel reinforcing bar placement, and concrete placement.

6-19.3(5)B Steel Reinforcing Bar Cage Centralizers

This section is supplemented with the following new sentence:

The Contractor shall furnish and install additional centralizers as required to maintain the specified concrete cover throughout the length of the shaft.

6-19.3(5)C Concrete Cover Over Steel Reinforcing Bars

In the table, the second column (including heading) is revised to read:

<table>
<thead>
<tr>
<th>Minimum Concrete Cover, and Concrete Cover Tolerance, Except at Permanent Slip Casing (Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3, -1½</td>
</tr>
<tr>
<td>4, -2</td>
</tr>
<tr>
<td>4, -2</td>
</tr>
<tr>
<td>6, -3</td>
</tr>
</tbody>
</table>

The following new paragraph is inserted after the table:

The concrete cover tolerances specified above apply to the concrete cover specified in the Plans, even if it exceeds the minimum concrete cover.

6-19.3(6) Access Tubes for Crosshole Sonic Log (CSL) Testing

This section title is revised to read:

6-19.3(6) Contractor Furnished Accessories for Nondestructive QA Testing

This section is supplemented with the following three new subsections:

6-19.3(6)D Shafts Requiring Thermal Wire

The Contractor shall furnish and install thermal wire in all shafts receiving the thermal wire method of TIP testing, except as otherwise noted in Section 6-19.3(1)B1.
6-19.3(6)E  Thermal Wire and Thermal Access Points (TAPs)

The thermal wire and associated couplers shall be obtained from the source specified in the Special Provisions.

The Contractor shall securely attach the thermal wire to the interior of the reinforcement cage of the shaft in conformance with the supplier's instructions. At a minimum, one thermal wire shall be furnished and installed for each foot of shaft diameter, rounded to the nearest whole number, as shown in the Plans. The number of thermal wires for shaft diameters specified as "X feet 6 inches" shall be rounded up to the next higher whole number. The thermal wires shall be placed around the shaft, inside the spiral or hoop reinforcement, and tied to the vertical reinforcement with plastic "zip" ties at a maximum spacing of 2-feet. Steel tie wire shall not be used.

The thermal wire shall be installed in straight alignment and taut, but with enough slack to not be damaged during reinforcing cage lofting. The wires shall be as near to parallel to the vertical axis of the reinforcement cage as possible. The thermal wire shall extend from the bottom of the reinforcement cage to the top of the shaft, with 15-feet of slack wire provided above the top of shaft. Care shall be taken to prevent damaging the thermal wires during reinforcement cage installation and concrete placement operations in the shaft excavation.

After completing shaft reinforcement cage fabrication at the site and prior to installation of the cage into the shaft excavation, the Contractor shall install and connect thermal access points (TAPs) to the thermal wires. The TAPs shall record data for at least one hour after the cage is placed in the excavation to measure the slurry temperature and enable the steel and slurry temperatures to equilibrate prior to placing concrete in the shaft. The TAPs shall record and store data every 15 minutes. The TAPs shall remain active for a minimum of 36 hours.

Prior to beginning concrete placement the TAPs shall be checked to ensure they are recording data and that the wires have not been damaged. If a TAP unit is not functioning due to a damaged wire, the Contractor shall repair or replace the wire. If a TAP unit fails or a wire breaks after concrete placement has started, the Contractor shall not stop the concrete placement operation to repair the wire.

6-19.3(6)F  Use of Access Tubes for TIP Testing Under the Thermal Probe Method

The Contractor may use access tubes for TIP testing under the thermal probe method. Access tubes shall be cared for in accordance with Section 6-19.3(6)C. Prior to TIP testing under the thermal probe method, the water in each tube shall be removed, collected, and stored in an insulated container. The access tube shall be blown dry and swabbed to remove residual water. After TIP testing, the collected and stored tube water shall be introduced back into the access tube. New potable water may be used, provided the water temperature is not more than 10°F cooler than the average concrete temperature measured by the probe.

6-19.3(6)A  Shafts Requiring CSL Access Tubes

This section, including title, is revised to read:
6-19.3(6)A Shafts Requiring Access Tubes
The Contractor shall furnish and install access tubes in all shafts receiving CSL testing or the thermal probe method of TIP testing, except as otherwise noted in Section 6-19.3(1)B1.

6-19.3(6)B Orientation and Assembly of the CSL Access Tubes
This section’s title is revised to read:

6-19.3(6)B Orientation and Assembly of the Access Tubes

6-19.3(6)C Care for CSL Access Tubes from Erection through CSL Testing
This section’s title is revised to read:

6-19.3(6)C Care for Access Tubes from Erection Through Nondestructive QA Testing

The second sentence is revised to read:

The Contractor shall keep all of a shaft’s access tubes full of water through the completion of nondestructive QA testing of that shaft.

6-19.3(7)A Concrete Class for Shaft Concrete
This section is revised to read:

Shaft concrete shall be Class 5000P conforming to Section 6-02.

6-19.3(7)B Concrete Placement Requirements
The last sentence of the last paragraph is revised to read:

The Section 6-02.3(6) restriction for 5 feet maximum free fall shall not apply to placement of concrete into a shaft.

6-19.3(7)I Requirements for Placing Concrete Above the Top of Shaft
This section is revised to read:

Concrete shall not be placed above the top of shaft (for column splice zones, columns, footings, or shaft caps) until the Contractor receives the Engineer’s acceptance of nondestructive QA testing, if performed at that shaft, and acceptance of the shaft.

6-19.3(9) Nondestructive Testing of Shafts (Crosshole Sonic Log (CSL) Testing)
This section, including title, is revised to read:

6-19.3(9) Nondestructive QA Testing of Shafts
The Contractor shall provide nondestructive QA testing and analysis on all shafts with access tubes or thermal wires and TAPs facilitating the testing (See Section 6-19.3(1)B). The testing and analysis shall be performed by the testing organizations identified by the Contractor’s submittal in accordance with Section 6-19.3(2)D.

The Engineer may direct that additional testing be performed at a shaft if anomalies or a soft bottom are detected by the Contractor’s testing. If additional testing at a shaft confirms the presence of a defect(s) in the shaft, the testing costs and the delay costs
resulting from the additional testing shall be borne by the Contractor in accordance with Section 1-05.6. If the additional testing indicates that the shaft has no defect, the testing costs and the delay costs resulting from the additional testing will be paid by the Contracting Agency in accordance with Section 1-05.6, and, if the shaft construction is on the critical path of the Contractor’s schedule, a time extension equal to the delay created by the additional testing will be granted in accordance with Section 1-08.8.

6-19.3(9)A Schedule of CSL Testing

This section, including title, is revised to read:

6-19.3(9)A TIP Testing Using Thermal Probes or CSL Testing

If selected as the nondestructive QA testing method by the Contractor, TIP testing using thermal probes, or CSL testing shall be performed after the shaft concrete has cured at least 96 hours. Additional curing time prior to testing may be required if the shaft concrete contains admixtures, such as set retarding admixture or water-reducing admixture, added in accordance with Section 6-02.3(3). The additional curing time prior to testing required under these circumstances shall not be grounds for additional compensation or extension of time to the Contractor in accordance with Section 1-08.8.

6-19.3(9)B Inspection of CSL Access Tubes

This section’s title is revised to read:

6-19.3(9)B Inspection of Access Tubes

6-19.3(9)C Engineer’s Final Acceptance of Shafts

This section, including title, is revised to read:

6-19.3(9)C TIP Testing With Thermal Wires and TAPs

If selected as the nondestructive QA testing method by the Contractor, TIP testing with thermal wires and TAPs (See Section 6-19.3(6)E) shall be performed. The TIP testing shall commence at the beginning of the concrete placement operation, recording temperature readings at 15-minute intervals until the peak temperature is captured in the data. Additional curing time may be required if the shaft concrete contains admixtures, such as set retarding admixture or water-reducing admixture, added in accordance with Section 6-02.3(3). The additional curing time required under these circumstances shall not be grounds for additional compensation or extension of time to the Contractor in accordance with Section 1-08.8.

TIP testing shall be conducted at all shafts in which thermal wires and TAPs have been installed for thermal wire analysis (Section 6-19.3(6)A).

6-19.3(9)D Requirements to Continue Shaft Excavation Prior to Acceptance of First Shaft

This section, including title, is revised to read:

6-19.3(9)D Nondestructive QA Testing Results Submittal

The Contractor shall submit the results and analysis of the nondestructive QA testing for each shaft tested. The Contractor shall submit the test results within three working days of testing. Results shall be a Type 1 Working Drawing presented in a written report.

TIP reports shall include:
1. A map or plot of the wire/tube location within the shaft and their position relative to a known and identifiable location, such as North.

2. Graphical displays of temperature measurements versus depth of each wire or tube for the analysis time selected, overall average temperature with depth, shaft radius or diameter with depth, concrete cover versus cage position with depth, and effective radius.

3. The report shall identify unusual temperatures, particularly significantly cooler local deviations from the overall average.

4. The report shall identify the location and extent where satisfactory or questionable concrete is identified.
   a. Satisfactory (S) - 0 to 6% Effective Radius Reduction and Cover Criteria Met
   b. Questionable (Q) - Effective Local Radius Reduction > 6%, Effective Local Average Diameter Reduction > 4%, or Cover Criteria Not Met

5. Variations in temperature between wire/tubes (at each depth) which in turn correspond to variations in cage alignment.

6. Where shaft specific construction information is available (e.g. elevations of the top of shaft, bottom of casing, bottom of shaft, etc.), these values shall be noted on all pertinent graphical displays.

CSL reports shall include:

1. A map or plot of the tube location within the shaft and their position relative to a known and identifiable location, such as North.

2. Graphical displays of CSL Energy versus Depth and CSL signal arrival time versus depth or velocity versus depth.

3. The report shall identify the location and extent where good, questionable, and poor concrete is identified, where no signal was received, or where water is present.
   a. Good (G) - No signal distortion and decrease in signal velocity of 10% or less is indicative of good quality concrete.
   b. Questionable (Q) - Minor signal distortion and a lower signal amplitude with a decrease in signal velocity between 10% and 20%.
   c. Poor (P) - Severe signal distortion and much lower signal amplitude with a decrease in signal velocity of 20% or more.
   d. No Signal (NS) - No signal was received.
   e. Water (W) - A measured signal velocity of nominally $V = 4,800$ to 5,000 fps.
All QA test reports will provide a recommendation to accept the shaft as-is, recommendation for further review by the Engineer, or will provide a plan for further testing, investigation or repair to address any deficiencies identified by the testing.

6-19.3(9)E Additional CSL Testing
This section, including title, is revised to read:

6-19.3(9)E Vacant

6-19.3(9)l Requirements for CSL Access Tubes and Cored Holes After CSL Testing
This section’s title is revised to read:

6-19.3(9)l Requirements for Access Tubes and Cored Holes After CSL Testing

6-19.4 Measurement
This section is revised to read:

Constructing shafts will be measured by the linear foot. The linear foot measurement will be calculated using the top of shaft elevation and the bottom of shaft elevation for each shaft as shown in the Plans.

Rock excavation for shaft, including haul, will be measured by the linear foot of shaft excavated. The linear feet measurement will be computed using the top of the rock line, defined as the highest bedrock point within the shaft diameter, and the bottom elevation shown in the Plans.

QA shaft test will be measured once per shaft tested.

6-19.5 Payment
This section is revised to read:

Payment will be made for the following Bid items when they are included in the Proposal:

“Constructing___Diam. Shaft”, per linear foot.
The unit Contract price per linear foot for “Constructing___Diam. Shaft” shall be full pay for performing the Work as specified, including:

1. Soil excavation for shaft, including all costs in connection with furnishing, mixing, placing, maintaining, containing, collecting, and disposing of all mineral, synthetic and water slurry, and disposing of groundwater collected by the excavated shaft.

2. Furnishing and placing temporary shaft casing, including temporary casing in addition to the required casing specified in the Special Provisions, and including all costs in connection with completely removing the casing after completing shaft construction.

3. Furnishing permanent casing for shaft.
4. Placing permanent casing for shaft.

5. Casing shoring, including all costs in connection with furnishing and installing casing shoring above the specified upper limit for casing shoring but necessary to provide for sufficient water head pressure to resist artesian water pressure present in the shaft excavation, removing casing shoring, and placing seals when required.

6. Furnishing and placing steel reinforcing bar and epoxy-coated steel reinforcing bar, including furnishing and installing steel reinforcing bar centralizers.

7. Installation of CSL tubes or thermal wires.

8. Furnishing, placing and curing concrete to the top of shaft or to the construction joint at the base of the shaft-column splice zone as applicable.

Payment for “Constructing___Diam. Shaft” will be made upon Engineer acceptance of the shaft, including completion of satisfactory QA shaft tests as applicable.

“Rock Excavation For Shaft Including Haul”, per linear foot. When rock excavation is encountered, payment for rock excavation is in addition to the unit Contract price per linear foot for “Constructing___Diam. Shaft”

“Shoring Or Extra Excavation Cl. A - ___”, lump sum. The lump sum Contract price for “Shoring Or Extra Excavation Cl. A - ___” shall be full pay for performing the Work as specified, including all costs in connection with all excavation outside the limits specified for soil and rock excavation for shaft including haul, all temporary telescoping casings, and all temporary casings beyond the limits of required temporary casing specified in the Special Provisions.

“QA Shaft Test”, per each. The unit Contract price per each for “QA Shaft Test” shall be full pay for performing the Work as specified, including operating all associated accessories necessary to record and process data and develop the summary QA test reports. Section 1-04.6 does not apply to this bid item.

“Removing Shaft Obstructions”, estimated. Payment for removing, breaking-up, or pushing aside shaft obstructions, as defined in Section 6-19.3(3)E, will be made for the changes in shaft construction methods necessary to deal with the obstruction. The Contractor and the Engineer shall evaluate the effort made and reach agreement on the equipment and employees utilized, and the number of hours involved for each. Once these cost items and their duration have been agreed upon, the payment amount will be determined using the rate and markup methods specified in Section 1-09.6. For the purpose of providing a common proposal for all Bidders, the Contracting Agency has entered an amount for the item “Removing Shaft Obstructions” in the Bid Proposal to become a part of the total Bid by the Contractor.
If drilled shaft tools, cutting teeth, casing or Kelly bar is damaged as a result of the obstruction removal work, the Contractor will be compensated for the costs to repair this equipment in accordance with Section 1-09.6.

If shaft construction equipment is idled as a result of the Work required to deal with the obstruction and cannot be reasonably reassigned within the project, then standby payment for the idled equipment will be added to the payment calculations. If labor is idled as a result of the Work required to deal with the obstruction and cannot be reasonably reassigned within the project, then all labor costs resulting from Contractor labor agreements and established Contractor policies will be added to the payment calculations.

The Contractor shall perform the amount of obstruction Work estimated by the Contracting Agency within the original time of the Contract. The Engineer will consider a time adjustment and additional compensation for costs related to the extended duration of the shaft construction operations, provided:

1. The dollar amount estimated by the Contracting Agency has been exceeded, and
2. The Contractor shows that the obstruction removal Work represents a delay to the completion of the project based on the current progress schedule provided in accordance with Section 1-08.3.

7-02.AP7
Section 7-02, Culverts
January 3, 2017

7-02.2 Materials

The following three new items are inserted after the item "Aggregate for Portland Cement Concrete:

- Gravel Backfill for Pipe Zone Bedding 9-03.12(3)
- Butyl Rubber Sealant 9-04.11
- External Sealing Band 9-04.12

The last paragraph is deleted.

7-02.3(6) Precast Reinf. Conc. Three Sided Structures, Box Culverts and Split Box Culverts

This section is supplemented with the following new paragraph:

When the Plans include a complete set of design details for a Structure (defining panel shapes and dimensions, concrete strength requirements, and steel reinforcing bar, joint, and connection details), the design and load rating preparation and calculation submittal requirements of Sections 7-02.3(6)A1 and 7-02.3(6)A2 do not apply for the components shown in the Plans, but all other requirements of this Section remain in effect. The Contractor may propose alternate concrete culvert designs, accommodating the same rise, span, and length as shown in the Plans, to replace the Structure details shown in the Plans. If an alternate concrete culvert design is proposed, all of the requirements of
7-02.3(6)A General

This section is supplemented with the following two new paragraphs:

Tolerances for PRCTSS shall be as follows:

1. Internal Dimensions – The internal dimension shall not vary more than 1 percent or 2 inches, whichever is less, from the Plan dimensions. The haunch dimensions shall not vary more than $\frac{3}{4}$ inch from the Plan dimensions.

2. Slab and Wall Thickness – The slab and wall thickness shall not be less than that shown in the Plans by more than 5 percent or $\frac{1}{2}$ inch, whichever is greater. A thickness more than that required in the Plans will not be a cause for rejection if proper joining is not affected.

3. Length of Opposite Surfaces – Variations in lengths of two opposite surfaces of the three-sided section shall not be more than $\frac{3}{4}$ inch unless beveled sections are being used to accommodate a curve in the alignment.

4. Reinforcing steel placement shall meet the tolerances specified in Section 6-02.3(24)C.

Tolerances for PRCBC and PRCSBC shall be as follows:

1. Internal Dimensions – The internal dimensions shall not vary more than 1 percent from the Plan dimensions. If haunches are used, the haunch dimensions shall not vary more than $\frac{1}{4}$ inch from the Plan dimensions.

2. Slab and Wall Thickness – The slab and wall thickness shall not be less than that shown in the Plans by more than 5 percent or $\frac{9}{16}$ inch, whichever is greater. A thickness more than that required in the Plans will not be a cause for rejection.

3. Length of Opposite Box Segments – Variations in lengths of two opposite surfaces of the box segments shall not be more than $\frac{1}{8}$ inch per foot of internal span, with a maximum of $\frac{5}{8}$ inch for all sizes through 7 feet internal span, and a maximum of $\frac{3}{4}$ inch for internal spans greater than 7 feet, except where beveled sections are being used to accommodate a curve in the alignment.

4. Length of Box Segments – The underrun in length of a segment shall not be more than $\frac{1}{8}$ inch per foot of length with a maximum of $\frac{1}{2}$ inch in any box segment.

5. Length of Legs and Slabs – The variation in length of the legs shall not be more than $\frac{1}{8}$ inch per foot of the rise of the leg per leg with a maximum of $\frac{5}{8}$ inches. The differential length between opposing legs of the same segment shall not be more than $\frac{1}{2}$ inch. Length of independent top slab spans shall not vary by more than $\frac{1}{8}$ inch per foot of span of the top slab, with a maximum of $\frac{5}{8}$ inches.
6. Reinforcing steel placement shall meet the tolerances specified in Section 6-02.3(24)C.

This section is supplemented with the following new subsection:

7-02.3(6)A5 Wingwalls and Retaining Walls

Wingwalls and retaining walls (including cutoff walls and headwalls) shall be constructed in accordance with the Contractor’s design and Working Drawing submittal or when the Plans include a complete set of design details for a wall (defining panel shapes and dimensions, concrete strength requirements, and steel reinforcing bar, joint, and connection details), the details shown in the Plans.

Precast concrete construction shall conform to Sections 6-02.3(28) and 6-11.3(3).

Culvert bedding material shall be furnished, placed, and compacted in accordance with Section 7-02.3(6)A4.

7-02.3(6)A1 Design Criteria

The first sentence of the last paragraph is revised to read:

Whenever the minimum finished backfill or surfacing depth above the top of the Structure is less than 1'-0" (except when the top of the Structure is directly exposed to vehicular traffic), either all steel reinforcing bars in the span unit shall be epoxy-coated with 2" minimum concrete cover from the face of concrete to the face of the top mat of steel reinforcing bars, or the minimum concrete cover shall be 2½".

The last sentence of the last paragraph is revised to read:

Concrete cover from the face of any concrete surface to the face of any steel reinforcement shall be 1-inch minimum end clearance at all joints, and 2-inches minimum at all other locations.

7-02.3(6)A2 Submittals

The first paragraph is revised to read:

The Contractor shall submit shop drawings of the precast Structures. Fabrication shop drawings replicating complete design details when shown in the Plans shall be Type 2 Working Drawings. Submittals completing the design based on the schematic geometric requirements shown in the Plans, or proposing a Contractor designed alternative concrete culvert Structure shall be Type 2E Working Drawings with supporting design calculations.

The last paragraph is revised to read:

For precast Structures with a span length greater than 20-feet (as defined in Section 7-02.3(6)A1), except when the depth of fill above the top of culvert exceeds the Structure span length, a Type 2E Working Drawing shall be submitted consisting of a load rating report prepared in accordance with the AASHTO Manual for Bridge Evaluation and WSDOT Bridge Design Manual LRFD M 23-50 Chapter 13. Soil pressures used shall include effects from the backfill material and compaction methods, and shall be in accordance with the WSDOT Geotechnical Design Manual M 46-03 and the geotechnical report prepared for the project.
7-02.3(6)A3 Casting
This section is revised to read:

Concrete shall conform to Section 6-02.3(28)B, with a 28-day compressive strength as specified in the Plans or the Working Drawings submittal.

7-02.3(6)A4 Excavation and Bedding Preparation
The last paragraph is revised to read:

The upper layer of bedding course shall be a 6-inch minimum thickness layer of culvert bedding material, defined as granular material either conforming to Section 9-03.12(3) or to AASHTO Grading No. 57 as specified in Section 9-03.1(4)C. The plan limits of the culvert bedding material shall extend 1-foot beyond the plan limits of the culvert or the Structure footing as applicable. The culvert bedding material shall be compacted in accordance with the Section 2-09.3(1)E requirements for gravel backfill for drains. After compaction, the culvert bedding material shall be screeded transversely to the specified line and grade. Voids in the screeded culvert bedding material shall be filled and then rescreened prior to erecting the precast Structure.

7-02.3(6)B3 Erection
The last paragraph is revised to read:

Adjacent precast sections shall be connected by welding the weld-tie anchors in accordance with Section 6-03.3(25). Welding ground shall be attached directly to the steel plates being welded when welding the weld-ties. The weld-tie anchor spacing shall not exceed 6'-0". After connecting the weld-tie anchors, the Contractor shall paint the exposed metal surfaces with one coat of field primer conforming to Section 9-08.1(2)F. Keyways shall be filled with grout conforming to Section 9-20.3(2).

7-02.3(6)C1 Casting
This section is revised to read:

PRCSBC shall consist of lid elements and "U" shaped base elements. The vertical legs of the "U" shaped base elements shall be full height matching the rise of the culvert, except as otherwise specified for culvert spans greater than 20-feet. For PRCSBC spans greater than 20-feet (as defined in Section 7-02.3(6)A1), the lid elements may include vertical legs of a maximum length of 4-feet.

All vertical and horizontal joints of PRCBC and PRCSBC elements shall be tongue and groove type joints, except PRCBC and PRCSBC of 20-foot span or less may have keyway joints connected by weld-tie anchors in accordance with Section 6-02.3(25)O. The weld-tie anchor spacing shall not exceed 6'-0". There shall be at least two galvanized steel tie plates across each top unit tongue and groove joint and each tongue and groove joint between upper and lower units, unless otherwise shown in the Plans or required by the seismic designed completed in accordance with Section 7-02.3(6)A1.

7-02.3(6)C3 Erection
This section is revised to read:
PRCBC and PRCSBC shall be erected and backfilled in accordance with the erection sequence specified in the Working Drawing submittal, and the construction equipment restrictions specified in Section 6-02.3(25)O.

The Contractor shall install a continuous strip of butyl rubber sealant within all tongue and groove joints prior to connecting the precast elements together. The butyl rubber sealant shall have a minimum cross section of $\frac{1}{2}$-inch by $1\frac{1}{2}$-inch, unless otherwise shown in the Plans.

After connecting the joints with weld-tie anchors, the Contractor shall paint the exposed metal surfaces with one coat of field primer conforming to Section 9-08.1(2)F. Keyways shall be filled with grout conforming to Section 9-20.3(2).

The Contractor shall wrap all exterior joints along the top and sides of the PRCBC and PRCSBC with a 12-inch wide strip of external sealing band centered about the joint and adhesively bonded to the concrete surface.

Backfill beside the PRCBC and PRCSBC shall be brought up in sequential layers, compacted concurrently. The difference in backfill height on opposing sides of the Structure shall not exceed 2-feet.

7-02.4 Measurement
This section is supplemented with the following:

Culvert bedding material will be measured by the cubic yard of material placed.

7-02.5 Payment
This section is supplemented with the following:

"Culvert Bedding Material", per cubic yard.

7-08.AP7
Section 7-08, General Pipe Installation Requirements
January 3, 2017

7-08.3(1)A Trenches
The second sentence of the last paragraph is revised to read:

The embankment material shall be compacted to 95 percent of maximum density and the moisture content at the time of compaction shall be between optimum and 3 percentage points below optimum as determined by the Compaction Control Tests specified in Section 2-03.3(14)D.

7-09.AP7
Section 7-09, Water Mains
April 3, 2017

7-09.3(24)D Dry Calcium Hypochlorite
The second paragraph is revised to read:

The number of grams of 70 percent test calcium hypochlorite required for a 20-foot length of pipe equals $0.238 \times d^2$, in which "d" is the diameter in inches.
Section 8-01, Erosion Control and Water Pollution Control
August 1, 2016

8-01.2 Materials
This section is supplemented with the following new paragraph:

Recycled concrete, in any form, shall not be used for any Work defined in Section 8-01.

8-01.3(7) Stabilized Construction Entrance
The last sentence of the first paragraph is revised to read:

Material used for stabilized construction entrance shall be free of extraneous materials that may cause or contribute to track out.

8-01.3(8) Street Cleaning
This section is revised to read:

Self-propelled street sweepers shall be used to remove and collect sediment and other debris from the Roadway, whenever required by the Engineer. The street sweeper shall effectively collect these materials and prevent them from being washed or blown off the Roadway or into waters of the State. Street sweepers shall not generate fugitive dust and shall be designed and operated in compliance with applicable air quality standards.

Material collected by the street sweeper shall be disposed of in accordance with Section 2-03.3(7)C.

Street washing with water will require the concurrence of the Engineer.

8-09.AP8
Section 8-09, Raised Pavement Markers
January 3, 2017

8-09.5 Payment
In the last paragraph, “flaggers and spotters” is revised to read “flaggers”.

8-10.AP8
Section 8-10, Guide Posts
January 4, 2016

8-10.3 Construction Requirements
The last sentence of the second paragraph is deleted.

8-11.AP8
Section 8-11, Guardrail
January 17, 2017

8-11.3(1)C Terminal and Anchor Installation
This section is supplemented with the following new paragraph:
Beam Guardrail Non-flared Terminals for Type 1 guardrail shall meet the crash test and evaluation criteria of NCHRP 350 or the Manual for Assessing Safety Hardware (MASH). Beam Guardrail Non-flared Terminals for Type 31 guardrail shall meet the crash test and evaluation criteria of MASH.

8-11.3(1)F Removing and Resetting Beam Guardrail
The last sentence of the first paragraph is deleted.

8-11.5 Payment
The paragraph following the Bid item “Removing and Resetting Beam Guardrail”, per linear foot is revised to read:

The unit Contract price per linear foot for “Removing and Resetting Beam Guardrail” shall be full payment for all costs to perform the Work as described in Section 8-11.3(1)F, except for replacement posts and blocks.

The paragraph following the Bid item “Raising Existing Beam Guardrail”, per linear foot is revised to read:

The unit Contract price per linear foot for “Raising Existing Beam Guardrail” shall be full payment for all costs to perform the Work as described in Section 8-11.3(1)E, except for replacement posts and blocks.

8-20.AP8 Section 8-20, Illumination, Traffic Signal Systems, Intelligent Transportation Systems, and Electrical
January 3, 2017

8-20.1(1) Regulations and Code
The second paragraph is revised to read:

Wherever reference is made in these Specifications or in the Special Provisions to the Code, the rules, or the standards mentioned above, the reference shall be construed to mean the code, rule, or standard that is in effect on the Bid advertisement date.

8-20.3(5)A General
The last paragraph is revised to read:

Immediately after the sizing mandrel has been pulled through, install an equipment grounding conductor if applicable (see Section 8-20.3(9)) and any new or existing wire or cable as specified in the Plans. Where conduit is installed for future use, install a 200-pound minimum tensile strength pull string with the equipment grounding conductor. The pull string shall be attached to duct plugs or caps at both ends of the conduit.

8-20.3(5)A1 Fiber Optic Conduit
The last paragraph is deleted.

8-20.3(5)B Conduit Type
The second and third paragraphs are deleted and replaced with the following new paragraph:
PVC and HDPE conduits shall be Schedule 80 unless installed as innerduct.

8-20.3(5)D Conduit Placement

Item number 2 is revised to read:

2. 24-inches below the top of the untreated surfacing on a Roadbed.

8-20.3(9) Bonding, Grounding

The following two new paragraphs are inserted after the first paragraph:

- Install an equipment grounding conductor in all new conduit, whether or not the equipment grounding conductor is called for in the wire schedule.
- For each new conduit with innerduct install an equipment grounding conductor in only one of the innerducts unless otherwise required by the NEC or the Plans.

The fourth paragraph (after the preceding Amendments are applied) is revised to read:

- Bonding jumpers and equipment grounding conductors meeting the requirements of Section 9-29.3(2)A3 shall be minimum #8 AWG, installed in accordance with the NEC. Where existing conduits are used for the installation of new circuits, an equipment grounding conductor shall be installed unless an existing equipment ground conductor, which is appropriate for the largest circuit, is already present in the existing raceway.
- The equipment ground conductor between the isolation switch and the sign lighter fixtures shall be minimum #14 AWG stranded copper conductor. Where parallel circuits are enclosed in a common conduit, the equipment-grounding conductor shall be sized by the largest overcurrent device serving any circuit contained within the conduit.

The second sentence of the fifth paragraph (after the preceding Amendments are applied) is revised to read:

- A non-insulated stranded copper conductor, minimum #8 AWG with a full circle crimp on connector (crimped with a manufacturer recommended crimper) shall be connected to the junction box frame or frame bonding stud, the other end shall be crimped to the equipment bonding conductor, using a “C” type crimp connector.

The last two sentences of the sixth paragraph (after the preceding Amendments are applied) are revised to read:

- For light standards, signal standards, cantilever and sign bridge Structures the supplemental grounding conductor shall be #4 AWG non-insulated stranded copper conductor. For steel sign posts which support signs with sign lighting or flashing beacons the supplemental grounding conductor shall be #6 AWG non insulated stranded copper conductor.

The fourth to last paragraph is revised to read:

- Install a two grounding electrode system at each service entrance point, at each electrical service installation and at each separately derived power source. The service entrance grounding electrode system shall conform to the “Service Ground” detail in the Standard Plans. If soil conditions make vertical grounding electrode installation
impossible an alternate installation procedure as described in the NEC may be used. Maintain a minimum of 6 feet of separation between any two grounding electrodes within the grounding system. Grounding electrodes shall be bonded copper, ferrous core materials and shall be solid rods not less than 10 feet in length if they are $\frac{1}{2}$ inch in diameter or not less than 8 feet in length if they are $\frac{3}{4}$ inch or larger in diameter.

8-20.3(13)A Light Standards
The first sentence in the second to last paragraph is revised to read:

All new and relocated metal light standards shall be numbered for identification using painted 4 inch block gothic letters (similar to series C highway lettering) and numbers installed 3 feet above the base facing the Traveled Way.

The numbered list in the second to last paragraph is deleted and replaced with the following:

NN
CC-SSSS
VVV

Where:
NN – Is the pole number as identified in the Plans. May be one or more characters.
CC – Is the circuit letter as identified in the Plans. May be one or more characters.
SSSS – Is he service cabinet number as identified in the Plans. Do not include the two or three letter prefix. Up to four digits - do not include leading zeros.
VVV – Is the operating voltage of the luminaire. Always three digits.

8-20.3(13)C Luminaires
The first paragraph is revised to read:
The Contractor shall mark the installation date on the inside of the luminaire ballast or driver housing using a permanent marking pen.

8-22.AP8
Section 8-22, Pavement Marking
January 4, 2016

8-22.4 Measurement
The first two sentences of the fourth paragraph are revised to read:
The measurement for “Painted Wide Lane Line”, “Plastic Wide Lane Line”, “Profiled Plastic Wide Lane Line”, “Painted Barrier Center Line”, “Plastic Barrier Center Line”, “Painted Stop Line”, “Plastic Stop Line”, “Painted Wide Dotted Entry Line”, or “Plastic Wide Dotted Entry Line” will be based on the total length of each painted, plastic or profiled plastic line installed. No deduction will be made for the unmarked area when the marking includes a broken line such as, wide broken lane line, drop lane line, wide dotted lane line or wide dotted entry line.

8-22.5 Payment
The following two new Bid items are inserted after the Bid item “Plastic Crosshatch Marking”, per linear foot:

“Painted Wide Dotted Entry Line”, per linear foot.
“Plastic Wide Dotted Entry Line”, per linear foot.

9-01.AP9
Section 9-01, Portland Cement
January 3, 2017

This section’s title is revised to read:

Cement

9-01.1 Types of Cement
This section is revised to read:

Cement shall be classified as portland cement, blended hydraulic cement, or rapid hardening hydraulic cement.

9-01.2(2) Vacant
This section, including title, is revised to read:

9-01.2(2) Rapid Hardening Hydraulic Cement
Rapid hardening hydraulic cement shall meet the requirements of ASTM C 1600.

9-01.2(3) Low Alkali Cement
This section is renumbered as follows:

9-01.2(1A) Low Alkali Cement

9-01.2(4) Blended Hydraulic Cement
This section is renumbered as follows:

9-01.2(1B) Blended Hydraulic Cement

In the first paragraph, the last two sentences of item number 3 are revised to read:

Separate testing of each source of fly ash at each proposed replacement level shall be conducted in accordance with ASTM C1012 at the storage temperature prescribed in Section 9.3 of the test procedure. Expansion at 180 days shall be 0.10 percent or less.

In the first paragraph, the last two sentences of item number 4 are revised to read:

Separate testing of each source of slag at each proposed replacement level shall be conducted in accordance with ASTM C1012 at the storage temperature prescribed in Section 9.3 of the test procedure. Expansion at 180 days shall be 0.10 percent or less.

In the first paragraph, the last two sentences of item number 5 are revised to read:

Separate testing of each source of fly ash or slag at each proposed replacement level shall be conducted in accordance with ASTM C1012 at the storage temperature prescribed in Section 9.3 of the test procedure. Expansion at 180 days shall be 0.10 percent or less.
9-01.3 Tests and Acceptance

The second paragraph is revised to read:

Cement producers/suppliers that certify portland cement or blended hydraulic cement shall participate in the Cement Acceptance Program as described in WSDOT Standard Practice QC 1. Rapid hardening hydraulic cement producers/suppliers are not required to participate in WSDOT Standard Practice QC 1.

9-03.AP9

Section 9-03, Aggregates
January 3, 2017

9-03.1(1) General Requirements

In this section, each reference to “Section 9-01.2(3)” is revised to read “Section 9-01.2(1A)”. This first paragraph is supplemented with the following:

Reclaimed aggregate may be used if it complies with the specifications for Portland Cement Concrete. Reclaimed aggregate is aggregate that has been recovered from plastic concrete by washing away the cementitious materials.

9-03.1(2) Fine Aggregate for Portland Cement Concrete

This section is revised to read:

Fine aggregate shall consist of natural sand or manufactured sand, or combinations thereof, accepted by the Engineer, having hard, strong, durable particles free from adherent coating. Fine aggregate shall be washed thoroughly to meet the specifications.

9-03.1(2)A Deleterious Substances

This section is revised to read:

The amount of deleterious substances in the washed aggregate shall be tested in accordance with AASHTO M 6 and not exceed the following values:

- Material finer than No. 200 Sieve: 2.5 percent by weight
- Clay lumps and friable particles: 3.0 percent by weight
- Coal and lignite: 0.25 percent by weight
- Particles of specific gravity less than 2.00: 1.0 percent by weight.

Organic impurities shall be tested in accordance with AASHTO T 21 by the glass color standard procedure and results darker than organic plate no. 3 shall be rejected. A darker color results from AASHTO T 21 may be used provided that when tested for the effect of organic impurities on strength of mortar, the relative strength at 7 days, calculated in accordance with AASHTO T 71, is not less than 95 percent.

9-03.1(4) Coarse Aggregate for Portland Cement Concrete

This section is revised to read:

Coarse aggregate for concrete shall consist of gravel, crushed gravel, crushed stone, or combinations thereof having hard, strong, durable pieces free from adherent coatings. Coarse aggregate shall be washed to meet the specifications.
9-03.1(4)A Deleterious Substances

The amount of deleterious substances in the washed aggregate shall be tested in accordance with AASHTO M 80 and not exceed the following values:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Percentage by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material finer than No. 200</td>
<td>1.0(^1)</td>
</tr>
<tr>
<td>Clay lumps and Friable Particles</td>
<td>2.0</td>
</tr>
<tr>
<td>Shale</td>
<td>2.0</td>
</tr>
<tr>
<td>Wood waste</td>
<td>0.05</td>
</tr>
<tr>
<td>Coal and Lignite</td>
<td>0.5</td>
</tr>
<tr>
<td>Sum of Clay Lumps, Friable Particles, and Chert (Less Than 2.40 specific gravity SSD)</td>
<td>3.0</td>
</tr>
</tbody>
</table>

\(^1\)If the material finer than the No. 200 sieve is free of clay and shale, this percentage may be increased to 1.5.

9-03.1(4)C Grading

The following new sentence is inserted at the beginning of the last paragraph:

Where coarse aggregate size 467 is used, the aggregate may be furnished in at least two separate sizes.

9-03.1(5) Combined Aggregate Gradation for Portland Cement Concrete

This section is revised to read:

As an alternative to using the fine aggregate sieve grading requirements in Section 9-03.1(2)B, and coarse aggregate sieve grading requirements in Section 9-03.1(4)C, a combined aggregate gradation conforming to the requirements of Section 9-03.1(5)A may be used.

9-03.1(5)A Deleterious Substances

This section is revised to read:

The amount of deleterious substances in the washed aggregates \(\frac{3}{8}\) inch or larger shall not exceed the values specified in Section 9-03.1(4)A and for aggregates smaller than \(\frac{3}{8}\) inch they shall not exceed the values specified in Section 9-03.1(2)A.

9-03.1(5)B Grading

The first paragraph is deleted.

9-03.8(2) HMA Test Requirements

In the table in item number 3, the heading “Statistical and Nonstatistical” is revised to read “Statistical”.

9-03.8(7) HMA Tolerances and Adjustments

In the table in item number 1, the column titled “Nonstatistical Evaluation” is deleted.

In the table in item 1, the last column titled “Commercial Evaluation” is revised to read “Visual Evaluation”.

AMENDMENTS TO THE 2016 STANDARD SPECIFICATIONS BOOK
Revised: 4/3/17
9-03.11(1) Streambed Sediment

The following three new sentences are inserted after the first sentence of the first paragraph:

Alternate gradations may be used if proposed by the Contractor and accepted by the Engineer. The Contractor shall submit a Type 2 Working Drawing consisting of 0.45 power maximum density curve of the proposed gradation. The alternate gradation shall closely follow the maximum density line and have Nominal Aggregate Size of no less than 1\(\frac{1}{2}\) inches or no greater than 3 inches.

9-03.12(4) Gravel Backfill for Drains

The following new sentence is inserted at the beginning of the second paragraph:

As an alternative, AASHTO grading No. 57 may be used in accordance with Section 9-03.1(4)C.

9-03.12(5) Gravel Backfill for Drywells

The following new sentence is inserted at the beginning of the second paragraph:

As an alternative, AASHTO grading No. 4 may be used in accordance with Section 9-03.1(4)C.

9-03.21(1)B Concrete Rubble

This section, including title, is revised to read:

9-03.21(1)B Recycled Concrete Aggregate

Recycled concrete aggregate are coarse aggregates manufactured from hardened concrete mixtures. Recycled concrete aggregate may be used as coarse aggregate or blended with coarse aggregate for Commercial Concrete. Recycled concrete aggregate shall meet all of the requirements for coarse aggregate contained in Section 9-03.1(4) or 9-03.1(5). In addition to the requirements of Section 9-03.1(4) or 9-03.1(5), recycled concrete shall:

1. Contain an aggregated weight of less than 1 percent of adherent fines, vegetable matter, plastics, plaster, paper, gypsum board, metals, fabrics, wood, tile, glass, asphalt (bituminous) materials, brick, porcelain or other deleterious substance(s) not otherwise noted;
2. Be free of harmful components such as chlorides and reactive materials unless mitigation measures are taken to prevent recurrence in the new concrete;
3. Have an absorption of less than 10 percent when tested in accordance with AASHTO T 85.

Recycled concrete aggregate shall be in a saturated condition prior to mixing.

Recycled concrete aggregate shall not be placed below the ordinary high water mark of any water of the State.

9-03.21(1)D Recycled Steel Furnace Slag

This section title is revised to read:

Steel Slag
9-03.21(1)E Table on Maximum Allowable Percent (By Weight) of Recycled Material

In the Hot Mix Asphalt column, each value of “20” is revised to read “25”.

The last column heading “Steel Furnace Slag” is revised to read “Steel Slag”.

The following new row is inserted after the second row:

| Coarse Aggregate for Commercial Concrete | 9-03.1(4) | 0 | 100 | 0 | 0 |

9-04.AP9

Section 9-04, Joint and Crack Sealing Materials

January 3, 2017

This section is supplemented with the following two new subsections:

9-04.11 Butyl Rubber Sealant
Butyl rubber sealant shall conform to ASTM C 990.

9-04.12 External Sealing Band
External sealing band shall by Type III B conforming to ASTM C 877.

9-04.1(2) Premolded Joint Filler for Expansion Joints

This section is supplemented with the following:

As an alternative to the above, a semi-rigid, non-extruding, resilient type, closed-cell polypropylene foam, preformed joint filler with the following physical properties as tested to AASHTO T 42 Standard Test Methods may be used.

<table>
<thead>
<tr>
<th>Closed-Cell Polypropylene Foam Preformed Joint Filler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Property</td>
</tr>
<tr>
<td>Water Absorption</td>
</tr>
<tr>
<td>Compression Recovery</td>
</tr>
<tr>
<td>Extrusion</td>
</tr>
<tr>
<td>Density</td>
</tr>
<tr>
<td>Water Boil (1 hr.)</td>
</tr>
<tr>
<td>Hydrochloric Acid Boil (1 hr.)</td>
</tr>
<tr>
<td>Heat Resistance °F</td>
</tr>
</tbody>
</table>

9-04.2(1) Hot Poured Joint Sealants

This section’s content is deleted and replaced with the following new subsections:

9-04.2(1)A Hot Poured Sealant
Hot poured sealant shall be sampled in accordance with ASTM D5167 and tested in accordance with ASTM D5329.

9-04.2(1)A1 Hot Poured Sealant for Cement Concrete Pavement
Hot poured sealant for cement concrete pavement shall meet the requirements of ASTM D6690 Type IV, except for the following:
1. The Cone Penetration at 25°C shall be 130 maximum.

2. The extension for the Bond, non-immersed, shall be 100 percent.

**9-04.2(1)A2 Hot Poured Sealant for Bituminous Pavement**
Hot poured sealant for bituminous pavement shall meet the requirements of ASTM D6690 Type I or Type II.

**9-04.2(1)B Sand Slurry for Bituminous Pavement**
Sand slurry is mixture consisting of the following components measured by total weight:

1. Twenty percent CSS-1 emulsified asphalt,
2. Two percent portland cement, and
3. Seventy-eight percent fine aggregate meeting the requirements of 9-03.1(2)B Class 2. Fine aggregate may be damp (no free water).

**9-04.2(2) Poured Rubber Joint Sealer**
The last paragraph is deleted.

**9-04.4(1) Rubber Gaskets for Concrete Pipes and Precast Manholes**
“AASHTO M 198” is revised to read “ASTM C 990”.

**9-04.4(3) Gaskets for Aluminum or Steel Culvert or Storm Sewer Pipe**
In the last sentence, “AASHTO M 198” is revised to read “ASTM C 990”.

9-06.AP9

Section 9-06, Structural Steel and Related Materials
January 3, 2017

**9-06.5(3) High-Strength Bolts**
In this section, “ASTM A325” is revised to read “ASTM F3125 Grade A325”, “ASTM A490” is revised to read “ASTM F3125 Grade A490”, and “ASTM F1852” is revised to read “ASTM F3125 Grade F1852”.

In the fifth paragraph, “ASTM-A325” is revised to read “ASTM F3125”.

**9-06.12 Bronze Castings**
In this section, “AASHTO M107” is revised to read “ASTM B22”.

**9-06.16 Roadside Sign Structures**
In the first paragraph, “ASTM A325” is revised to read “ASTM F3125 Grade A325”.

9-07.AP9

Section 9-07, Reinforcing Steel
August 1, 2016

**9-07.1(1)A Acceptance of Materials**
The first sentence of the first paragraph is revised to read:
Reinforcing steel rebar manufacturers shall comply with the National Transportation Product Evaluation Program (NTPEP) Work Plan for Reinforcing Steel (rebar) Manufacturers.

The first sentence of the second paragraph is revised to read:

Steel reinforcing bar manufacturers use either English or a Metric size designation while stamping rebar.

9-07.1(2) Bending
The first two sentences of the first paragraph are deleted and replaced with the following two new sentences:

Steel reinforcing bars shall be cut and bent cold to the shapes shown on the Plans. Fabrication tolerances shall be in accordance with ACI 315.

9-10.AP9
Section 9-10, Piling
August 1, 2016

9-10.3 Cast-In-Place Concrete Piling
This section is revised to read:

Reinforcement for cast-in-place concrete piles shall conform to Section 9-07.2.

9-11.AP9
Section 9-11, Waterproofing
January 3, 2017

This section (and all subsections), including title, is revised to read:

9-11 Waterproof Membrane
9-11.1 Asphalt for Waterproofing
Waterproof membrane shall be a sheet membrane conforming to ASTM D 6153 Type III, the puncture capacity specified below, and either the thin polymer sheet tensile stress or the geotextile and fabric grab tensile strength specified below:

<table>
<thead>
<tr>
<th>Performance Properties</th>
<th>Test Method</th>
<th>Specification Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Stress (for Thin Polymer Sheets)</td>
<td>ASTM D 882</td>
<td>75 pounds per inch min.</td>
</tr>
<tr>
<td>Grab Tensile Strength (for Geotextiles and Fabrics)</td>
<td>ASTM D 4632 (Woven or Nonwoven)</td>
<td>200 pounds min.</td>
</tr>
<tr>
<td>Puncture Capacity (For Thin Polymer Sheets, Geotextiles and Fabrics)</td>
<td>ASTM E 154</td>
<td>200 pounds min.</td>
</tr>
</tbody>
</table>

Waterproofing membrane will be accepted based on a Manufacturer’s Certificate of Compliance with each lot of waterproof membrane.
9-11.2 Primer for Waterproof Membrane
The primer for the waterproof membrane shall be appropriate for bonding the sheet
membrane to the bridge deck surface and shall be compatible with the membrane
in accordance with the waterproof membrane manufacturer’s recommendations.

9-16.AP9
Section 9-16, Fence and Guardrail
January 17, 2017

9-16.3(3) Galvanizing
The first three sentences are deleted and replaced with the following single sentence:
W-beam or thrie beam rail elements and terminal sections shall be galvanized in
accordance with AASHTO M 180, Class A, Type II.

9-20.AP9
Section 9-20, Concrete Patching Material, Grout, and Mortar
January 3, 2017

This section is supplemented with the following new subsection:

9-20.5 Bridge Deck Repair Material
Bridge deck repair material shall be either an ultra-low viscosity, two-part liquid,
polyurethane-hybrid polymer concrete, or a pre-packaged cement based repair mortar,
conforming to the following requirements:

2. Total soluble chloride ion content by mass of product shall conform to the limits
   specified in Section 6-02.3(2) for reinforced concrete.
3. Permeability of less than 2,000 coulombs at 56-days in accordance with
   AASHTO T 277.

If pre-packaged deck repair material does not include coarse aggregate, the Contractor
shall extend the mix with coarse aggregate as recommended by the manufacturer.

9-23.AP9
Section 9-23, Concrete Curing Materials and Admixtures
January 3, 2017

9-23.9 Fly Ash
The first paragraph is revised to read:
Fly ash shall conform to the requirements of AASHTO M295 Class C or F including
supplementary optional chemical requirements as set forth in Table 2.

The last sentence of the last paragraph is revised to read:
The supplementary optional chemical limits in AASHTO M295 Table 2 do not apply to
fly ash used in Controlled Density Fill.
9-23.12  Metakaolin
This section, including title, is revised to read:

9-23.12  Natural Pozzolan
Natural Pozzolans shall be either Metakaolin or ground Pumice and shall conform to the
requirements of AASHTO M295 Class N, including supplementary optional chemical
requirements as set forth in Table 2.

9-28.AP9
Section 9-28, Signing Materials and Fabrication
April 3, 2017

9-28.14(3)  Aluminum Structures
This section is revised to read:
Welding of aluminum shall be in accordance with AWS D1.2/D1.2M, latest edition,
Structural Welding Code – Aluminum.
Aluminum alloy filler metals utilized on anodized structures shall result in color matching
to base metals.

9-29.AP9
Section 9-29, Illumination, Signal, Electrical
January 3, 2017

9-29.2  Junction Boxes, Cable Vaults, and Pull Boxes
This section is supplemented with the following new subsections:

9-29.2(5)  Testing Requirements
The Contractor shall provide for testing of junction boxes, cable vaults and pull boxes.
Junction boxes, cable vaults and pull boxes shall be tested by an independent materials
testing facility, and a test report issued documenting the results of the tests performed.
For each junction box, vault and pull box type, the independent testing laboratory shall
meet the requirements of AASHTO R 18 for Qualified Tester and Verified Test
Equipment. The test shall be conducted in the presence of a Professional Engineer,
licensed under Title 18 RCW, State of Washington, in the branch of Civil or Structural,
and each test sheet shall have the Professional Engineer’s original signature, date of
signature, original seal, and registration number. One copy of the test report shall be
furnished to the Contracting Agency certifying that the box and cover meet or exceed
the loading requirements for that box type, and shall include the following information:
1.  Product identification.
2.  Date of testing.
3.  Description of testing apparatus and procedure.
4.  All load deflection and failure data.
5.  Weight of box and cover tested.
6. Upon completion of the required test(s) the box shall be loaded to failure or to the maximum load possible on the testing machine (70,000 pounds minimum).

7. A brief description of type and location of failure or statement that the testing machine reached maximum load without failure of the box.

9-29.2(5)A Standard Duty Boxes and Vaults

Standard Duty Concrete Junction Boxes, Cable Vaults, and Pull Boxes shall be load tested to 22,500 pounds. The test load shall be applied uniformly through a 10 by 10 by 1-inch steel plate centered on the lid. The test load shall be applied and released ten times, and the deflection at the test load and released state shall be recorded for each interval. At each interval the junction box shall be inspected for lid deformation, failure of the lid/frame welds, vertical and horizontal displacement of the lid/frame, cracks, and concrete spalling.

Concrete junction boxes will be considered to have withstood the test if none of the following conditions are exhibited:

1. Permanent deformation of the lid or any impairment to the function of the lid.

2. Vertical or horizontal displacement of the lid frame.

3. Cracks wider than 0.012 inches that extend 12 inches or more.

4. Fracture or cracks passing through the entire thickness of the concrete.

5. Spalling of the concrete.

9-29.2(5)B Retrofit Security Lids for Standard Duty Concrete Junction Boxes

Security lids used to retrofit existing Standard Duty Concrete Junction Boxes shall be tested as follows:

1. The security lid shall be installed on any appropriately sized box that is currently approved on the Qualified Products List.

2. The security lid and box assembly shall be load tested in accordance with Section 9-29.2(5)A. After the ten load cycles but before loading to failure, the security lid shall be fully opened and removed to verify operability.

3. The locking mechanism(s) shall be tested as follows:
   a. The locking mechanism shall be cycled 250 times (locked, then unlocked again) at room temperature (60-80°F). If there is more than one identical locking mechanism, only one needs to be cycled in this manner.
   b. Temperature changes should be limited to no more than 60°F per hour.
c. The security lid shall be cooled to and held at -30°F for 15 minutes. The locking mechanism shall then be cycled once to verify operation at this temperature.

d. The security lid shall be heated to and held at 120-122°F for 15 minutes. The locking mechanism shall then be cycled once to verify operation at this temperature.

e. The security lid shall be temperature adjusted to and held at 110°F and 95% humidity for 15 minutes. The locking mechanism shall then be cycled once to verify operation at this temperature and humidity.

9-29.2(5)C Standard Duty Non-Concrete Junction Boxes
Non-concrete Junction Boxes shall be tested as defined in the ANSI/SCTE 77 Tier 15 test method using the test load of 22,500 pounds (minimum) in place of the design load during testing. In addition, the Contractor shall provide a Manufacturer Certificate of Compliance for each non-concrete junction box installed.

9-29.2(5)D Heavy-Duty Boxes and Vaults
Heavy-Duty Junction Boxes, Cable Vaults, and Pull Boxes shall be load tested to 46,000 pounds. The test load shall be applied vertically through a 10 by 20 by 1-inch steel plate centered on the lid with an orientation both on the long axis and the short axis of the junction box. The test load shall be applied and released ten times on each axis. The deflection at the test load and released state shall be recorded for each interval. At each interval the test box shall be inspected for lid deformation, failure of the lid or frame welds, vertical and horizontal displacement of the lid frame, cracks, and concrete spalling. After the twentieth loading interval the test shall be terminated with a 60,000 pound load being applied vertically through the steel plate centered on the lid and with the long edge of steel plate orientated parallel to the long axis of the box.

Heavy-Duty Junction Boxes will be considered to have withstood the 46,000 pound test if none of the following conditions are exhibited:

1. Permanent deformation of the lid or any impairment to the function of the lid.
2. Vertical or horizontal displacement of the lid frame.
3. Cracks wider than 0.012 inches that extend 12 inches or more.
4. Fracture or cracks passing through the entire thickness of the concrete.
5. Spalling of the concrete.

Heavy-Duty Junction Boxes will be considered to have withstood the 60,000 pound test if all of the following conditions are exhibited:

1. The lid is operational.
2. The lid is securely fastened.
3. The welds have not failed.
4. Permanent dishing or deformation of the lid is ¼ inch or less.
5. No buckling or collapse of the box.

9-29.2(1) Standard Duty and Heavy Duty Junction Boxes

This section, including title, is revised to read:

9-29.2(1) Junction Boxes
For the purposes of this Specification concrete is defined as portland cement concrete and non-concrete is all others.

The Contractor shall provide shop drawings for all components, hardware, lid, frame, reinforcement, and box dimensions. The shop drawings shall be prepared by (or under the supervision of) a Professional Engineer, licensed under Title 18 RCW, State of Washington, in the branch of Civil or Structural. Each sheet shall carry the following:

1. Professional Engineer’s original signature, date of signature, original seal, and registration number. If a complete assembly drawing is included which references additional drawing numbers, including revision numbers for those drawings, then only the complete assembly drawing is required to be stamped.

2. The initials and dates of all participating design professionals.

3. Clear notation of all revisions including identification of who authorized the revision, who made the revision, and the date of the revision.

Design calculations shall carry on the cover page, the Professional Engineer’s original signature, date of signature, original seal, and registration number.

For each type of junction box, or whenever there is a change to the junction box design, a proof test, as defined in this Specification, shall be performed and new shop drawings submitted.

9-29.2(1)A Standard Duty Junction Boxes

This section is revised to read:

Standard Duty Junction Boxes are defined as Type 1, 2 and 8 junction boxes and shall have a minimum load rating of 22,500 pounds and be tested in accordance with Section 9-29.2(5). A complete Type 8 Junction Box includes the spread footing shown in the Standard Plans. All Standard Duty Junction Boxes placed in sidewalks, walkways, and shared use paths shall have slip resistant surfaces. Non-slip lids and frames shall be hot dip galvanized in accordance with AASHTO M111.

9-29.2(1)A1 Concrete Junction Boxes

The Standard Duty Concrete Junction Box steel frame, lid support, and lid shall be painted with a black paint containing rust inhibitors or painted with a shop applied, inorganic zinc primer in accordance with Section 6-07.3, or hot-dip galvanized in accordance with AASHTO M 111.
Concrete used in Standard Duty Junction Boxes shall have a minimum compressive strength of 6,000 psi when reinforced with a welded wire hoop, or 4,000 psi when reinforced with welded wire fabric or fiber reinforcement. The frame shall be anchored to the box by welding headed studs ¾ by 3 inches long, as specified in Section 9-06.15, to the frame. The wire fabric shall be attached to the studs and frame with standard tie practices. The box shall contain ten studs located near the centerline of the frame and box wall. The studs shall be placed one anchor in each corner, one at the middle of each width and two equally spaced on each length of the box.

Materials for Type 1, 2, and 8 Concrete Junction Boxes shall conform to the following:

<table>
<thead>
<tr>
<th>Materials</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete</td>
<td>Section 6-02</td>
</tr>
<tr>
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<td>ASTM A36 steel</td>
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<td>ASTM A786 diamond plate steel or ASTM A36 steel</td>
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<td>ASTM A36 steel</td>
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<td>In accordance with approved shop drawings</td>
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**9-29.2(1)A2 Non-Concrete Junction Boxes**

Material for the non-concrete junction boxes shall be of a quality that will provide for a similar life expectancy as portland cement concrete in a direct burial application.

Type 1, 2, and 8 non-concrete junction boxes shall have a Design Load of 22,500 pounds and shall be tested in accordance with Section 9-29.2(5). Non-concrete junction boxes shall be gray in color and have an open bottom design with approximately the same inside dimensions, and present a load to the bearing surface that is less than or equal to the loading presented by the concrete junction boxes shown in the Standard Plans. Non-concrete junction box lids shall include a pull slot and embedded 6 by 6 by ¼-inch steel plate, and shall be secured with two ½ inch stainless steel Penta-head bolts recessed into the cover. The tapped holes for the securing bolts shall extend completely through the box to prevent accumulation of debris. Bolts shall conform to ASTM F593, stainless steel.

**9-29.2(1)B Heavy-Duty Junction Boxes**

The first paragraph is revised to read:
Heavy-Duty Junction Boxes are defined as Type 4, 5, and 6 junction boxes and shall be concrete and have a minimum vertical load rating of 46,000 pounds without permanent deformation and 60,000 pounds without failure when tested in accordance with Section 9-29.2(5).

9-29.2(1)C Testing Requirements

This section is deleted in its entirety.

9-29.2(2) Small Cable Vaults, Standard Duty Cable Vaults, Standard Duty Pull Boxes, and Heavy Duty Pull Boxes

This section, including title, is revised to read:

9-29.2(2) Cable Vaults and Pull Boxes

Cable Vaults and Pull Boxes shall be constructed as a concrete box and as a concrete lid. The lids for Cable Vaults and Pull Boxes shall be interchangeable and both shall fit the same box as shown in the Standard Plans.

The Contractor shall provide shop drawings for all components, including concrete box, Cast Iron Ring, Ductile Iron Lid, Steel Rings, and Lid. In addition, the shop drawings shall show placement of reinforcing steel, knock outs, and any other appurtenances. The shop drawing shall be prepared by or under the direct supervision of a Professional Engineer, licensed under Title 18 RCW, State of Washington, in the branch of Civil or Structural. Each sheet shall carry the following:

1. Professional Engineer’s original signature, date of signature, original seal, and registration number. If a complete assembly drawing is included which references additional drawing numbers, including revision numbers for those drawings, then only the complete assembly drawing is required to be stamped.

2. The initials and dates of all participating design professionals.

3. Clear notation of all revisions including identification of who authorized the revision, who made the revision, and the date of the revision.

Design calculations shall carry on the cover page, the Professional Engineer’s original signature, date of signature, original seal, and registration number.

For each type of box or whenever there is a change to the Cable Vault or Pull box design, a proof test, as defined in this Specification, shall be performed and new shop drawings submitted.

9-29.2(2)A Small Cable Vaults, Standard Duty Cable Vaults, and Standard Duty Pull Boxes

This section’s title is revised to read:

9-29.2(2)A Standard Duty Cable Vaults and Pull Boxes

The first paragraph is revised to read:

Standard Duty Cable Vaults and Pull Boxes shall be concrete and have a minimum load rating of 22,500 pounds and be tested in accordance with Section 9-29.2(5). For the
purposes of this Section, Small Cable Vaults are considered a type of Standard Duty Cable Vault.

The first sentence of the second paragraph is revised to read:

Concrete for Standard Duty Cable Vaults and Pull Boxes shall have a minimum compressive strength of 4,000 psi.

The first sentence of the third paragraph is revised to read:

All Standard Duty Cable Vaults and Pull Boxes placed in sidewalks, walkways, and shared-use paths shall have slip-resistant surfaces.

The fourth paragraph (up until the colon) is revised to read:

Materials for Standard Duty Cable Vaults and Pull Boxes shall conform to the following:

9-29.2(2)B Heavy-Duty Cable Vaults and Pull Boxes

The first paragraph is revised to read:

Heavy-Duty Cable Vaults and Pull Boxes shall be constructed of concrete having a minimum compressive strength of 4,000 psi, and have a minimum vertical load rating of 46,000 pounds without permanent deformation and 60,000 pounds without failure when tested in accordance with Section 9-29.2(5).

9-29.2(3) Structure Mounted Junction Boxes

The first and second paragraphs are revised to read:

Surface mounted junction boxes and concrete embedded junction boxes installed in cast-in-place structures shall be stainless steel NEMA 4X.

Concrete embedded junction boxes installed in structures constructed by slip forming shall be stainless steel NEMA 3R and shall be adjustable for depth, with depth adjustment bolts, which are accessible from the front face of the junction box with the lid installed.

9-29.3(1) Fiber Optic Cable

This section is revised to read:

All fiber optic cables shall be single mode fiber optic cables unless otherwise specified in the Contract. All fiber optic cables shall meet the following requirements:

1. Compliance with the current version of ANSI/ICEA S-87-640. A product data specification sheet clearly identifying compliance or a separate letter from manufacturer to state compliance shall be provided.

2. Cables shall be gel free, loose tube, low water peak, and all dielectric with no metallic component.

3. Cables shall not be armored unless specified in the Contract.
4. Cables shall be approved for mid-span entries and be rated by the manufacturer for outside plant (OSP) use, placement in underground ducts, and aerial installations.

5. Fiber counts shall be as specified in the Contract.

6. Fibers and buffer tubes shall be color coded in accordance with the current version of EIA/TIA-598.

7. Fibers shall not have any factory splices.

8. Outer Jacket shall be Type M (Medium Density Polyethylene). Outer jacket shall be free from holes, splits, blisters, or other imperfections and must be smooth and concentric as is consistent with the best commercial practice.

9. A minimum of one (1) rip cord is required for each cable.

10. Cable markings shall meet the following additional requirements:

   a. Color shall be white or silver.

   b. Markings shall be approximately 3 millimeters (118 mils) in height, and dimensioned and spaced to produce good legibility.

   c. Markings shall include the manufacturer’s name, year of manufacture, the number of fibers, the words “OPTICAL CABLE”, and sequential length marks.

   d. Sequential length markings shall be in meters or feet, spaced at intervals not more than 1 meter or 2 feet apart, respectively.

   e. The actual cable length shall not be shorter than the cable length marking. The actual cable length may be up to 1% longer than the cable length marking.

   f. Cables with initial markings that do not meet these requirements will not be accepted and may not be re-marked.

11. Short term tensile strength shall be a minimum of 600 pounds (1bs). Long term tensile strength shall be a minimum of 180 pounds (1bs). Tensile strength shall be achieved using a fiberglass reinforced plastic (FRP) central member and / or aramid yarns.

12. All cables shall be new and free of material or manufacturing defects and dimensional non-uniformity that would:

   a. Interfere with the cable installation using accepted cable installation practices;

   b. Degrade the transmission performance or environmental resistance after installation;
c. Inhibit proper connection to interfacing elements;

d. Otherwise yield an inferior product.

13. The fiber optic cables shall be shipped on reels with a drum diameter at least
20 times the diameter of the cable, in order to prevent damage to the cable.
The reels shall be substantial and constructed so as to prevent damage during
shipment and handling. Reels shall be labeled with the same information
required for the cable markings, with the exception that the total length of cable
shall be marked instead of incremental length marks. Reels shall also be
labeled with the type of cable.

This section is supplemented with the following new subsection:

9-29.3(1)B Multimode Optical Fibers
Where multimode fiber optic cables are specified in the Contract, the optical fibers shall
be one of the following types, as specified in the Contract:

a. Type OM1, meeting the requirements of EIA/TIA 492-AAAA-A or ISO/IEC
11801. The fiber core diameter shall be 62.5 µm.

b. Type OM2, meeting the requirements of EIA/TIA 492-AAAB-A or ISO/IEC
11801. The fiber core diameter shall be 50 µm.

All multimode optical fibers shall have a maximum attenuation of 3.0 dB/km at 850nm
and 1.0 dB/km at 1300nm. Completed cable assemblies shall be rated for 1000BaseLX
Ethernet communications.

9-29.3(1)A Singlemode Fiber Optic Cable
This section is revised to read:

Single-Mode optical fibers shall be EIA/TIA 492-CAAB or ISO/IEC 11801 Type OS2, low
water peak zero dispersion fibers, meeting the requirements of ITU-T G.652.D.

9-29.6 Light and Signal Standards
The third paragraph is revised to read:

Light standard, signal standards, slip base hardware and foundation hardware shall be
hot dip galvanized in accordance with AASHTO M 111 and AASHTO M 232. Where
colored standards are required, standards shall be powder-coated after galvanizing in
accordance with Section 6-07.3(11). The standard color shall be as specified in the
Contract.

9-29.6(1) Steel Light and Signal Standards
In the first paragraph, "ASTM A325" is revised to read "ASTM F3125 Grade A325".

9-29.6(2) Slip Base Hardware
In this section, "ASTM A325" is revised to read "ASTM F3125 Grade A325".

9-29.7(2) Fused Quick-Disconnect Kits
The table is supplemented with the following new row:
The following footnote is inserted after the table:

* Applies to all LED luminaires, regardless of wattage. Fuses for LED luminaires shall be slow blow.

9-29.10 Luminaires

The first sentence of the third paragraph is revised to read:

All luminaires shall be provided with markers for positive identification of light source type and wattage in accordance with ANSI C136.15-2011, with the exception that LED luminaires shall be labeled with the wattage of their conventional luminaire equivalents – the text “LED” is optional.

The table in the fourth paragraph is revised to read:

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<td>1,000</td>
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<td>X1E</td>
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9-29.25 Amplifier, Transformer, and Terminal Cabinets

Item 2C is revised to read:

c. Transformer up to 12.5 KVA  20”  48”  24”
   Transformer 12.6 to 35 KVA  30”  60”  32”

The following new sentence is inserted before the last sentence of item number 10:

There shall be an isolation breaker on the input (line) side of the transformer, and a breaker array on the output (load) side.

9-35.AP9

Section 9-35, Temporary Traffic Control Materials

August 1, 2016

9-35.12 Transportable Attenuator

The second sentence of the first paragraph is revised to read:

The transportable attenuator shall be mounted on, or attached to, a host vehicle that complies with the manufacturer’s recommended weight range.
SPECIAL PROVISIONS
SPECIAL PROVISIONS

Supplement to

2016

WSDOT Standard Specifications
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Wastewater Bypass Systems

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8-26
City of Kirkland Special Provisions

INTRODUCTION

The work on this project shall be accomplished in accordance with the Standard Specifications for Road, Bridge and Municipal Construction, 2016 edition, as issued by the Washington State Department of Transportation (WSDOT) and the American Public Works Association (APWA), Washington State Chapter (hereafter “Standard Specifications”). The Standard Specifications, as modified or supplemented by the Amendments to the Standard Specifications and these Special Provisions, all of which are made a part of the Contract Documents, shall govern all of the Work.


The accompanying Plans and these Specifications and any Addenda thereto, show and describe the location and type of work to be performed under the 5th St and 6th St Sewer Replacement Project.

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

The titles of headings of the Sections and subsections herein are intended for convenience or reference and shall not be considered as having any bearing on their interpretation.

Several types of Special Provisions are included in this contract and are differentiated as follows:

**General Special Provisions (GSPs)** are similar to Standard Specifications in that they typically apply to many projects and are used by agencies throughout the state. Denoted as: *(date)*

**Local Agency Approved GSPs** are modifications to the standard specifications prepared by the APWA Division 1 subcommittee, which is comprised of representatives of local agencies throughout the state. APWA GSPs replace what was formerly referred to as “Division 1-99 APWA Supplement” in previous editions of the Standard Specifications for Road, Bridge and Municipal Construction. Denoted as: *(date APWA GSP)*

**City of Kirkland GSPs** are commonly applicable to City of Kirkland projects. Denoted as: *(date COK GSP)*

**Project Specific Special Provisions** normally appear only in the contract for which they were developed. Denoted as: *(******)*

Also incorporated into the Contract Documents by reference are:

- Manual on Uniform Traffic Control Devices for Streets and Highways, currently adopted edition, with Washington State modifications, if any
- Standard Plans for Road, Bridge and Municipal Construction, WSDOT/APWA, current edition
- City of Kirkland Public Works Department Pre-Approved Plans

Contractor shall obtain copies of these publications, at Contractor’s own expense. Select project-specific City Pre-Approved Plans and WSDOT Standard Plans are included in the Plans for convenience.
DIVISION 1 - GENERAL REQUIREMENTS

DESCRIPTION OF WORK

The work to be performed under this Contract consists of furnishing all labor, tools, materials, and equipment necessary for construction of the 5th Street and 6th Street Sewer Main Replacement project. The project has four schedules of work, two of which constitute the Base Bid and two of which are independent Additive Alternates. Schedule A (Base Bid): Sanitary Sewer Main – 5th Street from north of Central Way to 8th Avenue includes, but is not limited to the replacement of approximately 803 LF of 8-inch concrete sewer main with 8-inch PVC sewer main within 5th Street. In addition, the schedule includes the replacement of 4 manholes and 9 side sewers, restoration of asphalt section and sidewalk sections disturbed by project construction, replacement of 8” AC water main crossings, and other general restoration work. Schedule B (Base Bid): Sanitary Sewer Main – 6th Street from 10th Avenue to 11th Avenue includes, but is not limited to the replacement of approximately 315 LF of 8-inch concrete sewer main with 8-inch PVC sewer main within 6th Street. In addition, the schedule includes the replacement of 2 manholes and 5 side sewers, restoration of asphalt section and sidewalk sections disturbed by project construction, and other general restoration work. Schedule C (Additive Alternate 1): Sanitary Sewer Main – 5th Street from 8th Avenue to 9th Avenue and in a connecting alley includes, but is not limited to, the replacement of approximately 625 LF of 8-inch concrete sewer main with 8-inch PVC sewer main within 5th Street and the alley. In addition, the schedule includes the replacement of 3 manholes and 6 side sewers, replacement of 8” AC water main crossings, restoration of asphalt section and sidewalk sections disturbed by project construction, and other general restoration work. A portion of this replacement sewer work includes rerouting and deepening the sewer in the alley. Schedule D (Additive Alternate 2) includes the combined areas of Schedule A, B and C and includes replacement of 10 concrete curb (“ADA”) ramps, full pavement overlay of 5th Street and 6th Street and other general restoration work. If Schedule D is awarded and Schedule C is not awarded, the work to be completed in Schedule D shall be reduced to include only the areas of Schedule A and B. All work shall be in accordance with the attached Contract Plans, these Contract Provisions, and the Standard Specifications. The evaluation of bid and determination of the low responsive bid shall be based on the Base Bid (Schedules A + B) and the Additive Alternates (Schedules C + D) from the bid schedules. Contract award shall include the Base Bid schedules and any combination of the Additive Alternate schedules, in the sole discretion of the City of Kirkland.

1-01 DEFINITIONS AND TERMS

(January 4, 2016 APWA GSP)

1-01.3 Definitions

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

Dates

Bid Opening Date
The date on which the Contracting Agency publicly opens and reads the Bids.
**Award Date**  
The date of the formal decision of the Contracting Agency to accept the lowest responsible and responsive Bidder for the Work.

**Contract Execution Date**  
The date the Contracting Agency officially binds the Agency to the Contract.

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

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

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

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

**Final Acceptance Date**  
The date on which the Contracting Agency accepts the Work as complete.

Supplement this Section with the following:

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

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

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

All references to “final contract voucher certification” shall be interpreted to mean the Contracting Agency form(s) by which final payment is authorized, and final completion and acceptance granted.

**Additive**  
A supplemental unit of work or group of bid items, identified separately in the Bid Proposal, which may, at the discretion of the Contracting Agency, be awarded in addition to the base bid.
**Alternate**
One of two or more units of work or groups of bid items, identified separately in the Bid Proposal, from which the Contracting Agency may make a choice between different methods or material of construction for performing the same work.

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

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

**Contract Documents**
See definition for “Contract”.

**Contract Time**
The period of time established by the terms and conditions of the Contract within which the Work must be physically completed.

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

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

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

### 1-02 BID PROCEDURES AND CONDITIONS

*(January 24, 2011 APWA GSP)*

**1-02.1 Prequalification of Bidders**

Delete this Section and replace it with the following:

**1-02.1 Qualifications of Bidder**
Before award of a public works contract, a bidder must meet at least the minimum qualifications of RCW 39.04.350(1) to be considered a responsible bidder and qualified to be awarded a public works project.

*1/1/2016 COK GSP*

Bidders shall complete and sign the Statement of Bidder’s Qualification contained in the Proposal. Said form must be submitted with the bid proposal.

After bids are opened, Contracting Agency may request that a bidder or all bidders provide supplemental information concerning responsibility in accordance with RCW 39.04.350(2). Such supplemental information shall be provided to Contracting Agency in writing within two (2) business days of the request. Whether bidder supplies this supplemental information within the time and
manner specified or not, in addition to consideration of this additional information, Contracting Agency may also base its determination of responsibility on any available information related to the supplemental criteria.

If Contracting Agency determines that a bidder is not responsible, Contracting Agency will provide, in writing, the reasons for such determination at which point the contractor will be deemed disqualified in accordance with WSDOT Standard Specification 1-02.14(10) and the proposal rejected. The bidder may appeal the determination within two (2) business days after receipt of the determination by presenting additional information to Contracting Agency. Contracting Agency will consider the additional information before issuing its final decision. If Contracting Agency's final decision affirms that the bidder is not responsible, Contracting Agency will not execute a contract with any other bidder until two (2) business days after the bidder determined to be not responsible has received Contracting Agency's final determination. The failure or omission of a bidder to receive or examine any form, instrument, addendum or other document shall in no way relieve any bidder from obligations with respect to the bid or to the contract.

Any bidder may, within five (5) business days before the bid submittal deadline, request that Contracting Agency modify the supplemental criteria. Contracting Agency will evaluate the information submitted by the bidder and respond before the submittal deadline. If the evaluation results in a change of the criteria, the Contracting Agency will issue an Addendum to the bidding documents identifying the new criteria.

Supplemental Criteria. Contracting Agency acknowledges that Change Orders (changes, extra work, requests for equitable adjustment and claims (defined as including demands for money or time in excess of the contract amount or contract time)) are ubiquitous on public works construction projects. The expeditious resolution of Change Orders is critical to the on budget and on time successful completion of a public works project. Thus, the City has established the following relevant supplemental bidder responsibility criteria applicable for the project:

1. Criterion. The bidder must demonstrate a record of successful and timely resolution of:
   a. Change Orders including compliance with public contract Change Order resolution procedures (e.g. timely notice of event giving rise to the Change Order, timely submission of a statement of the cost and/or impact of the Change Order unless the bidder is able to show extenuating circumstances that explain bidder’s failure to timely provide such information to the satisfaction of Contracting Agency.
   b. Bidder shall have completed a minimum of two public works sewer replacement projects which includes replacing a minimum of 1,000 lineal feet of 8 inch or larger sanitary sewer main, since January 2014, for municipal sewer system serving 25,000 people or more.

2. Documentation. As evidence that the bidder meets the supplemental responsibility criteria, after bids are opened and within two (2) business days of the public notice of Contracting Agency’s tabulation of bids, the lowest responsive bidder must submit the following documentation of public works projects completed within the previous three (3) years and include for each project the following:
   a. The Owner and contact information for the Owner;
   b. A listing of Change Orders and a signed statement from the bidder that the project timelines concerning resolution of Change Orders was complied with, and if not, provide a written explanation of what the bidder believes to be the extenuating circumstances excusing compliance with the Contract Change Order notice and claim provisions.
c. For prior sewer projects, submit the project name, owner and owner’s representative contact information, project start and end dates, and size, material and length of pipe replaced.

Contracting Agency may contact owners listed by the bidders to validate the information provided by a bidder.

*(June 27, 2011 APWA GSP)*

1-02.2 Plans and Specifications

Delete this section and replace it with the following:

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

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

<table>
<thead>
<tr>
<th>To Prime Contractor</th>
<th>No. of Sets</th>
<th>Basis of Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced plans (11&quot; x 17&quot;)</td>
<td>5</td>
<td>Furnished automatically upon award.</td>
</tr>
<tr>
<td>Contract Provisions</td>
<td>5</td>
<td>Furnished automatically upon award.</td>
</tr>
<tr>
<td>Large plans (e.g., 22&quot; x 34&quot;)</td>
<td>1</td>
<td>Furnished only upon request.</td>
</tr>
</tbody>
</table>

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

1-02.4 Examination of Plans, Specifications and Site of Work

*(August 15, 2016 APWA GSP Option B)*

1-02.4(1) General

The first sentence of the last paragraph is revised to read:

Any prospective Bidder desiring an explanation or interpretation of the Bid Documents, shall request the explanation or interpretation in writing by close of business five business days preceding the bid opening to allow a written reply to reach all prospective Bidders before the submission of their Bids.

*(March 8, 2013 APWA GSP)*

1-02.4(2) Subsurface Information

The second sentence in the first paragraph is revised to read:

The Summary of Geotechnical Conditions and the boring logs, if and when included as an appendix to the Special Provisions, shall be considered as part of the Contract.

*(June 27, 2011 APWA GSP)*

1-02.5 Proposal Forms

Delete this section and replace it with the following:
The Proposal Form will identify the project and its location and describe the work. It will also list estimated quantities, units of measurement, the items of work, and the materials to be furnished at the unit bid prices. The bidder shall complete spaces on the proposal form that call for, but are not limited to, unit prices; extensions; summations; the total bid amount; signatures; date; and, where applicable, retail sales taxes and acknowledgment of addenda; the bidder’s name, address, telephone number, and signature; the bidder’s D/M/WBE commitment, if applicable; a State of Washington Contractor’s Registration Number; and a Business License Number, if applicable. Bids shall be completed by typing or shall be printed in ink by hand, preferably in black ink. The required certifications are included as part of the Proposal Form.

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

(June 27, 2011 APWA GSP)

1-02.6 Preparation of Proposal

Supplement the second paragraph with the following:

4. If a minimum bid amount has been established for any item, the unit or lump sum price must equal or exceed the minimum amount stated.

5. Any correction to a bid made by interlineation, alteration, or erasure, shall be initialed by the signer of the bid.

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

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

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

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

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

(March 8, 2013 APWA GSP)

1-02.7 Bid Deposit

Supplement this section with the following:

Bid bonds shall contain the following:

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

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

**(1/1/2016 COK GSP)**

1-02.8 Noncollusion Declaration and Lobbying Certification

The following new paragraph is inserted at the end of Section 1-02.8:

**Conflict of Interest**

The bidder affirms that it presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of its services hereunder. The Contractor further covenants that in the performance of this contract, no person having any conflicting interest shall be employed. Any interest on the part of the Contractor or its employees must be disclosed forthwith to the City of Kirkland. If this contract is within the scope of a Federal Housing and Community Development Block Grant program, the Contractor further covenants that no person who presently exercises any functions or responsibilities in connection with the block grant program has any personal financial interest, direct or indirect, in this contract.

**(August 15, 2016 APWA GSP, Option A)**

1-02.9 Delivery of Proposal

Delete this section and replace it with the following:

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

The Contracting Agency will not open or consider any Bid Proposal that is received after the time specified in the Call Invitation for receipt of Bid Proposals, or received in a location other than that specified in the Call Invitation for Bids. The Contracting Agency will not open or consider any DBE confirmations or GFE documentation proposal that is received after the time specified above, or received in a location other than that specified in the Call Invitation for Bids.

**(July 23, 2015 APWA GSP)**

1-02.10 Withdrawing, Revising, or Supplementing Proposal

Delete this section, and replace it with the following:

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

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

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

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

(January 4, 2016 APWA GSP)
1-02.13 Irregular Proposals

Delete this section and replace it with the following:

1. A proposal will be considered irregular and will be rejected if:
   a. The Bidder is not prequalified when so required;
   b. The authorized proposal form furnished by the Contracting Agency is not used or is altered;
   c. The completed proposal form contains any unauthorized additions, deletions, alternate Bids, or conditions;
   d. The Bidder adds provisions reserving the right to reject or accept the award, or enter into the Contract;
   e. A price per unit cannot be determined from the Bid Proposal;
   f. The Proposal form is not properly executed;
   g. The Bidder fails to submit or properly complete a Subcontractor list, if applicable, as required in Section 1-02.6;
   h. The Bidder fails to submit or properly complete a Disadvantaged Business Enterprise Certification, if applicable, as required in Section 1-02.6;
   i. The Bidder fails to submit written confirmation from each DBE firm listed on the Bidder’s completed DBE Utilization Certification that they are in agreement with the bidders DBE participation commitment, if applicable, as required in Section 1-02.6, or if the written confirmation that is submitted fails to meet the requirements of the Special Provisions;
   j. The Bidder fails to submit DBE Good Faith Effort documentation, if applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to demonstrate that a Good Faith Effort to meet the Condition of Award was made;
   k. The Bid Proposal does not constitute a definite and unqualified offer to meet the material terms of the Bid invitation; or
   l. More than one proposal is submitted for the same project from a Bidder under the same or different names.

2. A Proposal may be considered irregular and may be rejected if:
   a. The Proposal does not include a unit price for every Bid item;
   b. Any of the unit prices are excessively unbalanced (either above or below the amount of a reasonable Bid) to the potential detriment of the Contracting Agency;
   c. Receipt of Addenda is not acknowledged;
   d. A member of a joint venture or partnership and the joint venture or partnership submit Proposals for the same project (in such an instance, both Bids may be rejected); or
   e. If Proposal form entries are not made in ink

(March 8, 2013 APWA GSP, Option A; may be used on FHWA-funded projects)
1-02.14 Disqualification of Bidders

Delete this Section and replace it with the following:

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

As evidence that the Bidder meets the mandatory bidder responsibility criteria, the apparent two lowest Bidders must submit to the Contracting Agency within 24 hours of the bid submittal deadline, documentation (sufficient in the sole judgment of the Contracting Agency) demonstrating compliance with all responsibility criteria. The Contracting Agency reserves the right to request such documentation from other Bidders as well, and to request further documentation as needed to assess bidder responsibility. The Contracting Agency also reserves the right to obtain information from third parties concerning a Bidder’s compliance with the mandatory bidder responsibility criteria.

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

(August 14, 2013 APWA GSP)
1-02.15 Pre Award Information

Revise this section to read:

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

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

1-03 AWARD AND EXECUTION OF CONTRACT

(January 23, 2006 APWA GSP)
1-03.1 Consideration of Bids

Revise the first paragraph to read:

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

(October 1, 2005 APWA GSP)
1-03.3 Execution of Contract

Revise this section to read:

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

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

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

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

(1/1/2016 COK GSP)
1-03.4 Contract Bond

Revise the first paragraph to read:

The successful bidder shall provide executed payment and performance bond(s) for the full contract amount. Separate payment and performance bonds are required and each shall be for the full contract amount. The bond(s) shall:

1. Be on Contracting Agency-furnished form(s);
2. Be signed by an approved surety (or sureties) that:
   a. Is registered with the Washington State Insurance Commissioner, and
   b. Appears on the current Authorized Insurance List in the State of Washington published by the Office of the Insurance Commissioner, and
   c. Have an A.M. best rating of A:VII or better.
3. Guarantee that the Contractor will perform and comply with all obligations, duties, and conditions under the Contract, including but not limited to the duty and obligation to indemnify, defend, and protect the Contracting Agency against all losses and claims related directly or indirectly from any failure:
   a. Of the Contractor (or any of the employees, subcontractors, or lower tier subcontractors of the Contractor) to faithfully perform and comply with all contract obligations, conditions, and duties, or
b. Of the Contractor (or the subcontractors or lower tier subcontractors of the Contractor) to pay all laborers, mechanics, subcontractors, lower tier subcontractors, material person, or any other person who provides supplies or provisions for carrying out the work;

4. Be conditioned upon the payment of taxes, increases, and penalties incurred on the project under titles 50, 51, and 82 RCW; and

5. Be accompanied by a power of attorney for the Surety’s officer empowered to sign the bond; and

6. Be signed by an officer of the Contractor empowered to sign official statements (sole proprietor or partner). If the Contractor is a corporation, the bond(s) must be signed by the president or vice president, unless accompanied by written proof of the authority of the individual signing the bond(s) to bind the corporation (i.e., corporate resolution, power of attorney, or a letter to such effect signed by the president or vice president).

(July 23, 2015 APWA GSP)
1-03.7 Judicial Review

Revise this section to read:

Any decision made by the Contracting Agency regarding the Award and execution of the Contract or Bid rejection shall be conclusive subject to the scope of judicial review permitted under Washington Law. Such review, if any, shall be timely filed in the Superior Court of the county where the Contracting Agency headquarters is located, provided that where an action is asserted against a county, RCW 36.01.05 shall control venue and jurisdiction.

1-04 SCOPE OF THE WORK

(1/1/2016 COK GSP)
1-04.1 Intent of the Contract

Section 1-04.1 is supplemented with the following:

All materials, tools, labor, and guarantees thereof of required to complete the work shall be furnished and supplied in accordance with the Plans, these Special Provisions, the Standard Specifications, and City of Kirkland Pre-Approved (Standard) Plans. The Contractor shall include all costs of doing this work within the contract bid item prices.

(*****)
1-04.1(2) Bid Items Not Included in the Proposal

Revise this section to read:

When the Contract specifies Work that has no Bid item, and the Work is not specified as being included with or incidental to other Bid items, such work shall be considered to be incidental to other Bid items.

(March 13, 2012 APWA GSP)
1-04.2 Coordination of Contract Documents, Plans, Special Provisions, Specifications, and Addenda

Revise the second paragraph to read:

Any inconsistency in the parts of the contract shall be resolved by following this order of precedence (e.g., 1 presiding over 2, 2 over 3, 3 over 4, and so forth):
1. Addenda,
2. Proposal Form,
3. Special Provisions,
4. Contract Plans,
5. Amendments to the Standard Specifications,
6. Standard Specifications,
7. Contracting Agency’s Standard Plans or Details (if any), and
8. WSDOT Standard Plans for Road, Bridge, and Municipal Construction.

**(July 23, 2015 APWA GSP, Option B; may not be used on FHWA-funded projects)**

### 1-04.6 Variation in Estimated Quantities

Revise the first paragraph to read:

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

**(1/1/2016 COK GSP)**

### 1-04.11 Final Cleanup

Section 1-04.11 is deleted in its entirety and replaced with the following:

From time to time or as may be ordered by the Engineer, the Contractor shall cleanup and remove debris, refuse, and discarded materials of any kind resulting from the Work. Failure to do so may result in cleanup done by the Owner and the cost thereof charged to the Contractor and deducted from the Contractor’s progress estimate.

The Contractor shall perform final cleanup as provided in this Section. The Engineer will not establish the Physical Completion Date until this is done. All public and private property the Contractor occupied to do the Work, including but not limited to the Street Right of Way, material sites, borrow and waste sites, and construction staging area shall be left neat and presentable. Immediately after completion of the Work, the Contractor shall cleanup and remove all refuse and unused materials of any kind resulting from the Work. Failure to do the final cleanup may result in the final cleanup being done by the Owner and the cost thereof charged to the Contractor and deducted from the Contractor's final progress estimate.

The Contractor shall:

1. Remove all rubbish, surplus materials, discarded materials, falsework, piling, camp buildings, temporary structures, equipment, and debris;
2. Remove from the Project, all unneeded, oversized rock left from grading, surfacing, or paving unless the Contract specifies otherwise or the Engineer approves otherwise;
3. On all concrete and asphalt pavement work, flush the pavement clean and remove the wash water and debris;
4. Sweep and flush structure decks and remove wash water and debris;
5. Clean out from all open culverts and drains, inlets, catch basins, manholes and water main valve chambers, within the limits of the Project Site, all dirt and debris of any kind that is the result of the Contractor's operations;

6. Level and fine grade all excavated material not used for backfill where the Contract requires;

7. Fine grade all slopes;

8. Upon completion of grading and cleanup operations at any privately-owned site for which a written agreement between the Contractor and property owner is required, the Contractor shall obtain and furnish to the Engineer a written release from all damages, duly executed by the property owner, stating that the restoration of the property has been satisfactorily accomplished.;

All costs associated with cleanup shall be incidental to the Work and shall be included in the various Bid items in the Bid, and shall be at no additional cost to the Owner.

(******)
1-04.11 Final Cleanup

Supplement this Section, as modified in the GSP immediately above, with the following:

Contractor shall follow all procedures established in the approved and updated SPCC Plan and SWPPP to remove from the site and properly dispose of materials, rubbish and debris including wash water.

1-05 CONTROL OF WORK

1-05.4 Conformity with and Deviations from Plans and Stakes

Add the following two new sub-sections:

(1/1/2016 COK GSP)
1-05.4(1) Roadway and Utility Surveys

The Contractor shall be responsible for setting, maintaining, and resetting all alignment stakes, slope stakes, and grades necessary for the construction of the improvements under this contract. Except for the survey control data furnished by the Owner, calculations, surveying, and measuring required for setting and maintaining the necessary lines and grades shall be the Contractor’s responsibility.

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

To facilitate the establishment of lines and elevations, the Owner will provide the Contractor with primary survey control information consisting of descriptions of two primary control points used for the horizontal and vertical control. Primary control points will be described and shown on the right-of-way Plans. The Contractor shall check all control points for horizontal and vertical locations prior to use and report any discrepancy to the Engineer. Errors resulting from using control points which have not been verified, shall be the Contractors responsibility.

At a minimum the Contractor shall provide following survey staking shall be required:

1. Construction centerline or an offset to construction centerline shall be staked at all angle points and 100-foot intervals on tangents.

2. Offset stakes of JUT Centerline at all angle points and at 50-foot intervals on tangents
   a. Cut/fill shall reference the elevations of the lowest conduit.
b. Offset shall reference the location of the center of trench and list the width of the trench section.

3. Offset stakes of all structure control/location points shown on the undergrounding Plans.
   a. Each vault, handhold, and junction box shall have a set of off-set points provided each location point shown in the location tables Cut/Fill shall reference elevations of the finish grade of the top lid of the structure.
   b. Each pole riser and stub up, shall have at least one set of off-set hubs provided with cut/fills to finish ground elevations.
   c. Finish grade elevations of all structures shall be determined by the Contractor based on the typical sections and details provide on the Contract Drawings.

4. Offset stakes at face or walls.

5. Offset staking of all drainage structures and drainage pipes at 50-foot intervals.

6. Location of all right-of-way and easements adjacent to the work area as shown on the right-of-way Plans.

7. Offset of all permanent concrete sidewalks, curb ramps, and driveways.

Each stake shall have the following information: Hub elevation, offset distance to items being staked, cut/fill to proposed elevations, design elevation of items being staked.

The above information shall also be shown on a written Cut Sheet and provided to the City inspector 48-hours prior to installation of the items being staked.

The Contractor shall establish all secondary survey controls, both horizontal and vertical, as necessary to assure proper placement of all project elements based on the primary control points provided by the Engineer. Survey work shall be within the following tolerances:

- Stationing: +.01 foot
- Alignment: +.01 foot (between successive points)
- Superstructure Elevations: +.01 foot (from plan elevations)
- Substructure Elevations: +.05 foot (from plan elevations)
- Sidewalk and Curb Ramp Elevations: +.01 foot (from plan elevations)

During the progress of the work, the Contractor shall make available to the Engineer all field books including survey information, footing elevations, cross sections and quantities.

The Contractor shall be fully responsible for the close coordination of field locations and measurements with appropriate dimensions of structural members being fabricated.

(1/1/2016 COK GSP)

Measurement

No unit of measurement shall apply to the lump sum price for construction surveying.

Payment

Payment will be made in accordance with Section 1-04.1 of these Specifications for the following bid item:

"Construction Surveying", per lump sum.
The lump sum Contract price for "Construction 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.

(October 1, 2005 APWA GSP)

1-05.7 Removal of Defective and Unauthorized Work

Supplement this section with the following:

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

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

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

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

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

(1/1/2016 COK GSP)

1-05.9 Equipment

Supplement the new paragraph added in the GSP immediately above with the following:

Contractor shall repair damage to concrete or asphalt surfaces at its own expense. The cost of completion of such repairs by the Owner, if not completed where directed by the Contractor, shall be deducted from the final amounts due for the Work. Contractor shall protect existing concrete and asphalt surfaces from damage from equipment with metal tracks, including unloading and

(-------)

1-05.9 Equipment
loading of equipment. Contractor shall prepare and submit a surface protection plan to the Engineer for approval 14 calendar days prior to mobilization of equipment.

(1/1/2016 COK GSP)
1-05.10 Guarantees
Section 1-05.10 is supplemented as follows:

Guarantees and maintenance bonds shall be in accordance with City of Kirkland, State of Washington, Public Works Performance and Payment Bond forms and requirements. The performance bond shall be in the full amount of contract. The Contractor guarantees all items of material, equipment, and workmanship against mechanical, structural, or other defects for which the Contractor is responsible that may develop or become evident within a period of one year from and after acceptance of the work by the Owner. This guarantee shall be understood to require prompt remedy of defects upon written notification to the Contractor. If the Owner determines the defect requires immediate repair, the Owner may, without further notice to the Contractor, make the necessary corrections, the cost of which shall be borne by the Contractor. To support the above guarantee, the Contractor's performance bond shall remain in full force and effect for one year following the acceptance of the project by the Owner.

(October 1, 2005 APWA GSP)
1-05.11 Final Inspection
Delete this section and replace it with the following:

1-05.11 Final Inspections and Operational Testing

1-05.11(1) Substantial Completion Date

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

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

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

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

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

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

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

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

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

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

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

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

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

*(March 8, 2013 APWA GSP)*

**1-05.12 Final Acceptance**

Add the following new section:

**1-05.12(1) One-Year Guarantee Period**

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

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

(August 14, 2013 APWA GSP)
1-05.13 Superintendents, Labor and Equipment of Contractor
Delete the sixth and seventh paragraph of this section.

(March 25, 2009 APWA GSP)
1-05.15 Method of Serving Notices
Revise the second paragraph to read:

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

(October 1, 2005 APWA GSP)
1-05.16 Water and Power

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

Add the following new section:

(******)
1-05.17 Oral Agreements

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

Add the following new section:

(March 8, 2013 APWA GSP)
1-05.18 Record Drawings

The Contractor shall maintain one set of full size plans for Record Drawings, updated with clear and accurate red-lined field revisions on a daily basis, and within 2 business days after receipt of information that a change in Work has occurred. The Contractor shall not conceal any work until the required information is recorded.
This Record Drawing set shall be used for this purpose alone, shall be kept separate from other Plan sheets, and shall be clearly marked as Record Drawings. These Record Drawings shall be kept on site at the Contractor’s field office, and shall be available for review by the Contracting Agency at all times. The Contractor shall bring the Record Drawings to each progress meeting for review.

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

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

- Actual dimensions, arrangement, and materials used when different than shown in the Plans.
- Changes made by Change Order or Field Order.
- Changes made by the Contractor.
- Accurate locations of storm sewer, sanitary sewer, water mains and other water appurtenances, structures, conduits, light standards, vaults, width of roadways, sidewalks, landscaping areas, building footprints, channelization and pavement markings, etc. Include pipe invert elevations, top of castings (manholes, inlets, etc.).

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

When the Contract calls for the Contractor to do the surveying/staking, the applicable tolerance limits include, but are not limited to the following:

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

Making Entries on the Record Drawings:

- Use erasable colored pencil (not ink) for all markings on the Record Drawings, conforming to the following color code:
  - Additions  - Red
  - Deletions - Green
  - Comments  - Blue
  - Dimensions - Graphite
- Provide the applicable reference for all entries, such as the change order number, the request for information (RFI) number, or the approved shop drawing number.
- Date all entries.
- Clearly identify all items in the entry with notes similar to those in the Contract Drawings (such as pipe symbols, centerline elevations, materials, pipe joint abbreviations, etc.).
The Contractor shall certify on the Record Drawings that said drawings are an accurate depiction of built conditions, and in conformance with the requirements detailed above. The Contractor shall submit final Record Drawings to the Contracting Agency. Contracting Agency acceptance of the Record Drawings is one of the requirements for achieving Physical Completion.

Payment will be made for the following bid item, for work in all Bid Schedules of the executed Contract:

<table>
<thead>
<tr>
<th>Record Drawings</th>
<th>Lump Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>(min. Bid $8,000.00)</td>
<td></td>
</tr>
</tbody>
</table>

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

A minimum bid amount has been entered in the Bid Proposal for this item. The Contractor must bid at least that amount.

Add the following new Section:

(*++++*)

1-05.19 Daily Construction Report

The Contractor and Subcontractors shall maintain daily, a Daily Construction Report of the Work. The Diary must be kept and maintained by Contractor’s designated project superintendent(s). Entries must be made on a daily basis and must accurately represent all of the project activities on each day. Contractor shall provide signed copies of diary sheets from the previous week to Engineer at each Weekly Coordination Meeting.

Every single diary sheet/page must have:

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

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

1. Day and date.
2. Weather conditions, including changes throughout the day.
3. Complete description of work accomplished during the day, with adequate references to the Plans and Contract Provisions so the reader can easily and accurately identify said work on the Plans. Identify location/description of photographs or videos taken that day.
4. Each and every changed condition, dispute or potential dispute, incident, accident, or occurrence of any nature whatsoever which might affect Contractor, Contracting Agency, or any third party in any manner. This shall be provided on a separate page for other information.
5. List all materials received and stored on- or off-site by Contractor that day for future installation, including the manner of storage and protection of the same.
6. List materials installed that day.
7. List all Subcontractors working on-site that day.
8. List the number of Contractor's employees working during each day, by category of employment.
9. List Contractor’s equipment on the site that day; showing which were in use, and which idle.

10. Notations to explain inspections, testing, stake-out, and all other services furnished by Contracting Agency or other party during the day.

11. Verify the daily (including non-work days) inspection and maintenance of traffic control devices and condition of the traveled roadway surfaces.

12. Any other information that serves to give an accurate and complete record of the nature, quantity, and quality of Contractor’s progress on each day.

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

Engineer or his representative on the job site will also complete a Daily Construction Report.

1-06 CONTROL OF MATERIAL

(1/1/2016 COK GSP)

1-06.1 Approval of Materials Prior to Use

Section 1-06.1 is supplemented as follows:

Approval of a Material source shall not mean acceptance of the Material. The Material shall meet the requirements of the Contract.

(January 4, 2016 APWA GSP)

1-06.6 RECYCLED MATERIALS

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

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

Prior to Physical Completion the Contractor shall report the quantity of recycled materials that were utilized in the construction of the project for each of the items listed in Table 9-03.21(1)E in Section 9-03.21. The report shall include hot mix asphalt, recycled concrete aggregate, recycled glass, steel furnace slag and other recycled materials (e.g. utilization of on-site material and aggregates from concrete returned to the supplier). The Contractor’s report shall be provided on DOT form 350-075 Recycled Materials Reporting.

1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

(1/1/2016 COK GSP)

1-07.1 Laws to Be Observed

Section 1-07.1 is supplemented with the following:

The Contractor shall at all times eliminate noise to the maximum practicable extent. Air compressing plants shall be equipped with silencers, and the exhaust of all gasoline motors or other power equipment shall be provided with mufflers. Special care shall be used to avoid noise or other nuisances, and the Contractor shall strictly observe all federal, state, and local regulations concerning noise.

The Contractor shall make an effort to reduce carbon emissions by turning off engines on construction equipment not in active use, and on trucks that are idling while waiting to load or unload material for five minutes or more.
Compliance with Laws

The Contractor shall comply with the requirements of all other City ordinances, state statutes, laws, and regulations, whether or not stated herein, which are specifically applicable to the public improvements and work to be performed.

(October 1, 2005 APWA GSP)
Supplement this section with the following:

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

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

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

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

(1/1/2016 COK GSP)
Contractor's Safety Responsibilities

These construction documents and the joint and several phases of construction hereby contemplated are to be governed at all times by applicable provisions of the federal law(s), including but not limited to the latest amendments of the following:

Williams-Steiger Occupational Safety and Health Act of 1980, Public Law 91-596.

Part 1910 - Occupational Safety and Health Standards, Chapter XVII of Title 29, Code of Federal Regulations.

This project, the Contractor and its subcontractors, shall, at all times, be governed by Chapter XIII of Title 29, Code of Federal Regulations, Part 1518 - Safety and Health Regulations for Construction (35 CFR 75), as amended to date.

To implement the program, and to provide safe and healthful working conditions for all persons, the construction superintendent or his/her designated safety officer shall conduct general project safety meetings at the site at least once each month during the course of construction.

The prime contractor and all subcontractors shall immediately report all accidents, injuries, and health hazards to the Manager, in writing. This shall not obviate any mandatory reporting under the provisions of the Occupational Safety and Health Act of 1970. This program shall become a part of the contract documents and the contract between the Owner and the Contractor, and all subcontractors, as though fully written therein.
Where the location of the work is in proximity to overhead wires and power lines, the Contractor shall coordinate all work with the utility and shall provide for such measures as may be necessary for the protection of the workers.

(June 27, 2011 APWA GSP)

1-07.2 State Taxes

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

1-07.2 State Sales Tax

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

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

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

1-07.2(1) State Sales Tax — Rule 171

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

1-07.2(2) State Sales Tax — Rule 170

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

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

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

1-07.2(3) Services

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

(August 15, 2016 APWA GSP, Option A)

1-07.11 Requirements for Nondiscrimination

Supplement this section with the following:

Disadvantaged Business Enterprise Participation (No Goal)
The Disadvantaged Business Enterprise (DBE) requirements of 49 CFR Part 26 and USDOT’s official interpretations (i.e., Questions & Answers) apply to this Contract. As such, the requirements of this Contract are to make affirmative efforts to solicit DBEs, provide information on who submitted a Bid or quote and to report DBE participation monthly as described elsewhere in these Contract Provisions. No preference will be included in the evaluation of Bids/Proposals, no minimum level of DBE participation shall be required as a Condition of Award and Bids/Proposals may not be rejected or considered non-responsive on that basis.

DBE Abbreviations and Definitions

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

Disadvantaged Business Enterprise (DBE) – A business firm certified by the Washington State Office of Minority and Women’s Business Enterprises, as meeting the criteria outlined in 49 CFR 26 regarding DBE certification.

Commercially Useful Function (CUF)
49 CFR 26.55(c)(1) defines commercially useful function as: “A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, you must evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and other relevant factors.”

Contract
Per 49 CFR 26, a contract is a legally binding relationship obligating a seller to furnish supplies or services (including, but not limited to, construction and professional services) and the buyer to pay for them. For purposes of this part, a lease is considered to be a contract.

DBE Directory of Certified Firms – A publication listing all Minority, Women, and Disadvantaged Business Enterprises currently certified by the Washington State Office of Minority and Women’s Business Enterprises (OMWBE). The on-line Directory is available
to contractors for their use in identifying and soliciting interest from DBE firms whose participation on a contract may be credited. Attention must also be given to OMWBE’s Suspension List.

**Description of Work** – Specific descriptions of work that the DBE is certified to perform, as identified in the OMWBE Directory of Certified Firms, under the DBE’s profile page.

**Manufacturer (DBE)** – A DBE firm that operates or maintains a factory or establishment that produces on the premises the materials, supplies, articles, or equipment required under the Contract. A DBE Manufacturer shall produce finished goods or products from raw or unfinished material or purchase and substantially alters goods and materials to make them suitable for construction use before reselling them.

**Regular Dealer (DBE)** – A DBE firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials or supplies required for the performance of a Contract are bought, kept in stock, and regularly sold to the public in the usual course of business. To be a Regular Dealer, the DBE firm shall engage in, as its principal business and in its own name, the purchase and sale of the products in question. A Regular Dealer in such items as steel, cement, gravel, stone, and petroleum products need not keep such products in stock if it owns or operates distribution equipment. Brokers, manufacturers’ representatives, packagers or other persons who arrange or expedite transactions shall not be regarded as Regular Dealers within the meaning of this definition.

**DBE Goals**

No DBE goals have been assigned as part of this Contract.

**Affirmative Efforts to Solicit DBE Participation**

The Contractor shall not discriminate on the grounds of race, color, sex, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. DBE firms shall have an equal opportunity to compete for subcontracts in which the Contractor enters into pursuant to this Contract.

Contractors are encouraged to:

1. Advertise opportunities for Subcontractors or suppliers in a timely and reasonably designed manner to provide notice of the opportunity to DBEs capable of performing the Work. All advertisements should include a Contract Provision encouraging participation by DBE firms. This may be accomplished through general advertisements (e.g. newspapers, journals, etc.) or by soliciting Bids/Proposals directly from DBEs.

   **Note:** A Directory of Certified DBE Firms denoting the Description of Work the DBE Contractors are certified to perform is available at:


   Attention must also be given to OMWBE’s Suspension List.

2. Establish delivery schedules that encourage participation by DBEs and other small businesses.

3. Participate with a DBE as a joint venture.

**DBE Eligibility/Selection of DBEs for Reporting Purposes Only**

Contractor may take credit for DBEs utilized on this Contract only if the firm is certified for the Work being performed, and the firm performs a commercially useful function (CUF).
Absent a mandatory goal, all DBE participation that is attained on this project will be considered as “race neutral” participation and shall be reported as such.

DBE participation cannot be counted as race-neutral until the amount being counted has actually been paid to the DBE for work performed on the contract. In addition, DBE participation cannot be counted if the DBE is temporarily suspended (see OMWBE’s Directory webpage).

**Crediting DBE Participation for Reporting Purposes**

**DBE Prime Contractor**

Only take credit for that portion of the total dollar value of the Contract equal to the distinct, clearly defined portion of the Work that the DBE Prime Contractor performs with its own forces.

**DBE Subcontractor**

Only that portion of the total dollar value of the subcontract equal to the distinct, clearly defined portion of the Work that the DBE performs with its own forces. Include the cost of supplies and materials obtained by the DBE for its work on the contract, and equipment leased by the DBE.

DBEs may lease equipment from non-DBE firms (except from the prime contractor or its affiliates). DBE credit will not be given in instances where the equipment lease includes the operator. The DBE is expected to operate the equipment used in the performance of its work under the contract, with its own forces. Formal lease agreements are required and should be on a long-term basis. Equipment leased by the DBE on an ad-hoc basis requires contracting agency approval. Situations where equipment is leased and used by the DBE, but payment is deducted from the Contractor’s payment to the DBE is not allowed.

The supplies, materials, and equipment purchased or leased from the Contractor or its affiliates shall not be credited (including any Contractor’s resources made available to DBE subcontractors at no cost).

If a DBE subcontracts a portion of the Work of its contract to another firm, the value of the subcontracted Work may be credited only if the DBE’s Lower-Tier Subcontractor is also a DBE. Work subcontracted to a non-DBE shall not be credited.

Count expenditures toward race/gender-neutral participation only if the DBE is performing a CUF on the contract.

**DBE Subcontract and Lower Tier Subcontract Documents**

There must be a subcontract agreement that complies with 49 CFR Part 26 and fully describes the distinct elements of Work committed to be performed by the DBE. The subcontract agreement shall incorporate requirements of the primary Contract. Subcontract agreements of all tiers, including lease agreements shall be readily available at the project site for the Engineer review.

**DBE Broker/Packager**

The value of fees or commissions charged by a DBE Broker or a DBE behaving in a manner of a Broker for providing a bona fide service, such as professional, technical, consultant, managerial services, or for providing bonds or insurance specifically required for the performance of the contract will only be credited if the fee/commission is determined to be reasonable, and the firm is determined to be performing a CUF.
Flagging
If the DBE firm is being utilized in the capacity of “Flagging” only, the contractor may take credit when the DBE firm provides a Traffic Control Supervisor (TCS) and flagger, which are under the direct control of the DBE. The DBE firm will also provide all flagging equipment (e.g. paddles, hard hats, and vests).

If the DBE firm is being utilized in the capacity of “Traffic Control Services”, the contractor may take credit when the DBE firm provides a TCS, flaggers, and traffic control items (e.g. cones, barrels, signs, etc.) and be in total control of all items in implementing the traffic control for the project. If the DBE firm utilizes the Contractor’s equipment, such as Transportable Attenuators and Portable Changeable Message Signs (PCMS) no credit can be taken for supplying and operating the items.

Trucking
The DBE trucking firm must own and operate at least one licensed, insured and operational truck on the contract. The DBE receives credit for the value of the transportation services it provides on the Contract using trucks it owns, licenses, insures, and operates with drivers it employs.

The DBE may lease trucks from another DBE firm. The Work that a DBE trucking firm performs with trucks it leases from other certified DBE trucking firms qualify for 100% DBE credit.

The DBE may lease trucks from a non-DBE truck leasing company, but can only receive DBE credit for the value of the hauling services if the DBE uses its own employees as drivers.

The trucking Work subcontracted to any non-DBE trucking firm will not receive credit for Work done on the project.

Truck registration and lease agreements shall be readily available at the project site for the Engineer review.

DBE participation of trucking firms can only be applied to the value of the hauling services, not for the materials being hauled (unless the trucking firm is also certified as a supplier). In situations where the DBE’s work is priced per ton, the value of hauling must be calculated separately from the value of the materials in order to determine DBE credit for hauling.

DBE Manufacturer and DBE Regular Dealer
If materials or supplies are obtained from a DBE Manufacturer, 100 percent of the cost of materials or supplies can be credited. The DBE Manufacturer shall be certified as such by OMWBE.

Sixty percent (60%) of the cost of materials or supplies purchased from a DBE Regular Dealer may be credited. If the role of the DBE Regular Dealer is determined to be that of a pass-through, then no DBE credit will be given for its services. Regular Dealer status and the amount of credit is determined on a Contract-by-Contract basis.

A firm wishing to be approved as a Regular Dealer for a specific project must submit a request in writing to WSDOT for approval, no later than ten working days prior to Bid opening. The Approved Regular Dealers List is published on WSDOT’s Office of Equal Opportunity (OEO) web site.

Purchase of materials or supplies from a DBE which is neither a manufacturer nor a regular dealer, (i.e. Broker) only the fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the
delivery of materials or supplies required on a job site, can be credited, provided the fees are not excessive as compared with fees customarily allowed for similar services. The cost of the materials and supplies themselves cannot be counted toward the DBE participation.

Note: Requests to be listed as a Regular Dealer will only be processed if the requesting firm is certified by the Office of Minority and Women’s Business Enterprises in a NAICS code that fall within the 42XXXX NAICS Wholesale code section.

Procedures between Award and Execution
After Award and prior to Execution, the Contractor shall provide the additional information described below. Failure to comply shall result in the forfeiture of the Bidder’s Proposal bond or deposit.

1. A list of all firms who submitted a bid or quote in attempt to participate in this project whether they were successful or not. Include the business name and mailing address.

Note: The firms identified by the Contractor may be contacted by the Contracting Agency to solicit general information as follows: age of the firm and average of its gross annual receipts over the past three-years.

Procedures after Execution
Commercially Useful Function (CUF)
The Contractor may only take credit for the payments made for Work performed by a DBE that is determined to be performing a CUF. This applies to all DBEs performing Work on a project. The Engineer will conduct CUF reviews to ascertain whether DBEs are performing a CUF. A DBE performs a CUF when it is carrying out its responsibilities of its contract by actually performing, managing, and supervising the Work involved. The DBE must be responsible for negotiating price; determining quality and quantity; ordering the material and installing (where applicable); and paying for the material itself. If a DBE does not perform “all” of these functions on a furnish-and-install contract, it has not performed a CUF and the cost of materials cannot be credited toward race/gender-neutral participation. Leasing of equipment from a leasing company is allowed. However, leasing/purchasing equipment from the Contractor is not allowed. Lease agreements shall be readily available for review by the Engineer.

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

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

The Engineer will use the following factors in determining whether a DBE trucking company is performing a CUF:

• The DBE shall be responsible for the management and supervision of the entire trucking operation. The owner demonstrates business related knowledge, shows up on site and is active in running the business.

• The DBE finances are independently controlled by the DBE.
• The DBE shall with its own workforce, operate at least one fully licensed, insured, and operational truck used on the Contract. Employees are shown exclusively on the DBE payroll.

• The DBE may lease trucks without drivers from a non-DBE truck leasing company. If the DBE leases trucks from a non-DBE truck leasing company and uses its own employees as drivers, it is entitled to credit for the total value of these hauling services.

• Lease agreements for trucks shall indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others provided it is with the consent of the DBE and the lease provides the DBE absolute priority for use of the leased truck.

• Leased trucks shall display the name and identification number of the DBE.

• Leased trucks shall be driven by DBE employees included in the DBE’s payroll.

The DBE may lease trucks from another DBE including a DBE owner-operator. The DBE who leases trucks from another DBE shall claim participation for the total value of the transportation services the lessee DBE provides on the Contract.

**Joint Checking**

A joint check is a two-party check between a DBE, a prime contractor and the supplier of material/supplies. The check is issued by the Contractor as payor to the DBE Subcontractor and the material supplier jointly (to guarantee payment to the supplier) for items to be incorporated into the project. The DBE must release the check to the supplier, while the Contractor acts solely as the guarantor.

A joint check agreement signed by all parties involved must be requested using the DBE Joint Check Request Form (# 272-053). The Joint Check Request Form and the Joint Check Agreement Form must be submitted and approved by the Engineer prior to its use.

The approval to use joint checks and the use will be closely monitored by the Engineer. To receive DBE credit for performing a CUF with respect to obtaining materials and supplies, a DBE must “be responsible for negotiating price, determining quality and quantity, ordering the material and installing (where applicable) and paying for the material itself.”

Material costs paid by the Contractor directly to the material supplier is not allowed. If proper procedures are not followed or the Engineer determines that the arrangement results in lack of independence for the DBE involved, no DBE credit will be given for the DBE’s participation as it relates to the material cost.

**Prompt Payment**

Refer to Section 1-08.1 for Prompt Payment requirements associated with this contract.

**Reporting**

All certified DBE Work whether COA or race neutral participation is reported. The Contractor shall submit a Monthly Report of Amounts Credited as DBE Participation (form #422-103) to the Project Engineer each month, regardless of whether payments were made or Work occurred, between Execution of the Contract and the final amounts paid to DBE contractor or Completion of the Contract.

In the event that the payments to a DBE contractor have been made by an entity other than the Contractor, as in the case of a lower-tier Subcontractor or supplier, then the Contractor shall obtain evidence of payments from the paying entity and report these...
payments to the Engineer as described above on form #422-103. The monthly report is due 20 calendar days following the end of the month.

Consequences of Non-Compliance
Each contract with a Contractor (and each subcontract the Contractor signs with a Subcontractor) must include the following assurance clause:

The Contractor, subrecipient, or Subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

1. Withholding monthly progress payments;
2. Assessing sanctions;
3. Liquidated damages; and/or
4. Disqualifying the Contractor from future bidding as non-responsible.

Payment
Compensation for all costs involved with complying with the conditions of this Specification and any other associated DBE requirements is included in payment for the associated Contract items of Work, except otherwise provided in the Specifications.

Small Business Enterprise Participation
The Small Business Enterprise (SBE) Program is an element of the Disadvantaged Business Enterprise (DBE) Program in accordance with the requirements of 49 CFR Part 26.39. As such, the requirements of this contract establish affirmative efforts to utilize SBE certified firms on construction projects. No preference will be included in the evaluation of Bids/Proposals. No minimum level of SBE participation shall be required as a Condition of Award and Bids/Proposals may not be rejected or considered non-responsive on that basis.

Voluntary SBE Goals
A voluntary goal amount of ten percent of the Contract bid amount is established.

The goal is voluntary, but achievement of the goal is encouraged. No preference will be included in the evaluation of bids/proposals. Bidders may contact the Washington State Office of Minority and Women’s Business Enterprises (OMWBE) at 360-664-9750 or visit www.omwbe.wa.gov to obtain information on certified SBE firms.

Required SBE Participation Plan
The Contractor shall submit a SBE Participation Plan prior to commencing contract work. Although the goal is voluntary, the outreach efforts to provide SBE maximum practicable opportunities are not.

For SBE Participation Plan Drafting Guidelines, please visit:

www.wsdot.wa.gov/equalopportunity

Definitions
Regardless of race or gender, a SBE is one certified by OMWBE as such, where the firm’s:

- Three year averaged gross receipts are less than $22.41 million dollars, with smaller industry standards applicable
- Is at least 51% owned and controlled by an individual or individuals with a personal net
  worth less than $1.32 million dollars
- A Micro Small Business Enterprise is a firm certified as an SBE with average gross
  receipts for three years less than one million dollars

(1/1/2016 COK GSP)
1-07.14 Responsibility for Damage
Section 1-07.14 is supplemented with the following:

The Contractor further agrees that it is waiving immunity under Industrial Insurance Law Title 51
RCW for any claims brought against the City by its employees. In the event Contractor fails, after
receipt of timely notice from the City, to appear, defend, or pay as required by the first paragraph of
this section, then in that event and in that event only, the City may in its sole discretion, deduct
from the progress payments to the Contractor and pay any amount sufficient to pay any claim, of
which the City may have knowledge and regardless of the informalities of notice of such claim,
arising out of the performance of this contract, provided the City has theretofore given notice of
receipt of such claim to the Contractor and the Contractor has failed to act thereon.

1-07.15 Temporary Water Pollution/Erosion Control
(1/1/2016 COK GSP)
1-07.15(1) Spill Prevention, Control, and Countermeasures Plan
SPCC Plan Element Requirements is supplemented with the following:

2. City of Kirkland spill response hotline (425) 587-3900 shall be listed as the first point of contact.

(******)
1-07.15(1) Spill Prevention, Control, and Countermeasures Plan
Revise the second sentence of the first paragraph of Implementation Requirements to read as follows:

The Contractor shall update the SPCC Plan monthly and maintain a copy of the updated SPCC
Plan on the project site.

Supplement the Implementation Requirements with the following requirements:

The SPCC Plan shall be prepared as part of the work of Bid Schedule A and shall apply to Bid Schedules
A, B, C and D, regardless of whether Schedules C and/or D are part of the executed Contract. The Plan
shall include the following minimum requirements:

1. All pollutants, including waste materials, demolition debris and wash water, including work of
   Final Cleanup, that occur onsite shall be handled and disposed of in a manner that does not
   cause contamination of storm water.

2. Cover, containment, and protection from vandalism shall be provided for all chemicals, liquid
   products, petroleum products, and non-inert wastes present on the site (see Chapter 173-304
   WAC for the definition of inert waste). On-site fueling tanks shall include secondary containment.
3. Hazardous chemicals, such as cleaning agents and solvents, shall be stored in an approved chemical storage facility(ies), located in the equipment staging area. When using chemicals, care shall be taken to guard against spillage. In the event of a chemical release, the appropriate authorities shall be contacted and the spill is to be cleaned up immediately.

4. All equipment shall be inspected regularly to detect any leaks or spills and to identify any necessary maintenance. Maintenance and repair of heavy equipment and vehicles involving oil changes, hydraulic system drain down, solvent and de-greasing cleaning operations, fuel tank drain down and removal, and other activities which may result in discharge or spillage of pollutants to the ground or into storm water runoff must be conducted in a designated area using spill prevention measures, such as drip pans. Contaminated surfaces shall be cleaned immediately following any discharge or spill incident. Emergency repairs may be performed on-site using temporary plastic placed beneath and, if raining, over the vehicle.

5. BMPs shall be used to prevent or treat contamination of storm water runoff by pH modifying sources. These sources include, but are not limited to, bulk cement, cement kiln dust, fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters. Storm water discharges shall not cause or contribute to a violation of the water quality standard for pH in the receiving water.

Concrete Handling

1. Concrete work can generate process water and slurry that contain fine particles and high pH, both of which can violate water quality standards in the receiving water. This BMP is intended to minimize and eliminate concrete process water and slurry from entering waters of the state.

2. Concrete truck chutes, pumps, and internals shall be washed out only into formed areas awaiting installation of concrete or asphalt.

3. Unused concrete remaining in the truck and pump shall be returned to the originating batch plant for recycling.

4. Hand tools including, but not limited to, screeds, shovels, rakes, floats, and trowels shall be washed off only into formed areas awaiting installation of concrete or asphalt.

5. Equipment that cannot be easily moved, such as concrete pavers, shall only be washed in areas that do not directly drain to natural or constructed storm water conveyances.

6. Washdown from areas such as concrete aggregate driveways shall not drain directly to natural or constructed storm water conveyances.

7. When no formed areas are available, wash water and leftover product shall be contained in a lined container. Contained concrete shall be disposed of in a manner that does not violate groundwater or surface water quality standards.

8. Containers shall be checked for holes in the liner daily during concrete pours and repaired the same day.

Sawcutting and Surfacing Pollution Prevention

1. Sawcutting and surfacing operations generate slurry and process water that contains fine particles and high pH (concrete cutting), both of which can violate the water quality standards in the receiving water. This BMP is intended to minimize and eliminate process water and slurry from entering waters of the State.
2. Slurry and cuttings shall be vacuumed during cutting and surfacing operations.

3. Slurry and cuttings shall not remain on permanent concrete or asphalt pavement overnight.

4. Slurry and cuttings shall not drain to any natural or constructed drainage conveyance.

5. Collected slurry and cuttings shall be disposed of in a manner that does not violate groundwater or surface water quality standards.

6. Process water that is generated during hydro-demolition, surface roughening or similar operations shall not drain to any natural or constructed drainage conveyance and shall be disposed of in a manner that does not violate groundwater or surface water quality standards.

7. Cleaning waste material and demolition debris shall be handled and disposed of in a manner that does not cause contamination of water. If the area is swept with a pick-up sweeper, the material must be hauled out of the area to an appropriate disposal site.

8. Continually monitor operations to determine whether slurry, cuttings, or process water could enter waters of the state. If inspections show that a violation of water quality standards could occur, stop operations and immediately implement preventive measures such as berms, barriers, secondary containment, and vacuum trucks.

Material Delivery, Storage and Containment

1. Prevent, reduce, or eliminate the discharge of pollutants from material delivery and storage to the storm water system or watercourses by minimizing the storage of hazardous materials onsite, storing materials in a designated area, and installing secondary containment.

2. Temporary storage area should be located away from vehicular traffic, near the construction entrance(s), and away from waterways or storm drains.

3. Material Safety Data Sheets (MSDS) should be supplied for all materials stored. Chemicals should be kept in their original labeled containers.

4. Hazardous material storage on-site should be minimized.

5. Hazardous materials should be handled as infrequently as possible.

6. During the wet weather season (Oct 1 – April 30), consider storing materials in a covered area.

7. Materials should be stored in secondary containments, such as earthen dike, horse trough, or even a children’s wading pool for non-reactive materials such as detergents, oil, grease, and paints. Small amounts of material may be secondarily contained in “bus boy” trays or concrete mixing trays.

8. Do not store chemicals, drums, or bagged materials directly on the ground. Place these items on a pallet and, when possible, in secondary containment.

9. If drums must be kept uncovered, store them at a slight angle to reduce ponding of rainwater on the lids to reduce corrosion. Domed plastic covers are inexpensive and snap to the top of drums, preventing water from collecting.

10. Liquids, petroleum products, and substances listed in 40 CFR Parts 110, 117, or 302 shall be stored in approved containers and drums and shall not be overfilled. Containers and drums shall be stored in temporary secondary containment facilities.
11. Temporary secondary containment facilities shall provide for a spill containment volume able to contain precipitation from a 25 year, 24 hour storm event, plus 10% of the total enclosed container volume of all containers, or 110% of the capacity of the largest container within its boundary, whichever is greater.

12. Secondary containment facilities shall be impervious to the materials stored therein for a minimum contact time of 72 hours.

13. Secondary containment facilities shall be maintained free of accumulated rainwater and spills. In the event of spills or leaks, accumulated rainwater and spills shall be collected and placed into drums. These liquids shall be handled as hazardous waste unless testing determines them to be non-hazardous.

14. Sufficient separation should be provided between stored containers to allow for spill cleanup and emergency response access.

15. During the wet weather season (Oct 1 – April 30), each secondary containment facility shall be covered during non-working days, prior to and during rain events.

16. Keep material storage areas clean, organized and equipped with an ample supply of appropriate spill clean-up material (spill kit). The spill kit should include, at a minimum: 1-Water Resistant Nylon Bag, 3-Oil Absorbent Socks 3”x 4’, 2-Oil Absorbent Socks 3”x 10’, 12-Oil Absorbent Pads 17”x19”, 1-Pair Splash Resistant Goggles, 3-Pair Nitrile Gloves, 10-Disposable Bags with Ties, Instructions.

Revise the second paragraph of the Payment section to read as follows:

“SPCC Plan” (min. Bid $5,000.00), per lump sum.

A minimum bid amount has been entered in the Bid Proposal for this item. The Contractor must bid at least that amount.

Revise the original fourth paragraph of the Payment section to read as follows:

The remaining 50 percent of the lump sum price will be pro-rated over the working days of the executed Contract. The Engineer may review the updated SPCC at least once per month. If the SPCC has not been updated to the satisfaction of the Engineer upon one or more of such reviews each month, and thus rejected, the work for this item shall not be paid for that month and the overall payment shall be reduced by that amount.

1-07.16 Protection and Restoration of Property

(1/1/2016 COK GSP)

1-07.16(3) Fences, Mailboxes, Incidentals

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

**U.S. Postal Service Collection Boxes, Mail Receptacles, and other Structures:** U.S. Postal Service collection box and other Structures requiring temporary relocation to accommodate construction, the Contractor shall contact the Kirkland Postmaster at least 5 Working Days in advance for coordination. Only the U.S. Post Office will move Postal Service-owned property.

(1/1/2016 COK GSP)
1-07.17 Utilities and Similar Facilities

Section 1-07.17 is supplemented with the following:

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

The Contractor is alerted to the existence of Chapter 19.122 RCW, a law relating to underground utilities. Any cost to the Contractor incurred as a result of this law shall be at the Contractor's expense.

No excavation shall begin until all known facilities in the vicinity of the excavation area have been located and marked.

The Contractor shall give advance notice to all utility companies involved where work is to take place and in all other respects comply with the provisions of Chapter 19.122 RCW. Notice shall include, but not be limited to, the following utility companies:

1. Water, sewer, storm, streets – minimum two working days in advance
2. Power (Electric and Natural Gas) – minimum 48 hours in advance
3. Telephone – minimum 30 days in advance
4. Natural Gas – minimum 48 hours in advance
5. Cable Television – minimum 48 hours in advance
6. Transit – minimum 21 days in advance

The following is a list of some utilities serving the Kirkland area. This is not intended or represented to be a complete list and is provided for the Contractor's convenience.

<table>
<thead>
<tr>
<th>Utility</th>
<th>Agency/Company</th>
<th>Address</th>
<th>Contact</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water/Sewer</td>
<td>City of Kirkland</td>
<td>123 Fifth Avenue Kirkland, WA 98033</td>
<td>Josh Pantzke</td>
<td>(425) 587-3910</td>
</tr>
<tr>
<td>Storm Drainage</td>
<td>City of Kirkland</td>
<td>123 Fifth Avenue Kirkland, WA 98033</td>
<td>Jason Osborne</td>
<td>(425) 587-3900</td>
</tr>
<tr>
<td>Water / Sewer</td>
<td>Northshore Utility District</td>
<td>6380 NE 185th St Kenmore, WA 98028</td>
<td>George Matote</td>
<td>(425) 398-4400</td>
</tr>
<tr>
<td>Street</td>
<td>City of Kirkland</td>
<td>123 Fifth Avenue Kirkland, WA 98033</td>
<td>Greg Neumann</td>
<td>(425) 587-3900</td>
</tr>
<tr>
<td>Natural Gas /</td>
<td>Puget Sound Energy</td>
<td>P.O. Box 97034 EST-11W Bellevue, Washington</td>
<td>Jeanne Coleman</td>
<td>(425) 449-7410</td>
</tr>
<tr>
<td>Electric</td>
<td></td>
<td>98009-9734</td>
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<tr>
<td>Telephone/</td>
<td>Frontier Communications</td>
<td></td>
<td>Jay Schwab</td>
<td>(425) 263-4019</td>
</tr>
<tr>
<td>FIOS</td>
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<tr>
<td>Cable Television</td>
<td>Comcast</td>
<td>1525 - 75th St SW, Suite 200 Everett, WA</td>
<td>Raymond Pilkenton</td>
<td>(425) 263-5332</td>
</tr>
<tr>
<td>School District</td>
<td>Lake Washington School</td>
<td>15212 NE 95th St Redmond, WA 98052</td>
<td>Jeff Miles</td>
<td>(425) 936-1120</td>
</tr>
<tr>
<td>Transportation</td>
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<tr>
<td>Transit</td>
<td>King County METRO</td>
<td>MS SVQ-TR-0100 1270 6th Ave S Seattle, WA</td>
<td>METRO Construction Information Center</td>
<td>(206) 477-1140 (206) 477-0438</td>
</tr>
<tr>
<td>Water</td>
<td>Woodinville Water</td>
<td>17238 NE Woodinville</td>
<td>Ken McDowell</td>
<td>(425) 487-4104</td>
</tr>
</tbody>
</table>
Note that most utility companies may be contacted for locations through the “One Call” system, 1-800-424-5555. In the event of a gas emergency, call 911 and then the PSE hotline at 1-888-225-5773 (1-888-CALL-PSE).

The Contractor shall coordinate the work with these utilities and shall notify the Engineer in advance of any conflicts affecting the work schedule. The utility companies shall witness or perform all shutdowns, connections or disconnections.

Wherever in the course of the construction operation it becomes necessary to cause an outage of utilities, it shall be the Contractor's responsibility to notify the affected users not less than twenty-four (24) hours in advance of the creation of such outage. The Contractor shall make reasonable effort to minimize the duration of outages.

The Contractor shall be responsible for any breakage of utilities or services resulting from its operations and shall hold the City and its agents harmless from any claims resulting from disruption of, or damage to, same.

**Other Notifications**

**Service Area Turn Off:** All service area turn off notices must be distributed to affected parties two working days in advance of any scheduled shut off. City to provide door hangers and affected service area map. The contractor shall fill in all required information prior to hanging door hanger.

**Entry onto Private Property:** Each property owner shall be given two working days advance Written Notice prior to entry by the Contractor.

**Loop Detection Systems:** Where an excavation is to take place through a signal loop detector system, the Contractor shall provide at least five (5) Working Days advance notice to the City Signal Shop at (425) 587-3920 to coordinate temporary signal wire disconnect and installation of temporary signal detection equipment.

**Survey Monuments:** When proposed pavement removal is close to existing survey monumentation, or proposed pavement removal includes existing survey monumentation, the Contractor shall provide a minimum 4 Working Days advance notice to the Engineer to allow survey crews to tie the monument out and reset the monument after pavement installation.

(******)

**1-07.17 Utilities and Similar Facilities**

Delete the survey monuments paragraph of the GSP immediately above and replace with the following:

**Survey Monuments:** When proposed pavement removal is close to existing survey monumentation, or proposed pavement removal includes existing survey monumentation, the Contractor shall provide a minimum 4 Working Days advance notice to its licensed professional land surveyor to allow survey crews to tie the monument out and reset the monument after pavement installation.

(1/1/2016 COK GSP)
1-07.17(2) Utility Construction, Removal or Relocation by Others

Section 1-07.17(2) is supplemented with the following:

Under no circumstances will discrepancies in location or incompleteness in description of existing utilities or improvements, whether they are visible from the surface, buried, or otherwise obscured, be considered as a basis for additional compensation to the Contractor.

(January 4, 2016 APWA GSP)

1-07.18 Public Liability and Property Damage Insurance

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

1-07.18 Insurance

1-07.18(1) General Requirements

A. The Contractor shall procure and maintain the insurance described in all subsections of section 1-07.18 of these Special Provisions, from insurers with a current A. M. Best rating of not less than A: VII and licensed to do business in the State of Washington. The Contracting Agency reserves the right to approve or reject the insurance provided, based on the insurer's financial condition.

B. The Contractor shall keep this insurance in force without interruption from the commencement of the Contractor's Work through the term of the Contract and for thirty (30) days after the Physical Completion date, unless otherwise indicated below.

C. If any insurance policy is written on a claims made form, its retroactive date, and that of all subsequent renewals, shall be no later than the effective date of this Contract. The policy shall state that coverage is claims made, and state the retroactive date. Claims-made form coverage shall be maintained by the Contractor for a minimum of 36 months following the Completion Date or earlier termination of this Contract, and the Contractor shall annually provide the Contracting Agency with proof of renewal. If renewal of the claims made form of coverage becomes unavailable, or economically prohibitive, the Contractor shall purchase an extended reporting period ("tail") or execute another form of guarantee acceptable to the Contracting Agency to assure financial responsibility for liability for services performed.

D. The Contractor's Automobile Liability, Commercial General Liability and Excess or Umbrella Liability insurance policies shall be primary and non-contributory insurance as respects the Contracting Agency's insurance, self-insurance, or self-insured pool coverage. Any insurance, self-insurance, or self-insured pool coverage maintained by the Contracting Agency shall be excess of the Contractor's insurance and shall not contribute with it.

E. The Contractor shall provide the Contracting Agency and all additional insureds with written notice of any policy cancellation, within two business days of their receipt of such notice.

F. The Contractor shall not begin work under the Contract until the required insurance has been obtained and approved by the Contracting Agency.

G. Failure on the part of the Contractor to maintain the insurance as required shall constitute a material breach of contract, upon which the Contracting Agency may, after giving five business days' notice to the Contractor to correct the breach, immediately terminate the Contract or, at its discretion, procure
or renew such insurance and pay any and all premiums in connection therewith, with any sums so 
expended to be repaid to the Contracting Agency on demand, or at the sole discretion of the 
Contracting Agency, offset against funds due the Contractor from the Contracting Agency.

H. All costs for insurance shall be incidental to and included in the unit or lump sum prices of the 
Contract and no additional payment will be made.

1-07.18(2) Additional Insured

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

- the Contracting Agency and its officers, elected officials, employees, agents, and volunteers
- CHS Engineers, LLC
- HWA GeoSciences, Inc.

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

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

1-07.18(3) Subcontractors

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

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

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

1-07.18(4) Verification of Coverage

The Contractor shall deliver to the Contracting Agency a Certificate(s) of Insurance and endorsements for 
each policy of insurance meeting the requirements set forth herein when the Contractor delivers the 
signed Contract for the work. Failure of Contracting Agency to demand such verification of coverage with 
these insurance requirements or failure of Contracting Agency to identify a deficiency from the insurance 
documentation provided shall not be construed as a waiver of Contractor’s obligation to maintain such 
insurance.

Verification of coverage shall include:

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

Upon request by the Contracting Agency, the Contractor shall forward to the Contracting Agency a full and certified copy of the insurance policy(s). If Builders Risk insurance is required on this Project, a full and certified copy of that policy is required when the Contractor delivers the signed Contract for the work.

1-07.18(5) Coverages and Limits

The insurance shall provide the minimum coverages and limits set forth below. Contractor’s maintenance of insurance, its scope of coverage, and limits as required herein shall not be construed to limit the liability of the Contractor to the coverage provided by such insurance, or otherwise limit the Contracting Agency’s recourse to any remedy available at law or in equity.

All deductibles and self-insured retentions must be disclosed and are subject to approval by the Contracting Agency. The cost of any claim payments falling within the deductible or self-insured retention shall be the responsibility of the Contractor. In the event an additional insured incurs a liability subject to any policy’s deductibles or self-insured retention, said deductibles or self-insured retention shall be the responsibility of the Contractor.

1-07.18(5)A Commercial General Liability

Commercial General Liability insurance shall be written on coverage forms at least as broad as ISO occurrence form CG 00 01, including but not limited to liability arising from premises, operations, stop gap liability, independent contractors, products-completed operations, personal and advertising injury, and liability assumed under an insured contract. There shall be no exclusion for liability arising from explosion, collapse or underground property damage.

The Commercial General Liability insurance shall be endorsed to provide a per project general aggregate limit, using ISO form CG 25 03 05 09 or an equivalent endorsement.

Contractor shall maintain Commercial General Liability Insurance arising out of the Contractor’s completed operations for at least three years following Substantial Completion of the Work.

Such policy must provide the following minimum limits:

- $1,000,000 Each Occurrence
- $2,000,000 General Aggregate
- $2,000,000 Products & Completed Operations Aggregate
- $1,000,000 Personal & Advertising Injury each offence
- $1,000,000 Stop Gap / Employers’ Liability each accident

1-07.18(5)B Automobile Liability

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

Such policy must provide the following minimum limit:

- $1,000,000 Combined single limit each accident

1-07.18(5)C Workers’ Compensation

The Contractor shall comply with Workers’ Compensation coverage as required by the Industrial Insurance laws of the State of Washington.
(January 4, 2016 APWA GSP)

1-07.18(5)D  Excess or Umbrella Liability

The Contractor shall provide Excess or Umbrella Liability insurance with limits of not less than 3 million each occurrence and annual aggregate. This excess or umbrella liability coverage shall be excess over and as least as broad in coverage as the Contractor’s Commercial General and Auto Liability insurance.

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

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

(January 4, 2016 APWA GSP)

1-07.18(5)J  Pollution Liability

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

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

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

Such Pollution Liability policy shall provide the following minimum limits:

$1,000,000  each loss and annual aggregate

1-07.23  Public Convenience and Safety

Section 1-07.23 is supplemented with the following:

(1/1/2016 COK GSP)

No road or street shall be closed to the public except as permitted in these plans and specifications or with the approval of the Engineer and proper governmental authority. Fire hydrants on or adjacent to the work shall be kept accessible to fire fighting equipment at all times. Provision shall be made by the Contractor to ensure the proper functioning of all gutters, sewer inlets, drainage ditches and culverts, irrigation ditches and natural water courses, and storm sewer facilities throughout the project. Temporary interruption of service will be allowed only with the permission of the Engineer.

The Kirkland Police Department and Kirkland Fire Department shall be notified at least four (4) hours in advance of any actions by the Contractor that may affect the functions of either the Police Department or Fire Department.

The Contractor shall conduct its work and take preventative measures so that dust or other particulate matter in the project area shall not become objectionable to the adjacent property owners or general public. Should the Owner determine the Contractor is not fulfilling its obligation in this regard; the Owner reserves the right to take such action as may be necessary to remedy the objectionable condition and to charge the Contractor with any cost that may be incurred in such
remedial action. All work shall be carried on with due regard for the safety of the public. No driveway, whether public, commercial, or private, may be closed without prior approval of the Owner, project supervisor, or Engineer unless written authority has been given by the affected property owner. The Contractor shall be responsible for notifying the affected property owners 24 hours in advance of scheduled interruptions to access.

(1/1/2016 COK GSP)
**Pedestrian Control and Protection**

When the work area encroaches upon a sidewalk, walkway or crosswalk area, special consideration must be given to pedestrian safety. Maximum effort must be made to separate pedestrians from the work area. Protective barricades, fencing, and bridges, together with warning and guidance devices and signs, shall be utilized so that the passageway for pedestrians is safe and well defined. Whenever pedestrian walkways are provided across excavations, they shall be provided with suitable handrails. Footbridges shall be safe, strong, free of bounce and sway, have a slip resistant coating, and be free of cracks, holes, and irregularities that could cause tripping. Ramps shall be provided at the entrance and exit of all raised footbridges, again to prevent tripping. Adequate illumination and reflectorization shall be provided during hours of darkness. All walkways shall be maintained with at least 4 feet clear width.

Where walks are closed by construction, an alternate walkway shall be provided, preferably within the planting strip.

Where it is necessary to divert pedestrians into the roadway, barricading or channeling devices shall be provided to separate the pedestrian walkway from the adjacent vehicular traffic lane. At no time shall pedestrians be diverted into a portion of a street used concurrently by moving vehicular traffic.

At locations where adjacent alternate walkways cannot be provided, appropriate signs shall be posted at the limits of construction and in advance of the closure at the nearest crosswalk or intersection to divert pedestrians across the street.

Physical barricades shall be installed to prevent visually impaired people from inadvertently entering a closed area. Pedestrian walkways shall be wheelchair accessible at all times. Pedestrian access shall be maintained to all properties adjacent to the construction site.

(July 23, 2015 APWA GSP)
**1-07.24 Rights of Way**

Delete this section and replace it with the following:

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

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

Whenever any of the work is accomplished on or through property other than public Right of Way, the Contractor shall meet and fulfill all covenants and stipulations of any easement agreement obtained by the Contracting Agency from the owner of the private property. Copies of the easement agreements may be included in the Contract Provisions or made available to the Contractor as soon as practical after they have been obtained by the Engineer.
Whenever easements or rights of entry have not been acquired prior to advertising, these areas are so noted in the Plans. The Contractor shall not proceed with any portion of the work in areas where right of way, easements or rights of entry have not been acquired until the Engineer certifies to the Contractor that the right of way or easement is available or that the right of entry has been received. If the Contractor is delayed due to acts of omission on the part of the Contracting Agency in obtaining easements, rights of entry or right of way, the Contractor will be entitled to an extension of time. The Contractor agrees that such delay shall not be a breach of contract.

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

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

(1/1/2016 COK GSP)

The Contractor shall file with the Engineer signed property release forms (in the format as detailed below) for all properties disturbed or damaged by the Contractor's operations.

<table>
<thead>
<tr>
<th>PROPERTY RELEASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date: ________________________________</td>
</tr>
<tr>
<td>I, ___________________________________ owner of</td>
</tr>
<tr>
<td>______________________________, hereby release _____________________________,</td>
</tr>
<tr>
<td>______________________________ (Contractor's name and address)</td>
</tr>
<tr>
<td>from any property damage or personal injury resulting from construction on or adjacent to my property located at</td>
</tr>
<tr>
<td>_______________________________________________________________ during construction of the _____________________________. My signature below is my</td>
</tr>
<tr>
<td>acknowledgment and acceptance that my property, as identified above, was returned to a satisfactory condition.</td>
</tr>
<tr>
<td>Signed: ________________________________</td>
</tr>
<tr>
<td>Name: ________________________________</td>
</tr>
<tr>
<td>Address: ______________________________</td>
</tr>
<tr>
<td>Phone: ________________________________</td>
</tr>
</tbody>
</table>
Add the following new section:

1-07.29 Field Office for the Engineer’s Staff

(* * *)

The Contractor shall provide a field office on or adjacent to the Project Site for the use of the Engineer’s staff within five (5) Working Days from the Notice to Proceed Date. The field office, its location, and an alternate date if necessary, shall be subject to the approval of the Engineer and shall be established at the pre-construction meeting. The field office shall meet the following requirements:

1. The field office shall be a weather-tight building; either portable or permanent structure a minimum of eight (8) feet wide with not less than 360 square feet of clear floor space, having at least one door, and a window area of not less than 40 square feet. Windows shall open to allow ventilation. Doors and windows shall be provided with bug screens. The interior walls shall be covered with material suitable for displaying Contract Plans and progress charts, etc.

2. To deter break-in and theft, window and door glass shall be protected with heavy security screens on metal frames bolted to the walls and doors. At a minimum all doors shall have 1 deadbolt cylinder lock. The Contractor shall provide 6 sets of keys for each lock.

3. The field office shall be level and, if portable, the structure shall be supported on blocks. If more than three (3) steps are required to enter the office, a floor-level landing of at least 12 square feet with railing shall be provided. Steps and landing shall be stable and slip resistant. A 3 sided boot brush shall be provided at each field office entrance.

4. The Contractor shall be responsible for maintaining and cleaning the field office; repairing any damage to the structure, equipment and appurtenances; providing janitorial services including supplying appropriate toilet room paper products; refilling applicable dispensers with drinking water cups, and paper towels; cleaning windows and sweeping floors; and emptying trash receptacles and recyclables, disposing trash, and relining trash receptacles and recyclables.

5. The office shall be furnished with the following furniture, equipment and appurtenances reasonably presentable, in good working order, and acceptable to the Engineer:
   a. Drafting table, 6 foot x 4 foot minimum,
   b. Executive chair, each with seat cushion, adjustable height seat, tilt back, arm rests, and floor wheels (two);
   c. Office desk, 30” x 60” minimum size, with at least 4 drawers which can be locked with key & one of which is set up for file folders, 2 sets of keys each desk (two);
   d. Office table 36” x 72” (two), 1 Conference table 4’ x 10’;
   e. Office chairs with seat & back cushion (eight);
   f. Trash receptacles and recycle bins
   g. Color Photocopy/Color Printer/Color Scanner/Fax multifunction machine with multiple tray frontload including 3 paper trays (8-1/2 x 11-inch, 8-1/2 x 14-inch, and 11 x 17 inch) with the following:
      • Understorage cabinet, floor wheels to accommodate service technician.
      • Preset reduction to 50% and enlarge to 200% plus zoom in 1% increments.
      • Bypass tray
      • Replacement toner cartridge (1 cartridge for each color)
      • Capability to scan directly to PDF color at 300 dpi
      • Plain paper fax capable
      • Direct phone line connection and programmable capable to directly send scanned documents and faxes by e-mail.
• 400 sheets of each size 20 lb. bright paper with no more than 30% recycle post-consumer content.
• Repair and maintenance service contract with 4 hour service response on-site parts and labor;

h. The Contractor shall provide a commercial grade broadband internet access with a static IP address (Cable or DSL at a minimum speed of 2.0 Mbps upload & 6.0 Mbps download) between the field office and an Internet Service Provider (ISP). The Contractor shall provide for 24 hour technical support and a local or 1-800 phone number to troubleshoot and maintain the broadband connectivity. The Contractor shall provide inside wiring to support a Local Area Network inside the field office and shall include a 4-plex jack to at least 5 workstations (desk or table locations to be addressed at the pre-construction meeting per Section 1-08.1(2)). The Contractor shall provide necessary equipment to allow internet connectivity and shall be configured to allow VPN access from individual machines to the City of Kirkland. Color Printer/Color Copier/Scanner/Fax multifunction machine shall be connected to the office network and programmed to send scanned documents by e-mail. The Contractor shall contact City of Kirkland IT Department at least 5 Working Days in advance for access to the City of Kirkland internal network;

i. White board (3'H x4'W) with eight (8) dry erase markers and 1 white board eraser.

6. Electric power of sufficient capacity to operate an electric heater, air conditioner and other required equipment.

After obtaining inspection and approval of the field office electrical system and the proposed temporary power connection hook-up from City, the Contractor shall provide a minimum 15 Working Days advance notice to the local power utility requesting a temporary power drop and connection. Generators (gas and diesel) for producing electrical power will not be allowed unless the Engineer permits such in writing.

7. Contractor shall provide drinking water with disposable cup dispenser filled with cups

8. The Contractor shall provide heating and air-conditioning of sufficient capacity to heat the office to 70 °F within 1 hour, and to cool the office 15 °F within 1 hour.

If the Contractor fails to provide a field office, or substantive services, amenities or supplies as described herein for the field office (hereafter "field office services"), at the location on the date agreed to at the pre-construction meeting, the Engineer will provide Written Notice of such and shall have the right to withhold progress payments in accordance with Section 1-09.9(3). If within 5 Working Days of the Engineer sending this Written Notice the Contractor has not provided the field office, or field office services, then the Engineer will have the option to provide the field office or field office services. If the Engineer elects to provide the field office or field office services, the Engineer will give the Contractor a second Written Notice of such; will within three (3) Working Days of giving the second Written Notice provide the field office or field office services meeting the requirements specified in Section 1-07.29; and will charge the Contractor by deducting from monies due or to become due the Contractor on progress payments, all costs associated with providing the field office or field office services as specified in Section 1-07.29. Upon delivereance of the second Written Notice, the Contractor’s right to provide the field office or field office services shall be forfeited.

The field office, equipment, and appurtenances supplied by the Contractor shall revert to and be removed by the Contractor when the Engineer, via the Written Notice of Physical Completion to the Contractor, establishes the Physical Completion Date. If the Contractor removes, closes, or discontinues the services specified in Section 1-07.29 prior to receiving the Written Notice of Physical Completion without first obtaining approval from the Engineer, the Contractor will be charged Liquidated Damages in accordance with Section 1-08.9.

All costs for the work required to provide, maintain and remove the field office including regular expenses for telephone, internet, electricity, etc.; incidental constructions to accommodate; and to procure all permits and licenses required for the field office to meet the requirements of Section 1-07.29, shall be included in the lump sum Contract Price Bid for “Mobilization” for Bid Schedules A and B. All costs for the work required to provide and maintain the field office services necessary for
completion of the work of Bid Schedules C and/or D shall be included in the lump sum Contract Prices Bid for “Mobilization” for Bid Schedules C and D. All costs for the work required to relocate the field office, if required, shall be considered incidental to the Bid item “Mobilization.”

1-08 PROSECUTION AND PROGRESS

Add the following new section:

(May 25, 2006 APWA GSP)
1-08.0 Preliminary Matters

Add the following new section:

(October 10, 2008 APWA GSP)
1-08.0(1) Preconstruction Conference

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

1. To review the initial progress schedule;
2. To establish a working understanding among the various parties associated or affected by the work;
3. To establish and review procedures for progress payment, notifications, approvals, submittals, etc.;
4. To establish normal working hours for the work;
5. To review safety standards and traffic control; and
6. To discuss such other related items as may be pertinent to the work.

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

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

Add the following new section:

(1/1/2016 COK GSP)
1-08.0(2) Hours of Work

Except in the event of an emergency, no work shall be done between the hours of 6:00 p.m. and 7:00 a.m., or weekends (except driveway construction), or holidays observed by the City of Kirkland and identified in Section 1-08.5 of the Standard Specifications. If the proper and efficient prosecution of the work requires operations during the night, hours of operation more than 8 hours per day, or work weeks greater than 40 hours in duration, the written permission of the Owner shall be obtained before starting such items of the work and shall be in full compliance with terms therewith.

Except in the case of emergency or unless otherwise approved by the Contracting Agency, the normal straight time working hours for the contract shall be any consecutive 8-hour period between 7:00 a.m. and 6:00 p.m. of a working day with a maximum 1-hour lunch break and a 5-day work week. The normal straight time 8-hour working period for the contract shall be established at the preconstruction conference or prior to the Contractor commencing the work.
If a Contractor desires to perform work on holidays, Saturdays, Sundays, or before 7:00 a.m. or after 6:00 p.m. on any day, the Contractor shall apply in writing to the Engineer for permission to work such times. Permission to work longer than an 8-hour period between 7:00 a.m. and 6:00 p.m. is not required. Such requests shall be submitted to the Engineer no later than noon on the working day prior to the day for which the Contractor is requesting permission to work.

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

Permission to work Saturdays, Sundays, holidays or other than the agreed upon normal straight time working hours Monday through Friday may be given subject to certain other conditions set forth by the Contracting Agency or Engineer. These conditions may include but are not limited to: requiring the Engineer or such assistants as the Engineer may deem necessary to be present during the work; requiring the Contractor to reimburse the Contracting Agency for the costs in excess of straight-time costs for Contracting Agency employees who worked during such times, on non Federal aid projects; considering the work performed on Saturdays a nd holidays as working days with regards to the contract time; and considering multiple work shifts as multiple working days with respect to contract time even though the multiple shifts occur in a single 24-hour period. Assistants may include, but are not limited to, survey crews; personnel from the Contracting Agency’s material testing lab; inspectors; and other Contracting Agency employees when in the opinion of the Engineer, such work necessitates their presence.

Arterial Streets

Arterial Streets are classified as streets on which no work will be performed during the peak traffic hours of 7:00 a.m. – 9:00 a.m. and 3:30 p.m. – 6:00 p.m., except emergency work to restore services, unless a City-approved traffic control plan allows work during the peak hours. The following streets are classified as arterials:

<table>
<thead>
<tr>
<th>STREET</th>
<th>FROM</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Way/NE 85th St</td>
<td>Market St</td>
<td>132nd Ave NE</td>
</tr>
<tr>
<td>Juanita Dr NE /NE Juanita Dr</td>
<td>NE 143rd St (City Limits)</td>
<td>98th Ave NE</td>
</tr>
<tr>
<td>Juanita Woodinville Way</td>
<td>100th Ave NE</td>
<td>NE 145th St (City Limits)</td>
</tr>
<tr>
<td>Lake St/Lake Washington Blvd/Northup Wy</td>
<td>Central Way</td>
<td>Northup Way (City Limits)</td>
</tr>
<tr>
<td>Kirkland Ave/Kirkland Way</td>
<td>Lake St</td>
<td>NE 85th St</td>
</tr>
<tr>
<td>Lakeview Dr /NE 68th St/NE 70th St</td>
<td>Lake Washington Blvd</td>
<td>132nd Ave NE</td>
</tr>
<tr>
<td>Market St/98th Ave NE/100th Ave NE</td>
<td>Central Way</td>
<td>NE 145th St (City Limits)</td>
</tr>
<tr>
<td>NE 116th St</td>
<td>98th Ave NE</td>
<td>Slater Ave NE</td>
</tr>
<tr>
<td>NE 120th St/132nd Ave NE</td>
<td>Slater Ave NE</td>
<td>NE 60th St (City Limits)</td>
</tr>
<tr>
<td>NE 124th St</td>
<td>100th Ave NE</td>
<td>East City Limits</td>
</tr>
<tr>
<td>NE 128th St</td>
<td>116th Ave NE/116th Way NE</td>
<td>120th Ave NE</td>
</tr>
<tr>
<td>Simonds Rd NE</td>
<td>92nd Ave NE (City Limits)</td>
<td>100th Ave NE</td>
</tr>
<tr>
<td>Slater Ave NE</td>
<td>NE 116th St</td>
<td>NE 124th St</td>
</tr>
<tr>
<td>Totem Lake Blvd</td>
<td>NE 132nd St</td>
<td>124th Ave NE</td>
</tr>
<tr>
<td>3rd Street/State Street</td>
<td>Central Way</td>
<td>NE 68th Street/Lakeview Dr.</td>
</tr>
<tr>
<td>6th St/6th St S/108th Ave NE</td>
<td>Central Way/NE 85th St</td>
<td>South City Limits</td>
</tr>
</tbody>
</table>
Add the following new section:

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

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

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

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

Supplement the GSP additions immediately above with the following new section:

**(******)

**1-08.0(4) Weekly Meetings**

Weekly meetings shall be held at a mutually agreed location, either the Contractor's Field Office, the Field Office for Engineer's Staff or the Contracting Agency's offices, and day of the week and time. The purposes of the meetings will be to discuss the work, resolve any quantity or payment issues, review the Contractor's Progress Schedule, and review the Record Drawings. The Contractor shall produce an agenda for each meeting and deliver it to the Engineer the day before the meeting.

**1-08.1 Subcontracting**

**(1/1/2016 COK GSP)**

Section 1-08.1 is supplemented with the following:

A Subcontractor or an Agent to the Subcontractor will not be permitted to perform any work under the contract until the following documents have been completed and submitted to the Engineer:

1. Request to Sublet Work (form 421-012).
2. Statement of Intent to Pay Prevailing Wages (Form 700-029-000).

The Contractor's records pertaining to the requirements of this Special Provision shall be open to inspection or audit by representatives of the Department during the life of the contract and for a period of not less than three years after the date of acceptance of the contract. The Contractor shall retain these records for that period. The Contractor shall also guarantee that these records of all Subcontractors and Agents shall be open to similar inspection or audit for the same period.

**(August 24, 2016 APWA GSP)**
1-08.1 Subcontracting

Delete the eighth paragraph and replace it with the following:

On all projects funded with federal assistance the Contractor shall submit “Monthly Report of Amounts Credited as DBE Participation” (form 422-103 EF) on a monthly basis, in which DBE Work is accomplished, for every month in which the Contract is active or upon completion of the project, as appropriate. The monthly reports are due on the 20th of the month following the end of the previous month.

(1/1/2016 COK GSP)

1-08.3 Progress Schedule

The order of work will be at the Contractor's option, in keeping with good construction practice and the terms of the contract. All work shall be carried out in accordance with the requirements of the City of Kirkland in compliance with the plans and specifications. However, the Contractor shall so schedule the work within the time constraints noted in the various contract documents, including any permits. The Contractor is cautioned to review said documents and permits and schedule the work appropriately as no additional compensation will be made to the Contractor due to the time constraints imposed by such documents.

(March 13, 2012 APWA GSP)

1-08.3(2)B Type B Progress Schedule

Revise first paragraph to read:

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

Revise the first sentence of the second paragraph to read:

The Contractor shall submit five copies of a Type B Progress Schedule depicting the entire project no later than 21 calendar days after the preconstruction conference.

(******)

1-08.3(2)C VACANT

Revise the first paragraph, as revised in the GSP immediately above, to read:

The Contractor shall submit a preliminary Type B Progress Schedule to the Engineer two full business days prior to the preconstruction conference. The preliminary Type B Progress Schedule shall comply with all of these requirements and the requirements of Section 1-08.3(1), except that it may be limited to only those activities occurring within the first 60 working days of the project. In the event the preliminary Type B Progress Schedule is not submitted by the time as required above, the preconstruction conference shall be postponed and re-scheduled.

Revise the first sentence of the second paragraph, as revised in the GSP immediately above, to read:

The Contractor shall submit five copies of a Type B Progress Schedule depicting the entire project no later than 7 calendar days after the preconstruction conference.

(******)
Delete this heading and replace with this Section:

1-08.3(2)C Special Schedule Limitations

Unless otherwise directed by the Engineer at time of issuance of contract notice to proceed, the work of Bid Schedule B shall be scheduled for completion prior to Schedule A, to minimize impacts to traffic and pedestrians accessing the school in that area.

******

1-08.3(5) Payment

Revise the second paragraph of this section to read as follows:

“Type B Progress Schedule” (min. Bid $5,000), per lump sum.
“Type B Progress Schedule – Schedule C Supplement” (min. Bid $2,000.00), per lump sum
“Type B Progress Schedule – Schedule D Supplement” (min. Bid $2,000.00), per lump sum

Delete the fourth and fifth paragraphs and replace with the following:

Payment of 40 percent of the lump sum price will be made upon approval of the Progress Schedule for the corresponding awarded Bid Schedule. Payment of 15 percent of the lump sum price per awarded Bid Schedule will be made per each additional full calendar month following Contract Notice to Proceed date for a maximum of three calendar months and the final 15 percent of the lump sum price will be made upon physical completion of the Work. Payments beyond the initial 40 percent shall be contingent on satisfactory, in the sole discretion of the owner, completion of contractor prepared schedule updates per Section 1-08.3(3).

(July 23, 2015 APWA GSP)

1-08.4 Prosecution of Work

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

1-08.4 Notice to Proceed and Prosecution of Work

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

When shown in the Plans, the first order of work shall be the installation of high visibility fencing to delineate all areas for protection or restoration, as described in the Contract. Installation of high visibility fencing adjacent to the roadway shall occur after the placement of all necessary signs and traffic control devices in accordance with 1-10.1(2). Upon construction of the fencing, the Contractor shall request the Engineer to inspect the fence. No other work shall be performed on the site until the Contracting Agency has accepted the installation of high visibility fencing, as described in the Contract.
1-08.4 Prosecution of Work

Supplement the GSP immediately above for this Section with the following:

In addition, prior to field work, the Contractor shall have completed submittals of the Type B schedule, traffic control plans, the SPCC Plan and the SWPPP (See Sections 1-07 and 8-01 and the Erosion Control Plan). Ground-disturbing field work shall not begin until City approval of the SPCC Plan and the SWPPP. Work impacting traffic shall not begin until City approval of the Contractor’s traffic control plans.

(September 12, 2016 APWA GSP, Option A)

1-08.5 Time for Completion

Revise the third and fourth paragraphs to read:

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

Each working day shall be charged to the contract as it occurs, until the contract work is physically complete. If substantial completion has been granted and all the authorized working days have been used, charging of working days will cease. Each week the Engineer will provide the Contractor a statement that shows the number of working days: (1) charged to the contract the week before; (2) specified for the physical completion of the contract; and (3) remaining for the physical completion of the contract. The statement will also show the nonworking days and any partial or whole day the Engineer declares as unworkable. Within 10 calendar days after the date of each statement, the Contractor shall file a written protest of any alleged discrepancies in it. To be considered by the Engineer, the protest shall be in sufficient detail to enable the Engineer to ascertain the basis and amount of time disputed. By not filing such detailed protest in that period, the Contractor shall be deemed as having accepted the statement as correct.

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

Revise the sixth paragraph to read:

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

1. The physical work on the project must be complete; and
2. The Contractor must furnish all documentation required by the contract and required by law, to allow the Contracting Agency to process final acceptance of the contract. The following documents must be received by the Project Engineer prior to establishing a completion date:
   a. Certified Payrolls (per Section 1-07.9(5)).
   b. Material Acceptance Certification Documents
   c. Monthly Reports of Amounts Credited as DBE Participation, as required by the Contract Provisions.
   d. Final Contract Voucher Certification
   e. Copies of the approved “Affidavit of Prevailing Wages Paid” for the Contractor and all Subcontractors
      a. f. Property owner releases per Section 1-07.24
Section 1-08.5 is supplemented with the following:

This project shall be physically completed in its entirety within the following count of working days per the Contract as awarded:

- Schedules A and B (Base Bid only): 40 working days
- Base Bid plus Schedule C: 45 working days
- Base Bid plus Schedule D: 50 working days
- Base Bid plus Schedules C and D: 60 working days

(October 1, 2005 APWA GSP)

1-08.7 Maintenance during Suspension

Revise the second paragraph to read:

At no expense to the Contracting Agency, the Contractor shall provide through the construction area a safe, smooth, and unobstructed roadway, sidewalk, and path for public use during suspension (as required in Section 1-07.23 or the Special Provisions). This may include a temporary road or detour.

(1/1/2016 COK GSP)

1-08.9 Liquidated Damages

The third paragraph of Section 1-08.9 is revised to read as follows:

Accordingly, the Contractor agrees:

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

**LIQUIDATED DAMAGES FORMULA**

For \( C > \$50,000 \) \( \rightarrow LD = 0.15 \times \frac{C}{T} \), and

For \( C \leq \$50,000 \) \( \rightarrow LD = 0.30 \times \frac{C}{T} \).

Where:

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

(August 14, 2013 APWA GSP)

1-08.9 Liquidated Damages

Revise the fourth paragraph to read:

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

1-09 MEASUREMENT AND PAYMENT

1-09.2 Weighing Equipment

(July 23, 2015 APWA GSP, Option 2)

1-09.2(1) General Requirements for Weighing Equipment

Revise item 4 of the fifth paragraph to read:

4. Test results and scale weight records for each day’s hauling operations are provided to the Engineer daily. Reporting shall utilize WSDOT form 422-027, Scaleman's Daily Report, unless the printed ticket contains the same information that is on the Scaleman’s Daily Report Form. The scale operator must provide AM and/or PM tare weights for each truck on the printed ticket.

(1/1/2016 COK GSP)

1-09.2(1) General Requirements for Weighing Equipment

The last paragraph of Section 1-09.2 is supplemented with the following:

Trucks and Tickets

All tickets shall, at a minimum, contain the following information:

7. Ticket serial number
8. Date and hour of weighing
9. Weigher’s identification

Duplicate tally tickets shall be prepared to accompany each truckload of materials delivered to the project.

It is the responsibility of the Contractor to see that tickets are given to the Inspector on the project for each truckload of material delivered. Pay quantities will be prepared on the basis of said tally tickets, delivered to the Inspector at time of delivery of materials. Tickets not collected at the time of delivery will not be honored for payment.

(October 10, 2008 APWA GSP)

1-09.6 Force Account

Supplement this section with the following:

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

(******) 1-09.6 Force Account
Supplement this Section with the following:

Contractor shall not proceed with ordering materials or services or with the work until authorized in writing by the Engineer to proceed with such work.

(******)

1-09.7 Mobilization

Revise the partial payments portion of this Section to read as follows:

Based on the lump sum Contract price for “Mobilization – Schedule ___”, payments shall be made in three steps as listed below, for each Mobilization item. For each payment, the calculation shall be made in the context of the Bid Schedule for the subject item (i.e., payments for Mobilization item in Schedule A shall be for such Work completed in Schedules A and B, the Base Bid, payments for Mobilization in Schedule C shall be for such Work completed in Schedule C and similarly for Schedule D).

1. The initial 50% of the amount for Mobilization will be made when 5 percent of the total original Contract amount for the subject Bid Schedule is earned from other Contract items, and when the Field Office for Engineer’s Staff is provided and ready for use per Section 1-07.29 above, as accepted by the Engineer, including all “field office services” as described above.

2. Payment will be increased to 90% of the lump sum Contract price incrementally through the period of work through Substantial Completion.

3. The final 10% of the lump sum Contract price will be made after the approved completion of the punch list.

(March 13, 2012 APWA GSP)

1-09.9 Payments

Supplement this section with the following:

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

(March 13, 2012 APWA GSP)

1-09.9 Payments

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

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

The Contractor shall submit a breakdown of the cost of lump sum bid items at the Preconstruction Conference, to enable the Project Engineer to determine the Work performed on a monthly basis. A breakdown is not required for lump sum items that include a basis for incremental payments as part of the respective Specification. Absent a lump sum breakdown, the Project Engineer will make a determination based on information available. The Project Engineer’s determination of the cost of work shall be final.

Progress payments for completed work and material on hand will be based upon progress estimates prepared by the Engineer. A progress estimate cutoff date will be established at the preconstruction conference.
The initial progress estimate will be made not later than 30 days after the Contractor commences the work, and successive progress estimates will be made every month thereafter until the Completion Date. Progress estimates made during progress of the work are tentative, and made only for the purpose of determining progress payments. The progress estimates are subject to change at any time prior to the calculation of the final payment.

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

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

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

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

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

(1/1/2016 COK GSP)
Unless otherwise agreed to by both parties, the work period shall coincide with the calendar month. A check will be mailed or made available to the Contractor no later than thirty (30) days following the last day of the work period.

1-09.11 Disputes and Claims
(July 23, 2015 APWA GSP)
1-09.11(3) Time Limitation and Jurisdiction

Revise this section to read:

For the convenience of the parties to the Contract it is mutually agreed by the parties that any claims or causes of action which the Contractor has against the Contracting Agency arising from the Contract shall be brought within 180 calendar days from the date of final acceptance (Section 1-05.12) of the Contract by the Contracting Agency; and it is further agreed that any such claims or causes of action shall be brought only in the Superior Court of the county where the Contracting Agency headquarters is located, provided that where an action is asserted against a county, RCW 36.01.05 shall control venue and jurisdiction. The parties understand and agree that the Contractor’s failure to bring suit within the time period provided, shall be a complete bar to any such claims or causes of action. It is further mutually agreed by the parties that when any claims or causes of action which the Contractor asserts against the Contracting Agency arising from the Contract are filed with the Contracting Agency or initiated in court, the Contractor shall permit the Contracting Agency to
have timely access to any records deemed necessary by the Contracting Agency to assist in evaluating the claims or action.

1-09.13 Claims Resolution

(1/1/2016 COK GSP)
1-09.13(3) Claims $250,000 or Less

Delete this Section and replace it with the following:

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

(July 23, 2015 APWA GSP)
1-09.13(3)A Administration of Arbitration

Revise the third paragraph to read:

The Contracting Agency and the Contractor mutually agree to be bound by the decision of the arbitrator, and judgment upon the award rendered by the arbitrator may be entered in the Superior Court of the county in which the Contracting Agency’s headquarters is located, provided that where claims subject to arbitration are asserted against a county, RCW 36.01.05 shall control venue and jurisdiction of the Superior Court. The decision of the arbitrator and the specific basis for the decision shall be in writing. The arbitrator shall use the Contract as a basis for decisions.

1-10 TEMORARY TRAFFIC CONTROL

1-10.1 General

(May 25, 2006 APWA GSP)
1-10.1(2) Description

Revise the third paragraph to read:

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

(1/1/2016 COK GSP)
1-10.2 Traffic Control Management

1-10.2(2) Traffic Control Plans

The first and second sentences of Section 1-10.2(2) are deleted and replaced with the following:
The Contractor shall submit a traffic control plan or plans showing a method of handling traffic including pedestrian and bicycle traffic. All construction signs, flaggers, spotters and other traffic control devices shall be shown on the traffic control plan(s) except for emergency situations.

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

Delete the third sentence of Section 1-10.2(2) regarding proposed use of flaggers.

Supplement the sentences replaced by the GSP immediately above with the following:

The Contractor shall submit the traffic control plan to the Engineer a minimum of 5 calendar days prior to the preconstruction meeting. The Plans include two schematic traffic control plans: one for maintenance of one lane of traffic while working between road intersections and one for detour of traffic around the work zone for work impacting road intersections, with provision for local access between the detour point and the work zone.

The traffic control plan prepared by the Contractor shall reflect at a minimum the traffic control signage, flaggers, location plan and other details and information as presented in schematic traffic control plans in the Plans. All construction signs, flaggers, spotters and other traffic control devices shall be shown on the traffic control plan(s) except for emergency situations. Generic “K” Plans will not be acceptable. The Contractor’s proposed traffic control plans shall show the necessary lane closures, lane shifts, construction signs, flaggers, spotters, and other traffic control devices required to support each phase of the construction. A separate plan shall be prepared for each major construction phase. The Contractor-provided plans shall be prepared by the Contractor’s Traffic Control Supervisor or a licensed engineer in the State of Washington and shall conform to the requirements contained in the latest version of the Manual on Uniform Traffic Control Devices (MUTCD) and the latest version of the Work Zone Traffic Control Guidelines published by the Washington State Department of Transportation.

Payment for developing an approved traffic control plan shall be considered incidental to the lump sum price in the Proposal for “Project Temporary Traffic Control” and no additional compensation will be made.

The Contractor shall implement the elements or configuration of the approved traffic control plans applicable to the work to be accomplished each day. Such implementation shall include the signage per the approved traffic control plans and flaggers (minimum of two for plans that utilize flagging). The Traffic Control Supervisor shall personally supervise the set up of signage and confirm that all signage is complete prior to start of work each day. Traffic control setup may not start prior to the approved work hours each day. The signs, supports and appurtenances shall be removed at the end of the work period daily, no later than the end of the approved work hours each day. Signs, supports and appurtenances shall be stored in a secure place and shall not be set aside in the right of way or adjacent property between work days.

1-10.5 Payment

(January 23, 2006 APWA GSP)

Lump Sum Bid for Project (No Unit Items)

Revise the pay item name to read:

“Project Temporary Traffic Control”, min. Bid $10,000.00, lump sum.

Supplement Section 1-10.5(1) with the following:
Costs for layout, installation, removal, and transport of project signage shall be included with the Contract lump sum price for “Project Temporary Traffic Control.” This Bid item shall also constitute full compensation for all labor, tools, equipment, and materials necessary and incidental to maintaining temporary driving surface as required by Section 1-07.23(1), traffic and pedestrian control as required throughout the project duration in compliance with the MUTCD including, but not limited to, reflective signage, barricades, lights, traffic cones, and temporary pavement markings. Providing a minimum of two (2) flaggers and one (1) Traffic Control Supervisor during all periods of construction activities shall be included in the lump sum Bid item “Project Temporary Traffic Control”.

No separate payment will be made for preparation of the Traffic Control or Detour Plans. All costs for developing, updating, and implementing Traffic Control or Detour Plans shall be included in “Project Temporary Traffic Control”.

No separate payment will be made for materials used to maintain temporary traffic that are not incorporated into the final improvements. Such materials shall be included in and considered incidental to “Project Temporary Traffic Control”.

All costs for minimizing drop-offs and maintaining access to existing streets and driveways including, but not limited to, steel sheeting, and channelization devices, shall be included by the Contractor in the lump sum Bid price for “Project Temporary Traffic Control”. No additional or separate compensation will be allowed.

The Lump Sum bid item for “Project Temporary Traffic Control” shall cover the cost to provide temporary traffic control for the for each and every working day (the entire contract duration) allowed as defined in Section 1-08.5 of these Special Provisions. The total allowable working days defined for this contract includes sufficient time to complete all work associated with items allocated to “Minor Change” and Force Account items. Should the Contractor complete the work in fewer working days than allowed the Contract Lump Sum item will be paid in full and shall be consider an incentive to the Contractor for early completion. For additional working days approved via a change order for work that is not identified to be paid by force account, the daily cost for Project Temporary Traffic Control shall be determined by dividing the lump sum Contract price for “Project Temporary Traffic Control” by the original allowed contract working days as defined in Section 1-08.5 of these Special Provisions.

END OF DIVISION 1

DIVISION 2 - EARTHWORK

2-02.3 Construction Requirements
The Section is supplemented with the following:

******

Monitoring Well Decommissioning

Prior to road surface restoration, the existing groundwater monitoring well shown on the plans shall be decommissioned in accordance with Department of Ecology requirements in place at the time of removal. Contractor or subcontractor shall be responsible for filing Notice of Intent to Decommission a Well form through the Department of Ecology website. State Law requires decommissioning only by licensed well drillers. See http://www.ecy.wa.gov/programs/wr/wells/abandon-wells.html for more information. Materials for abandoning groundwater observations wills shall conform to the requirements of 173-160-460 WAC.
Sawcutting

The contractor shall perform all sawcutting work, including the containment, collection and disposal of sawcutting debris and wastewater, in accordance with Section 1-07.5(3).

(******)

2-02  Removal of Structures and Obstructions

2-02.5  Payment

Supplement this Section with the following:

“Sawcut Pavement”, per linear foot.

“Decommission Monitoring Well” per each.

Add a new Section as follows:

(******)

2-05  DEWATERING

2-05.1  Description

The Contractor shall furnish, install, and operate all necessary equipment to keep excavations free from water during construction. The Contractor shall dispose of the dewatered water so as to not cause injury to public or private property or nuisance to the public. Disposal of water shall comply with all local, state, and federal laws and ordinances, including City of Kirkland Policy E1, included in Appendix C of the Project Manual.

2-05.3  Construction Requirements

Provide and operate equipment adequate to keep all excavations free of water in order to install project components. Do not cause settlement or damage to adjacent property. Dispose of water in a manner that will not damage adjacent property or the environment. Dewater from outside structural limits and from a point below the bottom of the excavation when possible. Dewatering from within the excavation will be permitted where the dewatering and shoring design are specifically coordinated for that expressed purpose. The dewatering system design shall prevent removal of fines from existing ground and shall provide for removal of sediments before discharge.

Designs of dewatering systems requiring dewatering wells shall be prepared, stamped, and signed by a professional Civil Engineer or Engineering Geologist who has expertise in that type of facilities, who is registered in the State of Washington, and who is not an employee of the Contractor.

Submit three copies of all dewatering designs to the Engineer a minimum of 5 business days prior to start of any excavation. Submittals of dewatering designs shall be considered informational only and not as constituting Shop Drawings. Any review of such submittals shall be only for compliance with specific stated requirements for their preparation and content and not for the accuracy or completeness of that content or for the adequacy of the dewatering systems, all of which shall be solely the responsibility of the Contractor. Protect the work and the excavation from the entry of surface drainage. The Contractor shall design a dewatering plan prior to construction for approval by the Engineer. This plan shall be kept updated throughout the duration of construction as needed to accommodate construction staging and field conditions. The dewatering plan shall be submitted to the Engineer weekly at the Progress Meetings. The dewatering plan shall show locations of well points, pump sizes and capacities, points of discharge, erosion and sediment control measures, and the use and location of filter bags or sediment ponds. The Contractor shall monitor the dewatering operations on a daily basis and make changes as necessary to assure construction in not delayed.
Dewatering of the sewer main and side sewer trench shall be considered incidental to the sewer main and side sewer replacement Work.

(******)
2-09 Structure Excavation

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

Revise this Section to read:

When the material at the bottom of an excavation is not stable enough to support the Structure, the Contractor shall excavate below grade and replace the unstable material with crushed surfacing base course, or other material as directed by the Owner.

Crushed surfacing base course shall meet the requirements of Section 9-03.9(3). It shall be placed in layers not more than 6 inches thick with each layer compacted to 95 percent of the maximum density determined by ASTM D1557 Modified Proctor.

2-09.5 Payment

Supplement this Section with the following:

Removal of unstable base material shall be measured and paid per Bid item “Unsuitable Foundation Excavation Inc. Haul”, per cubic yard. Restoration of Structure foundation shall be measured and paid per Bid item “Crushed Surfacing Base Course”, per ton.

END OF DIVISION 2

DIVISION 3 – AGGREGATE PRODUCTION AND ACCEPTANCE

(******)
3-02 Stockpiling Aggregates

3-02.2 General Requirements

3-02.2(6) Construction of Stockpiles

Supplement this Section with the following paragraph:

Stockpiling of construction materials in City of Kirkland right of way without written permission of Engineer is prohibited.

END OF DIVISION 3

DIVISION 5 - SURFACE TREATMENTS AND PAVEMENTS
5-04.4 Measurement

Revise the first paragraph to read:

HMA Cl. ½” PG 64-22 for Trench Restoration (permanent or temporary) or HMA Cl. ½” PG 64-22 for Overlay or HMA Cl. ½” PG 64-22 for Curb Ramp Restoration 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. Furnishing and placing asphalt and other materials for prime coat and edge and joint or crack sealing shall be considered incidental to the HMA Bid item. Removal of existing or temporary pavement markings (including striping, stop bars and/or cross walks), and furnishing and placing temporary or permanent replacement or additional, as indicated on the Plans, pavement markings including striping, stop bars and cross walks shall be considered incidental to the HMA Bid item. Permanent HMA for the Work in the Alley shall be paid under this bid item, for the amount bid for permanent restoration.

END OF DIVISION 5

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

7-05.4 Measurement

Revise the first paragraph of the Section to read:

Manholes shall be measured per each, regardless of height from rim to lowest sewer invert. Excavation for manholes shall be incidental to the manhole Bid item.

7-05.5 Payment

Revise the second line of the Section to read:

“Remove and Replace Manhole 48 In. Diam.”, per each. All costs associated with excavation, dewatering, backfill and all appurtenances per the Pre-Approved Plans and Plans shall be included in the unit Contract price for each manhole. Salvage or replacement of existing manhole frame and cover as called out on the Plan shall be considered incidental to removal and replacement of other manholes in the Project.
“Connection to Existing Sewer Main”, per each shall apply for each connection of a replacement or new manhole to existing sewer main to remain. Connection of existing side sewers to remain or to be replaced shall be per separate Bid item. Connection of new sewer main to existing manhole shall be considered incidental to the sewer main Bid item.

(******)
7-08 General Pipe Installation Requirements

7-08.3(1) Excavation and Preparation of Trenches

7-08.3(1)A Trenches

Supplement this Section with the following:

Where replacement sewer pipe is to be installed along the same alignment and the same or deeper grade as an existing sewer pipe, the existing sewer pipe, fittings and pipe zone material shall be removed. Existing pipe shall be disposed of properly. The trench shall then be prepared as for new construction.

Prior to excavation through asphalt concrete pavement or cement concrete pavement, the pavement shall be saw cut or planed (mainline only, at the Contractor’s option) along a reasonably straight line, removed, and disposed. If the saw cut or planed edge is damaged during Contractor operations or raveling of the pavement occurs during construction, the Contractor shall provide clean saw cut line prior to final paving. All costs including haul and disposal associated with additional saw cutting or planing to achieve a clean pavement edge after the initial saw cut or planing shall be considered incidental to the cost of the pipe and fittings being installed in the subject trench and no additional payment will be made.

Prior to trenching through areas improved with lawn or through fences, rockeries, shrubs, plants, or other improvements, these improvements shall be removed, stored and protected. After the sewer installation is complete, the improved area shall be returned to a condition equal or better than the area before the sewer installation. If any stored materials are not suitable for reuse after removal, they shall be replaced with an improvement of equal or better quality.

The Contractor shall provide all materials, labor, and equipment necessary to adequately shore trenches to protect existing property, utilities, pavement, and any other improvements, and to provide safe working conditions in the trench. The Contractor may use any method of shoring that complies with all local, state, and federal safety codes. The Contractor alone shall be responsible for worker safety, and the Owner and its agents assume no responsibility. Damages resulting from improper shoring or failure to shore shall be the sole responsibility of the Contractor. Shoring below the pipe will not be removed if, in the opinion of the Engineer, such removal will disturb the pipe bed.

The length of open trench shall not exceed forty (40) feet in advance of pipe laying. The maximum trench width shall be in accordance with the details shown on the Plans.

All costs associated with dewatering of the trenches and excavations shall be included in the linear foot cost of pipe installed.

All traffic lanes shall be opened to traffic at the end of each work shift, open trenches will not be allowed.

7-08.3(1)C Bedding the Pipe

Revise this Section by substituting “Pre-Approved Plans, as modified in the Plans” for “Standard Plans”, in three places.
7-08.3(2) Side Sewer Connections

Revise this Section to read:

Side sewer connections or reconnections, whether from the main or from a manhole, shall be completed per the Pre-Approved Plans and Plans and plan detail, using gasketed fittings of material matching the sewer main piping or cored manhole penetration and Kor-n-Seal boot as for sewer main connections.

7-08.3(3) Backfilling

Revise the first paragraph of this Section by substituting “Pre-Approved Plans, as modified in the Plans” for “Standard Plans”.

Add the following new Sub-Section:

7-08.3(5) Compaction Testing

The Contractor shall excavate to depths and locations when and as directed by the Engineer to allow for compaction tests. Shoring shall be supplied by the Contractor at no expense to the Owner. The City will provide all compaction testing services. The Contractor shall supply all required traffic control at no additional cost to the Owner.

Any areas that fail to meet compaction requirements shall be re-tested at the expense of the Contractor. The amount of said expenses shall be computed and determined on the basis of an itemized schedule of engineering, inspection, and testing charges determined for the actual hours of labor taken to retest said area.

No paving will be allowed until trench compaction has been tested and accepted.

7-08.4 Measurement

Revise the first paragraph of this Section to read:

Gravel backfill for manhole foundations shall be measured by the ton, as specified in Section 4-04.

Revise the last paragraph of this Section to read:

Trench Safety Systems (Shoring) shall be measured per linear foot, as measured along the centerline of completed sewer main installed per this Contract from center of manhole to center of manhole and along replacement and along the centerline of completed side sewer from connection to sewer main to connection to existing side sewer at property line. Length or payment shall be regardless of depth and regardless of need to provide shoring around or beyond center of manhole at start or end of sewer main or side sewer.

Supplement this Section with the following paragraph:

Measurement of crushed surfacing top course for trench backfill shall be per ton, per Section 4-04,
7-08.5 Payment

Revise the ninth paragraph of this Section to read:

“Trench Safety Systems (Shoring),” per lump sum.

7-09 Water Mains

7-09.1 Description

7-09.1(1)A Trench Widths

Supplement this Section with the following:

No payment will be made for trench backfill or restoration which is outside trench limits (maximum pay limits) as indicated on the Plans, Standard Plans, or specified herein. Excavation and trench backfill outside the trench limits will be considered to be done at the sole benefit of the Contractor. Trench for water main shall be limited to the width necessary to complete the work, with the minimum width being the water pipe diameter plus 24 inches.

7-09.2 Materials

Supplement this Section with the following:

Material(s) shall meet the requirements as supplemented herein. All materials shall be as specified on the Plans and in the City of Kirkland’s standard details, unless otherwise specified herein.

Ductile Iron Pipe

All Ductile Iron Pipe shall be Class 52 with push-on type rubber gasketed joints and conforming to AWWA C151 and AWWA C111. The pipe and fittings shall be cement lined and scaled in accordance with AWWA C104. Fittings for ductile iron pipe shall meet the requirements of AWWA C110 or AWWA C153.

Fittings

All water main fittings shall be ductile iron conforming to the requirements of Section 9-30.2(1), and shall be installed with appropriate thrust blocking. Other approved means of restraint may be added but are not to be used in lieu of thrust blocking.

Following assembly, all fitting nuts, bolts, exposed threads, and shackle rods shall be treated with two field coats of asphalt varnish, or other suitable material as approved by the Engineer.

Thrust blocking per Section 7-11.3(13) is required regardless of whether the Contractor elects to use restrained joints for construction purposes.

If used, joint restraints are to be mechanical joint retainer glands, manufactured from ductile iron to a minimum 60-40-12 grade. Set screws are to be manufactured from AISI 4140 steel, case and core hardened, unplated. Screws are to have breakable automatic torque caps. All sizes must be UL listed and meet all specifications of AWWA/ANSI C 111/A21 11-80 where applicable. Retainer glands are to be Auto-Tork as manufactured by Standard International.

Trench Backfill

Trench Backfill shall be suitable native material if approved by the Engineer or crushed surfacing top course which shall be measured and paid per the “Crushed Surfacing Top Course” Bid item.

7-09.1 Construction Requirements

7-09.3(7) Trench Excavation
Supplement this Section with the following:

Prior to excavation through asphalt concrete pavement or cement concrete pavement, the pavement shall be saw cut or planed (mainline only, at the Contractor's option) along a reasonably straight line, removed, and disposed. If the saw cut or planed edge is damaged during Contractor operations or raveling of the pavement occurs during construction, the Contractor shall provide clean saw cut line prior to final paving. All costs including haul and disposal associated with additional saw cutting or planing to achieve a clean pavement edge after the initial saw cut or planing shall be considered incidental to the cost of the pipe and fittings being installed in the subject trench and no additional payment will be made.

Prior to trenching through areas improved with lawn or through fences, rockeries, shrubs, plants, or other improvements, these improvements shall be removed, stored and protected. After the water installation is complete, the improved area shall be returned to a condition equal or better than the area before the water installation. If any stored materials are not suitable for reuse after removal, they shall be replaced with an improvement of equal or better quality.

The Contractor shall provide all materials, labor, and equipment necessary to adequately shore trenches to protect existing property, utilities, pavement, and any other improvements, and to provide safe working conditions in the trench. The Contractor may use any method of shoring that complies with all local, state, and federal safety codes. The Contractor alone shall be responsible for worker safety, and the Owner and its agents assume no responsibility. Damages resulting from improper shoring or failure to shore shall be the sole responsibility of the Contractor. Shoring below the pipe will not be removed if, in the opinion of the Engineer, such removal will disturb the pipe bed.

The length of open trench shall not exceed forty (40) feet in advance of pipe laying. The maximum trench width shall be in accordance with the details shown on the Plans.

All costs associated with dewatering of the trenches and excavations shall be included in the linear foot cost of pipe installed.

All traffic lanes shall be opened to traffic at the end of each work shift, open trenches will not be allowed.

7-09.3(8) Removal and Replacement of Unsuitable Materials

Supplement this Section with the following:

All material removed from the trench shall be hauled to a disposal site provided by the Contractor unless otherwise directed by the Owner's field inspector.

7-09.3(9) Bedding the Pipe

Replace the first sentence of this Section with the following:

Pipe zone bedding shall be gravel backfill, pea gravel or similar import material unless otherwise approved by the Engineer.

7-09.3(10) Backfilling Trenches

Supplement this Section with the following:

Backfill shall be select trench backfill as described in Section 7-08.3(3) herein.

A sand cushion shall be placed between the new water main and any existing utilities within 6 inches of the new water main. Water and sewer spacing shall comply with the City of Kirkland Standard Plan No. CK-S.02. Backfilling operations shall conform to AWWA C-600.
Excavations will not be allowed to remain open during non-working hours. All open excavation shall be backfilled and covered with HMA or covered with steel sheets with appropriate traffic warning signs. The steel sheets shall not be used over weekends.

7-09.3(11) Compaction of Backfill
Supplement this Section with the following:

Backfill shall be compacted to 95 percent of maximum dry density using the modified proctor test in accordance with ASTM D1557.

Add the following new Sub-Section:

7-09.3(11)A Compaction Testing
The Contractor shall excavate to depths and locations when and as directed by the Engineer to allow for compaction tests. Shoring shall be supplied by the Contractor at no expense to the Owner. The City will provide all compaction testing services. The Contractor shall supply all required traffic control at no additional cost to the Owner.

Any areas that fail to meet compaction requirements shall be re-tested at the expense of the Contractor. The amount of said expenses shall be computed and determined on the basis of an itemized schedule of engineering, inspection, and testing charges determined for the actual hours of labor taken to retest said area.

No paving will be allowed until trench compaction has been tested and accepted.

7-09.3(19)A Connections to Existing Mains
Supplement this Section with the following:

The Work includes the replacement of segments of existing water main, and in some cases, valves and fittings. Connections shall be made to existing, replacement or new fittings, valves or couplings as indicted on the Plans. The sequence of work for each replacement segment shall include the following steps:

1. Coordination with the Engineer 10 working days in advance of planned work and need for water system valve operations.
2. Coordinate with Engineer for the City Public Works Department to isolate and de-pressurize select segments of water main to be cut for pipe replacement. Cut and temporarily cap and thrust block existing piping to remain in service. Coordinate with City to re-pressurize and flush the existing piping to remain in service.
3. Remove and replace piping, valve and fittings to the extent practical to disinfect, flush and pressure test the replacement piping segment. Disinfect, flush and pressure test as required by the Contract documents. Coordinate with the Engineer for the City Public Works Department to collect water samples for purity testing.
4. Following notification of satisfactory water quality sample results, coordinate with Engineer for the City Public Works Department to isolate and de-pressurize select segments of water main for final pipe connections. Complete final connections and flush water system segment.

Testing and flushing the replacement water main segments must meet the following schedule and criteria:

It shall be the Contractor’s responsibility to notify the City of Kirkland Department of Public Works two (2) working days in advance of scheduling the filling and flushing of the replacement water main.
After achieving a successful pressure test the replacement water main segment must be flushed and purity samples taken within 48 hours or as approved by Engineer.

After the replacement water main segment has been flushed and acceptable purity samples have been taken it must be connected to the existing system within seven (7) days.

The Contractor shall contact City of Kirkland Department of Public Works five (5) working days prior to any work requiring the shutdown of existing water mains. Shutdowns will be scheduled for Monday through Thursday.

The Contractor is required to give two (2) working days notice to all customers affected by a water main shutdown. Notices and maps of the affected area will be provided by City of Kirkland Water Division after acceptable purity test results are obtained. The Contractor shall be responsible for filling in the required information and distribution of the door hanging notices.

Replacement water main segments shall be filled, flushed, and pressure tested with the City's construction inspector/observer being present.

A maximum of one water main replacement segment re-connection shall be scheduled per day unless multiple connections are advantageous to the water system and have been approved by the Water Department.

The City Water Department will be responsible for all tasks involved with shut-off and turn-on of the existing water mains. Unless directed otherwise by the Engineer, the Contractor shall not operate existing water system valves or fire hydrants.

No permanent connections to the existing system shall be made until the replacement water main segment has been tested and approved by the Engineer. No temporary connections of the untested, unapproved replacement water main segment to the existing system shall be made without the installation of a double check valve assembly between the replacement water main segment and existing system.

Each connection shall be made in compliance with the Plans. Connections to existing mains shall comply with the requirements for maintaining service as described herein.

The Contractor shall be aware that some existing water facilities are known to contain asbestos cement pipe. The Contractor will conduct all work related to existing asbestos cement pipe in strict accordance with current WISHA safety regulations and provisions contained within WAC 296-62-077. All costs related to work in compliance with established rules and regulations shall be the responsibility of the Contractor. Removal of existing asbestos cement pipe from the ground, if required, will be permitted only after the proper permits are obtained from the Puget Sound Air Pollution Control Agency. The Contractor will be responsible for all associated fees and permits required for asbestos removal and disposal. The Contractor shall provide work crews with proper protective clothing and equipment.

Connections to existing AC mains shall be made on rough barrel section of the main, and not at milled joints, using Romac brand couplers with the proper transition gaskets.

Connections shall be less than one pipe length; using the “bell end” or a “wedding band” is not permitted.

7-09.3(24) Disinfection of Water Mains

Supplement this Section with the following:

Prior to discharging chlorinated water to the storm drainage system or any waterway, the Contractor shall obtain approval from the City of Kirkland and all other governing agencies. Once all approvals and permits have been obtained, the Contractor shall completely de-chlorinate the water prior to discharging it to the storm drainage system or any waterway.

Prior to discharging chlorinated water to the sanitary sewer system, the Contractor shall obtain approval from the City of Kirkland Project Manager and Sewer Department Supervisor. The
Contractor is responsible for providing advance written notification to all regulatory agencies of its intent to discharge chlorinated water and the scheduled timing of these activities.

**7-09.3(24)A Flushing**

Supplement this Section with the following:

Flushing water conveyed to the sanitary sewer system shall be at a rate which does not exceed the capacity of the City's sewer lines and lift stations and the METRO sewer lines and lift stations. This rate will be less than the rate needed to obtain the minimum required flushing velocity of 2.5 feet per second. The Contractor shall provide all necessary tanks and appurtenances for de-chlorination and discharge rate control.

Contractor shall provide a backflow prevention device at the hydrant used for providing water for flushing. Contractor shall also provide an air gap device at the discharge sewer manhole to provide a minimum 2 foot air gap between the discharge pipe invert and the manhole opening.

Add the following new Sub-Section:

**7-09.3(25) Working with AC Pipe**

All Contractors working with AC pipe must be state-certified. The Contractor shall provide protective clothing and equipment (coveralls, gloves, boots, head covering, goggles, respirators, etc.) to crews working with asbestos cement pipe in order to assure the worker's exposure to asbestos material is at or below the limits prescribed in WAC 296-62-07705.

**7-09.4 Measurement**

Revise the first paragraph of this Section to read:

Measurement for payment of pipe for replacement water main segments shall be by the lineal foot of pipe laid, of 6 inch, 8 inch or 10 inch diameter per Plan or as directed by the Engineer and tested to complete each replacement water main segment indicated on the Plans and shall be measured along the pipe through fittings, valve and couplings.

Delete the last original two paragraphs of this Section and replace with the following:

Measurement of crushed surfacing top course for trench backfill shall be per ton, per Section 4-04.

**7-09.5 Payment**

Replace the second, third and fourth paragraphs of this Section with the following paragraphs:

"Ductile Iron Pipe for Water Main 6, 8 or 10 In. Diam." per linear foot

The unit Contract price per linear foot for “Ductile Iron Pipe for Water Main 6, 8 or 10 In. Diam.” shall be full pay for all Work to complete the installation of the replacement water main segment including but not limited to, coordination with the Engineer, City Public Works Department, notice to water system customers impacted by the Work, trench excavation, bedding, furnishing, laying and jointing pipe and fittings, connection and transition to existing piping, removing and handling of existing asbestos cement water pipe, gravel backfill for pipe zone bedding, backfilling, concrete thrust blocking, testing, disinfecting the pipeline, flushing, pressure testing, coordination sampling for water quality analysis and all related work at each connection, flushing, dechlorination of water
used for flushing and cleanup.

Payment for restoration will be made under the applicable items shown in the Proposal. If no pay items for restoration are included in the Proposal, restoration shall be considered incidental to the Work of constructing the replacement water main, and all costs thereof shall be included in the unit Contract price Bid for “Ductile Iron Pipe for Water Main 6, 8 or 10 In. Diam.”

(*****)

7-12 Valves for Water Mains

7-12.2 Materials

Supplement this Section with the following:

Gate Valves – 4 to 12 Inch

Gate valves shall conform to the standards of AWWA C-509 and/or C-515. Gate valves shall be iron body, bronze mounted, resilient seated, non-rising stem, operating stems equipped with standard 2-inch operation nut, and o-ring stem seals, suitable for installation with the type and class of pipe being installed. Ends to be as specified. Valve opening direction shall be counterclockwise. The gate valves shall be as manufactured by Mueller, Dresser, M&H, Pacific States, or approved equal.

Valve Boxes

Valve boxes shall be Rich Box No. 940 with deep covers or equal and installed per City of Kirkland's standard details.

7-12.3 Construction Requirements

Supplement this Section with the following:

All valves with operating nuts located more than five (5) feet below finished grade shall be equipped with extension stems per City of Kirkland's standard details.

If necessary to adjust valve boxes to grade, valve extensions shall be provided per Standard Plan CK-W.05.

Valve box top sections shall be adjusted flush with the finished pavement and, in those areas to be excavated for future roadway grades, enough adjustment shall be provided in the valve box to allow the top of the box to be adjusted to the required grade.

The valve box shall be free of debris and the lid shall be painted with blue enamel.

The valve box ears shall be aligned in the direction of flow (parallel to the direction of the pipe.)

The water main valves shall have resilient seats for all valves, no matter which type (gate or butterfly). The valve nut shall be centered in the valve box. The valve shall be checked for proper operation before and after the new line is pressurized.

Valve box paving risers shall be cast iron suitable for H-20 traffic loading.

7-12.5 Payment

Revise the second paragraph of this Section to read:

"Gate Valve 6, 8 or 10 In.", per each.
Supplement this Section with the following:

The unit contract price per each for the valve specified shall be full pay for all work to furnish and install the valve complete in place on the water main, including trenching, jointing, blocking of valve, painting, disinfecting, hydrostatic testing, valve box, marker post, and adjustment of valves to grade after the final paving operation. No additional compensation will be provided for adjustment of new valves to grade.

(******)

7-17 Sanitary Sewers

7-17.1 Description

Revise the first paragraph of this Section by substituting “Pre-Approved Plans, as modified in the Plans” for “Standard Plans”.

7-17.5 Payment

Revise the eighth paragraph of this Section to read:

The unit Contract price per linear foot for sewer pipe of the kind and size specified shall be full pay for all Work required including establishing, maintaining and decommissioning wastewater bypass systems, removal and disposal of surface materials, excavation, dewatering, existing pipe and fittings removal and disposal, furnishing, hauling and assembling in place the completed installation including all wyes, tees, special fittings, joint materials, gravel backfill for pipe zone bedding, trench backfill and compaction and adjustment of inverts to manholes for the completion of the installation to the required lines and grades and testing and television inspection, and all related Work necessary for completion of replacement or re-routed sewer piping as indicated on the Plans, where such Work is not included in other Bid items.

(******)

7-18 Side Sewers

7-18.1 Description

Revise the first paragraph of this Section by substituting “Pre-Approved Plans, as modified in the Plans” for “Standard Plans”.

7-18.3 Construction Requirements

7-18.3(1) General

Revise this Section to read:

Side sewers shall be connected to the tee, wye or riser provided in the sewer main as indicated in the Pre-Approved Plans and Plans.

7-18.4 Measurement

Supplement this Section with the following paragraph:

“Side Sewer Connection”, per each.
7-18.5 Payment

Revise the second paragraph of this Section to read:

The unit Contract price per linear foot for side sewer pipe of the kind and size specified shall be full pay for all Work required for the completion of the installation including establishing, maintaining and decommissioning wastewater bypass systems, removal and disposal of surface materials, excavation, dewatering, existing pipe and fittings removal and disposal, furnishing, hauling and assembling in place the completed installation including all wyes, tees, special fittings, joint materials, connection to existing side sewer pipe, connection to existing manhole, connection to replacement main, gravel backfill for pipe zone bedding, trench backfill and compaction and adjustment of inverts to sewer mains and manholes for the completion of the installation to the required lines and grades and testing, and all related Work necessary for completion of replacement side sewer piping as indicated on the Plans, where such Work is not included in other Bid items. Payment for Side Sewer Cleanout for existing or replacement side sewers shall be per the Side Sewer Cleanout Bid item.

Supplement this Section with the following paragraph:

The unit Contract price per each side sewer connection shall be full pay for all Work required for completion of the connection of existing side sewer to remain to a replacement or new manhole or replacement sewer main, including establishing, maintaining and decommissioning wastewater bypass systems, existing pipe and fittings removal and disposal, furnishing, hauling and assembling in place the completed installation including all wyes, tees, special fittings, joint materials, connection to existing side sewer pipe, gravel backfill for pipe zone bedding, dewatering, trench backfill and compaction and adjustment of inverts to sewer mains and manholes for the completion of the installation to the required lines and grades, and all related Work necessary for completion of side sewer connection as indicated on the Plans, where such Work is not included in other Bid items. Payment for Side Sewer Cleanout for existing or replacement side sewers shall be per the Side Sewer Cleanout Bid item.

(******)

7-19 Sewer Cleanouts

7-19.1 Description

Revise the first paragraph of this Section by substituting “Pre-Approved Plans, as modified in the Plans” for “Standard Plans”.

7-19.5 Payment

Revise the last paragraph of this Section by substituting “Pre-Approved Plans, as modified in the Plans” for “Standard Plans”.

END OF DIVISION 7
DIVISION 8 - MISCELLANEOUS CONSTRUCTION

8-01 Erosion Control and Water Pollution Control

(*****)

8-01.1 Description
Supplement this Section with the following paragraphs:

See Special Provisions for Section 1-07.15 and the Erosion and Sediment Control Plan for additional minimum Erosion/Water Pollution Control requirements.

The Stormwater Pollution Prevention Plan shall be prepared as part of the work of Bid Schedule A and shall apply to Bid Schedules A, B, C and D, regardless of whether Schedules C and/or D are part of the executed Contract.

(June 20, 2017 COK GSP)

8-01.1 Description
Section 8-01.1 is supplemented with the following:

Implementation of appropriate TESC BMPs at the appropriate construction phases is very important to prevent siltation of the subgrade, aggregate courses, and final permeable pavement. The Contractor shall install and maintain all temporary and permanent erosion control measures and Best Management Practices (BMPs) in accordance with the Contract Documents, Standard Specifications, Permit Conditions, the Contractor’s “Stormwater Pollution Prevention Plan” (SWPPP) and as directed by the Engineer prior to clearing, grubbing, or grading or as necessary, as clearing and grading progress. Such measures shall include, but are not necessarily limited to:

• Commercial construction entrances per CK-E.02.
• Quarry Spall outfall pads for temporary erosion control
• Rock, Wattle, Compost sock check dams
• Straw mulch, netting and tackifier
• Concrete wash
• Baker tanks and/or Settling ponds
• Stabilized construction entrance / exit
• Inlet protection on existing and proposed drainage structures
• Reinforced silt fencing
• Plastic Covering
• Temporary pipe slope drains
• Temporary HMA Curb
• Disposal of sediments and materials
• TESC seeding
• Maintenance of BMPs including in the event of emergencies and as weather and field conditions dictate; and also including installation of additional BMPs which may become required as field and weather conditions evolve.
• Street sweeping and Cleaning
• ESC Lead per 8-01 of the Standard Specifications
• All materials, tools and equipment necessary to meet these requirements

The Contractor shall provide erosion control as required for all stockpiled materials at no cost to the Contracting Agency. The Engineer, in the event of an emergency, and as weather and field conditions dictate, may require additional erosion controls and BMPs.
Site Specific BMPs and SWPPP Plan

Temporary Erosion / Water Pollution Control notes and performance criteria are noted in the Contract Documents. The Contractor shall submit his or her own Storm Water Pollution Prevention Plan (SWPPP) to the Contracting Agency for review and approval prior to the commencement of clearing, grubbing, or grading activities.

Water quality testing and discharge volume reporting required by the project permits shall be performed by the Contractor and is a condition of approval of the SWPPP. The reporting data shall be provided to the Engineer as soon as practical, at regular intervals and prior to reporting deadlines established in the permits. The Contractor will provide a copy of the reporting information within 24 hours of a request to do so by the Engineer. All costs to perform these reporting requirements are to be included in the lump sum contract price for “Erosion/Water Pollution Control”.

(******)
8-01.1 Description

Revise the first sentence of Section 8-01.1 as revised by the GSP immediately above to read:

Implementation of appropriate TESC BMPs at the appropriate construction phases is very important to prevent siltation of the subgrade and aggregate courses.

(June 20, 2017 COK GSP)
8-01.3 Construction Requirements

Section 8-01.3 is supplemented with the following:

The Contractor shall bear sole responsibility for damage to completed portions of the project and to property located off the project caused by erosion, siltation, runoff, or other related items during the construction of the project. The Contractor shall also bear sole responsibility for any pollution of rivers, streams, groundwater, or other water that may occur as a result of construction operations.

Any area not covered with established, stable vegetation where no further work is anticipated for a period of 15 days, shall be immediately stabilized with the approved erosion and sedimentation control methods (e.g., seeding and mulching, straw). Where seeding for temporary erosion control is required, fast germinating grasses shall be applied at an appropriate rate (e.g., perennial rye applied at approximately 80 pounds per acre).

At no time shall more than 1 foot of sediment be allowed to accumulate within a catch basin. All catch basins and conveyance lines shall be cleaned at a time designated by the Contracting Agency Construction Inspector.

The cleaning operation shall not flush sediment-laden water into the downstream system. The cleaning shall be conducted using an approved vacuum truck capable of jet rodding the lines. The collection and disposal of the sediment shall be the responsibility of the Contractor at no cost to the Contracting Agency.

8-01.3(1) General

(June 20, 2017 COK GSP)
**8-01.3(1)A  Submittals**

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

**Stormwater Pollution Prevention Plan**

The Contractor shall prepare a Stormwater Pollution Prevention Plan (SWPPP) in accordance with Department of Ecology requirements.

The Contractor shall incorporate the SWPPP implementation schedule into the Contractor's progress schedule. The SWPPP and implementation schedule shall be submitted in accordance with Sections 1-05.3 and 1-08.3.

In addition, the SWPPP shall outline the procedures to be used to prevent high pH stormwater. The plan shall include how the pH of the water will be maintained between pH 6.5 and pH 8.5 prior to being discharged from the project or entering surface waters. Prior to beginning any concrete or grinding work, the Contractor shall submit the plan, for the Engineer's review and approval.

The Ecology template can be found at the following link:

http://www.ecy.wa.gov/programs/wq/stormwater/construction/

The SWPPP is considered a "living" document that shall be revised to account for additional erosion control/pollution prevention BMPs as they become necessary and are implemented in the field during project construction. A copy of the most current SWPPP shall remain on-site at all times and an additional copy shall be forwarded to the Engineer. At the Contractor's preference, revisions to the SWPPP may be forwarded to the Engineer rather than submitting a complete document. Revisions to the SWPPP may be kept on-site in a file along with the original SWPPP document.

**June 20, 2017 COK GSP**

8-01.3(1)B Erosion and Sediment Control (ESC) Lead

Supplement this the second paragraph with the following:

3. Inspecting all on-site erosion and sediment control BMPs at least once every five working days and within 24 hours of every runoff event. A SWPPP Inspection report or form shall be prepared for each inspection and shall be included in the SWPPP file. A copy of each SWPPP Inspection report or form shall be submitted to the Engineer no later than the end of the next working day following the inspection. The report or form shall include, but not be limited to the following:
   a. When, where, and how BMPs were installed, maintained, modified, and removed.
   b. Observations of BMP effectiveness and proper placement.
   c. Recommendations for improving future BMP performance with upgraded or replacement BMPs when inspections reveal SWPPP inadequacies.
   d. Approximate amount of precipitation since last inspection and when last inspection was performed.

4. Updating and maintaining a SWPPP file on site that includes, but is not limited to the following:
   a. SWPPP Inspection Reports or Forms.
   b. SWPPP narrative.
   c. Other applicable permits.

**June 20, 2017 COK GSP**

8-01.3(1)C Water Management

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

The Contractor will be responsible for meeting the SWPPP requirements.
The Bid Item “Erosion/Water Pollution Control” shall include the cost of providing temporary detention/retention facilities as illustrated in the Contractor’s SWPPP Plan as well as modifications, additions and removals of such facility as dictated by the Contractor’s sequence of work and may include, but are not limited to:

1. Temporary detention/retention facilities such as ponds, Baker Tanks, or other facilities.
2. If any permanent stormwater facilities are utilized, such as the detention vault, for SWPPP compliance, the Contractor shall remove accumulated sediment and clean the facility prior to final acceptance at no additional cost to the Contracting Agency.
3. Temporary facilities such as wheel wash stations or similar.
4. Temporary construction entrances.

No additional compensation shall be made for construction, alteration, removal, maintenance, and any additional requirements necessary for “Erosion/Water Pollution Control”. No additional compensation shall be made for conflicts with existing or proposed improvements or construction sequencing of work when facilities are utilized to meet permit requirements.

(******)

8-01.4 Measurement

Supplement this Section with the following paragraph:

The means of measurement for the lump sum Bid price for Erosion/Water Pollution Control shall be allocated as 75 percent for implementation of the SWPPP over the duration of the Contract and 25 percent for completing and providing the required inspection reports, per Bid Schedule. The portion for reports will be paid based on a pro-rated allocation over the working days of the executed Contract. The Engineer shall review the weekly and post-runoff event reports at each weekly meeting. If the required reports have not been prepared and provided to the satisfaction of the Engineer, the reports portion of the work for this item shall not be paid for that week and the overall payment shall be reduced by that amount. Such non-payment does not relieve the Contractor from the responsibilities for reporting.

The means of measurement for the lump sum Bid price for Stormwater Pollution Prevention Plan shall be allocated as 75 percent for preparation, ready for approval by the Engineer, of the SWPPP and 25 percent for completing and providing the required SWPPP updates in response to site conditions. The portion for updates will be paid based on a pro-rated allocation over the working days of the executed Contract. The Engineer shall review the SWPPP and any updates at each weekly meeting. If the SWPPP has not been updated as deemed appropriate by the Engineer, the reports portion of the work for this item shall not be paid for that week and the overall payment shall be reduced by that amount. Such non-payment does not relieve the Contractor from the responsibilities for updates.

(******)

8-01.5 Payment

Supplement this Section with the following paragraphs:

“Erosion/Water Pollution Control” (min. Bid $5,000.00), per lump sum.

The lump sum price for erosion/water pollution control shall be full pay for all Work required for protecting the project area and drainage ways from pollution and erosion, including establishing, maintaining and decommissioning erosion and sedimentation control best management practices as indicated on the Plans, in the Pre-Approved Plans and as specified, post-runoff event and weekly reports and all related Work necessary, where such Work is not included in other Bid items.
A minimum bid amount has been entered in the Bid Proposal for this item. The Contractor must bid at least that amount.

"Stormwater Pollution Prevention Plan" (min. Bid $5,000.00), per lump sum.

The lump sum price for stormwater pollution prevention plan shall be full pay for all Work required to complete and secure approval of, and update, such plan per Section 8-01.3, the City and application local, state and federal regulations, and all related Work necessary, where such Work is not included in other Bid items, for all work in the executed Contract.

A minimum bid amount has been entered in the Bid Proposal for this item. The Contractor must bid at least that amount.

(******)
8-02 Roadside Restoration

8-02.3 Construction Requirements

8-02.3(4) Topsoil

Revise this Section to read:

Topsoil Type A shall be a commercially prepared soil, sand and compost mix, screened to ½ inch and smaller particles suitable for lawns, flowers, shrubs and trees, such as Pacific Topsoils Special Garden Mix, or equal.

8-02.3(13) Plant Establishment

Supplement this Section with the following:

Plant establishment in the Landscaped Traffic Island shall be supported by hand watering by Contractor, including furnishing water. There will be no water supply source in the island following completion of the Work.

8-02.4 Measurement

Supplement this Section with the following paragraph:

No unit of measurement shall apply to the lump sum prices for Remove and Replace Landscaped Traffic Island or Property Restoration.

8-02.5 Payment

Supplement this Section with the following paragraphs:

“Remove and Replace Landscaped Traffic Island”, per lump sum.

“Property Restoration” per lump sum.

The lump sum price for removal and replacement of landscaped traffic island shall be full pay for all Work required for removing and replacing the existing landscaped traffic island as indicated on the Plans, including but not limited to removal of existing improvements and landscaping, removal and
replacement of existing sign, replacement of painted concrete curb, raised pavement markers, Topsoil Type A, fine grading, medium bark mulch, and all related Work necessary, where such Work is not included in other Bid items.

The lump sum price for property restoration shall be full pay for all Work required for removing and replacing the existing surfacing and landscaping, not including pavement or concrete surfaces where necessary to complete side sewer pipe replacement, side sewer cleanout installation and curb ramp replacement, including but not limited to removal of existing improvements and landscaping, and replacement in kind to match existing conditions and all related Work necessary, where such Work is not included in other Bid items.

8-04 Curbs, Gutters, and Spillways
8-04.5 Payment
Revise the second paragraph of this Section to read:

"Remove and Replace Cement Conc. Traffic Curb and Gutter", per linear foot.

8-13 Monument Cases
8.13.1 Description
Revise this Section to read:

This Work consists of referencing and replacing existing survey monuments anticipated to be disturbed by other Work, in accordance with the Pre-Approved Plans and RCW 58.24.040.

8-13.3 Construction Requirements
Revise the last paragraph of this Section to read:

Existing monuments shall be referenced and replaced by the Contractor's professional land surveyor, licensed to practice in Washington State, per RCW 58.24.040(8).

8-13.4 Measurement
Supplement this Section with the following paragraph:

Measurement for reference and replace survey monument will be by the unit for each monument, including case and cover, referenced, removed and replaced where anticipated to be disturbed by other Work.

8-13.5 Payment
Supplement this Section with the following paragraphs:

“Reference and Replace Survey Monument”, per each. In the event a monument is removed prior to referencing, the Owner may elect to have the monument location field referenced (i.e. from pre-construction survey data) by a licensed professional land surveyor so that the Contractor can complete the Work of this item as required. If the Owner hires a surveyor to field locate a removed survey monument, the Owner will deduct its actual cost of such survey from the amount to be paid
(******)
8-14  Cement Concrete Sidewalks

8-14.5  Payment
Revise the second paragraph of this Section to read:

“Remove and Replace Cement Conc. Sidewalk”, per square yard.

Revise the fifth paragraph of this Section to read:

“Remove and Replace Cement Conc. Curb Ramp”, per each.

(******)
8-26  Vacant
Replace this Section with the following:

8-26  Wastewater Bypass Systems

8.26.1  Description
This Work consists of planning, coordinating, implementing and decommissioning wastewater bypass systems as necessary and appropriate to provide continuous gravity sewer service to connections to the sewer mains in the project area, and continuous collection and conveyance function in the Owner’s gravity sewer system impacted by the Work.

8.26.2  Materials
The Contractor shall furnish all materials, tools, and equipment for the bypass system.

8.26.3  Construction Requirements
The Contractor shall divert sanitary sewage from the work area by designing, installing, maintaining, and removing a sewer bypass system. All sewage must be contained in a closed conduit from where it is removed from the sewer system until it discharged back into the sewer system (e.g. manhole to manhole, clean-out to clean-out, side sewer to side sewer). Such bypass systems typically include a submersible pump and temporary pipe plug to divert the sewage flow around the work area. It is the Contractor's responsibility to maintain sewer service to upstream customers at all times and to field verify flows in order to provide a properly sized bypass system. The Contractor shall submit his bypass system plan to the Engineer prior to implementing it.

The bypass system plan shall include provisions for redundant pump and power supply equipment onsite ready for use should the primary equipment fail. The bypass system shall include an emergency response plan to be followed in the event of a failure of the bypass system. The Engineer shall inspect the system prior to beginning flow diversion.

Pumping systems shall not be utilized overnight or over holidays or weekends.

Bypassing shall occur in such a manner as not to damage private or public property, or create a nuisance or public menace. Upon completion of the pipe replacement, the Contractor shall remove all components of the bypass system and restore the site to original condition.

The Contractor shall take all necessary precautions, including constant monitoring of the bypass systems,
to ensure that no private residences or properties are subjected to wastewater backup or spill. The Contractor shall be liable for all cleanup, damages, and resultant fines in the event of a backup or spill.

Unless a specific bid item for a bypass system has been provided in the Proposal/Construction Contract, such work shall be considered incidental to and included in the various bid items of work.

END OF DIVISION 8
PREVAILING WAGE RATES
The PREVAILING WAGES listed here include both the hourly wage rate and the hourly rate of fringe benefits. On public works projects, worker's wage and benefit rates must add to not less than this total. A brief description of overtime calculation requirements are provided on the Benefit Code Key.

### Journey Level Prevailing Wage Rates for the Effective Date: 5/24/2017

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<tr>
<th>County</th>
<th>Trade</th>
<th>Job Classification</th>
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<th>Holiday Overtime</th>
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<td>7A</td>
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<td>Pipe Layer/tailor</td>
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<td>King Laborers</td>
<td>Sloper Sprayer</td>
<td>$45.25</td>
<td>7A</td>
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<tr>
<td>King Laborers</td>
<td>Spreader (concrete)</td>
<td>$46.09</td>
<td>7A</td>
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<td>King Laborers</td>
<td>Stake Hopper</td>
<td>$45.25</td>
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<td>Stock Piler</td>
<td>$45.25</td>
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<tr>
<td>King Laborers</td>
<td>Tamper &amp; Similar Electric, Air &amp; Gas Operated Tools</td>
<td>$46.09</td>
<td>7A</td>
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<tr>
<td>King Laborers</td>
<td>Tamper (multiple &amp; Self-propelled)</td>
<td>$46.09</td>
<td>7A</td>
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<tr>
<td>King Laborers</td>
<td>Timber Person - Sewer (lagger, Shorer &amp; Cribber)</td>
<td>$46.09</td>
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<td>King Laborers</td>
<td>Toolroom Person (at Jobsite)</td>
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<tr>
<td>King Laborers</td>
<td>Topper</td>
<td>$45.25</td>
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<tr>
<td>King Laborers</td>
<td>Track Laborer</td>
<td>$45.25</td>
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<td>King Laborers</td>
<td>Track Liner (power)</td>
<td>$46.09</td>
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<td>King Laborers</td>
<td>Traffic Control Laborer</td>
<td>$41.02</td>
<td>7A</td>
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<td>King Laborers</td>
<td>Traffic Control Supervisor</td>
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<td>King Laborers</td>
<td>Truck Spotter</td>
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<td>King Laborers</td>
<td>Tugger Operator</td>
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<td>King Laborers</td>
<td>Tunnel Work-Compressed Air Worker 0-30 psi</td>
<td>$83.12</td>
<td>7A</td>
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<td>Tunnel Work-Compressed Air Worker 30.01-44.00 psi</td>
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<td>Tunnel Work-Compressed Air Worker 44.01-54.00 psi</td>
<td>$91.83</td>
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<td>Tunnel Work-Compressed Air Worker 54.01-60.00 psi</td>
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<td>Tunnel Work-Compressed Air Worker 60.01-64.00 psi</td>
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<td>Tunnel Work-Compressed Air Worker 64.01-68.00 psi</td>
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<td>Tunnel Work-Compressed Air Worker 68.01-70.00 psi</td>
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<td>Tunnel Work-Compressed Air Worker 70.01-72.00 psi</td>
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<td>Tunnel Work-Compressed Air Worker 72.01-74.00 psi</td>
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<td>Tunnel Work-Guage and Lock Tender</td>
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<td>Vinyl Seamer</td>
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<tr>
<td>King Laborers</td>
<td>Watchman</td>
<td>$34.86</td>
<td>7A</td>
<td>3I</td>
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<td>King Laborers</td>
<td>Welder</td>
<td>$46.09</td>
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<td>Well Point Laborer</td>
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<tr>
<td>King Laborers</td>
<td>Window Washer/cleaner</td>
<td>$34.86</td>
<td>7A</td>
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<td>King Laborers - Underground Sewer &amp; Water</td>
<td>General Laborer &amp; Topman</td>
<td>$45.25</td>
<td>7A</td>
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<tr>
<td>King Laborers - Underground Sewer &amp; Water</td>
<td>Pipe Layer</td>
<td>$46.09</td>
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<tr>
<td>King Landscape Construction</td>
<td>Irrigation Or Lawn Sprinkler Installers</td>
<td>$13.56</td>
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<tr>
<td>King Landscape Construction</td>
<td>Landscape Equipment Operators Or Truck Drivers</td>
<td>$28.17</td>
<td>1</td>
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<tr>
<td>King Landscape Construction</td>
<td>Landscaping or Planting Laborers</td>
<td>$17.87</td>
<td>1</td>
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<tr>
<td>King Lathers</td>
<td>Journey Level</td>
<td>$55.51</td>
<td>5D</td>
<td>1H</td>
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<td>King Marble Setters</td>
<td>Journey Level</td>
<td>$54.32</td>
<td>5A</td>
<td>1M</td>
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<td>King Metal Fabrication (In Shop)</td>
<td>Fitter</td>
<td>$15.86</td>
<td>1</td>
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<td>King Metal Fabrication (In Shop)</td>
<td>Laborer</td>
<td>$11.00</td>
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<td>King Metal Fabrication (In Shop)</td>
<td>Machine Operator</td>
<td>$13.04</td>
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<td>King Metal Fabrication (In Shop)</td>
<td>Painter</td>
<td>$11.10</td>
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<td>$15.48</td>
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<td>King Millwright</td>
<td>Journey Level</td>
<td>$57.01</td>
<td>5D</td>
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<td>King Modular Buildings</td>
<td>Cabinet Assembly</td>
<td>$11.56</td>
<td>1</td>
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<td>Electrician</td>
<td>$11.56</td>
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<tr>
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<td>$11.56</td>
<td>1</td>
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<td>Production Worker</td>
<td>$11.00</td>
<td>1</td>
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<td>$11.56</td>
<td>1</td>
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<td>Utility Person</td>
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<td>King Painters</td>
<td>Journey Level</td>
<td>$40.60</td>
<td>6Z</td>
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<td>King Pile Driver</td>
<td>Journey Level</td>
<td>$55.76</td>
<td>5D</td>
<td>4C</td>
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<td>King Plasterers</td>
<td>Journey Level</td>
<td>$53.20</td>
<td>7Q</td>
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<tr>
<td>King Playground &amp; Park Equipment Installers</td>
<td>Journey Level</td>
<td>$11.00</td>
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<tr>
<td>King Plumbers &amp; Pipefitters</td>
<td>Journey Level</td>
<td>$76.69</td>
<td>6Z</td>
<td>1G</td>
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<tr>
<td>King Power Equipment Operators</td>
<td>Asphalt Plant Operators</td>
<td>$58.69</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King Power Equipment Operators</td>
<td>Assistant Engineer</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King Power Equipment Operators</td>
<td>Barrier Machine (zipper)</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King Power Equipment Operators</td>
<td>Batch Plant Operator, Concrete</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King Power Equipment Operators</td>
<td>Bobcat</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King Power Equipment Operators</td>
<td>Brokk - Remote Demolition Equipment</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King Power Equipment Operators</td>
<td>Brooms</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King Power Equipment Operators</td>
<td>Bump Cutter</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King Power Equipment Operators</td>
<td>Cableways</td>
<td>$58.69</td>
<td>7A</td>
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<td>King Power Equipment Operators</td>
<td>Chipper</td>
<td>$58.17</td>
<td>7A</td>
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<td>King Power Equipment Operators</td>
<td>Compressor</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King Power Equipment Operators</td>
<td>Concrete Pump: Truck Mount With</td>
<td>$58.69</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Concrete Finish Machine -laser Screed</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure.</td>
<td>$57.72</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Concrete Pump: Truck Mount With Boom Attachment Up To 42m</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Conveyors</td>
<td>$57.72</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Cranes Friction: 200 tons and over</td>
<td>$60.47</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Cranes: 20 Tons Through 44 Tons With Attachments</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Cranes: 100 Tons Through 199 Tons, Or 150' Of Boom (Including Jib With Attachments)</td>
<td>$59.28</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Cranes: 200 tons- 299 tons, or 250' of boom including jib with attachments</td>
<td>$59.88</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Cranes: 300 tons and over or 300' of boom including jib with attachments</td>
<td>$60.47</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Cranes: 45 Tons Through 99 Tons, Under 150' Of Boom (including Jib With Attachments)</td>
<td>$58.69</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Cranes: A-frame - 10 Tons And Under</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Cranes: Friction cranes through 199 tons</td>
<td>$59.88</td>
<td>7A</td>
<td>3C</td>
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<td>Power Equipment Operators</td>
<td>Cranes: Through 19 Tons With Attachments A-frame Over 10 Tons</td>
<td>$57.72</td>
<td>7A</td>
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<td>Power Equipment Operators</td>
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<td>Derricks, On Building Work</td>
<td>$58.69</td>
<td>7A</td>
<td>3C</td>
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<td>Dozers D-9 &amp; Under</td>
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<td>7A</td>
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<td>Drill Oilers: Auger Type, Truck Or Crane Mount</td>
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<td>7A</td>
<td>3C</td>
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<td>7A</td>
<td>3C</td>
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<td>Power Equipment Operators</td>
<td>Elevator And Man-lift: Permanent And Shaft Type</td>
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<td>7A</td>
<td>3C</td>
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<td>Power Equipment Operators</td>
<td>Finishing Machine, Bidwell And Gamaco &amp; Similar Equipment</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
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<td>Power Equipment Operators</td>
<td>Forklift: 3000 Lbs And Over With Attachments</td>
<td>$57.72</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Forklifts: Under 3000 Lbs. With Attachments</td>
<td>$55.21</td>
<td>7A</td>
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<td>Grade Engineer: Using Blue Prints, Cut Sheets, Etc</td>
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<td>7A</td>
<td>3C</td>
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<td>Gradechecker/stakeman</td>
<td>$55.21</td>
<td>7A</td>
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<td>Guardrail Punch</td>
<td>$58.17</td>
<td>7A</td>
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<td>Power Equipment Operators</td>
<td>Hard Tail End Dump Articulating</td>
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<td>7A</td>
<td>3C</td>
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<td>King</td>
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<td>Description</td>
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<td>UOM</td>
<td>Benefits</td>
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<td><strong>Off- Road Equipment 45 Yards. &amp; Over</strong></td>
<td>Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards</td>
<td>$58.17</td>
<td>7A</td>
<td>3C  8P</td>
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<td><strong>Power Equipment Operators</strong></td>
<td>Horizontal/directional Drill Locator</td>
<td>$57.72</td>
<td>7A</td>
<td>3C  8P</td>
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<td><strong>Power Equipment Operators</strong></td>
<td>Horizontal/directional Drill Operator</td>
<td>$58.17</td>
<td>7A</td>
<td>3C  8P</td>
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<td></td>
<td><strong>Power Equipment Operators</strong></td>
<td>Hydralifts/boom Trucks Over 10 Tons</td>
<td>$57.72</td>
<td>7A</td>
<td>3C  8P</td>
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<td><strong>Power Equipment Operators</strong></td>
<td>Hydralifts/boom Trucks, 10 Tons And Under</td>
<td>$55.21</td>
<td>7A</td>
<td>3C  8P</td>
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<td></td>
<td><strong>Power Equipment Operators</strong></td>
<td>Loader, Overhead 8 Yards. &amp; Over</td>
<td>$59.28</td>
<td>7A</td>
<td>3C  8P</td>
</tr>
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<td></td>
<td><strong>Power Equipment Operators</strong></td>
<td>Loader, Overhead, 6 Yards. But Not Including 8 Yards</td>
<td>$58.69</td>
<td>7A</td>
<td>3C  8P</td>
</tr>
<tr>
<td></td>
<td><strong>Power Equipment Operators</strong></td>
<td>Loaders, Overhead Under 6 Yards</td>
<td>$58.17</td>
<td>7A</td>
<td>3C  8P</td>
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<tr>
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<td><strong>Power Equipment Operators</strong></td>
<td>Loaders, Plant Feed</td>
<td>$58.17</td>
<td>7A</td>
<td>3C  8P</td>
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<tr>
<td></td>
<td><strong>Power Equipment Operators</strong></td>
<td>Loaders: Elevating Type Belt</td>
<td>$57.72</td>
<td>7A</td>
<td>3C  8P</td>
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<td><strong>Power Equipment Operators</strong></td>
<td>Locomotives, All</td>
<td>$58.17</td>
<td>7A</td>
<td>3C  8P</td>
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<td><strong>Power Equipment Operators</strong></td>
<td>Material Transfer Device</td>
<td>$58.17</td>
<td>7A</td>
<td>3C  8P</td>
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<td><strong>Power Equipment Operators</strong></td>
<td>Mechanics, All (leadmen - $0.50 Per Hour Over Mechanic)</td>
<td>$59.28</td>
<td>7A</td>
<td>3C  8P</td>
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<td><strong>Power Equipment Operators</strong></td>
<td>Motor Patrol Graders</td>
<td>$58.69</td>
<td>7A</td>
<td>3C  8P</td>
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<td></td>
<td><strong>Power Equipment Operators</strong></td>
<td>Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield</td>
<td>$58.69</td>
<td>7A</td>
<td>3C  8P</td>
</tr>
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<td></td>
<td><strong>Power Equipment Operators</strong></td>
<td>Oil Distributors, Blower Distribution &amp; Mulch Seeding Operator</td>
<td>$55.21</td>
<td>7A</td>
<td>3C  8P</td>
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<tr>
<td></td>
<td><strong>Power Equipment Operators</strong></td>
<td>Outside Hoists (elevators And Manlifts), Air Tuggers,strato</td>
<td>$57.72</td>
<td>7A</td>
<td>3C  8P</td>
</tr>
<tr>
<td></td>
<td><strong>Power Equipment Operators</strong></td>
<td>Overhead, Bridge Type Crane: 20 Tons Through 44 Tons</td>
<td>$58.17</td>
<td>7A</td>
<td>3C  8P</td>
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<td></td>
<td><strong>Power Equipment Operators</strong></td>
<td>Overhead, Bridge Type: 100 Tons And Over</td>
<td>$59.28</td>
<td>7A</td>
<td>3C  8P</td>
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<tr>
<td></td>
<td><strong>Power Equipment Operators</strong></td>
<td>Overhead, Bridge Type: 45 Tons Through 99 Tons</td>
<td>$58.69</td>
<td>7A</td>
<td>3C  8P</td>
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<td></td>
<td><strong>Power Equipment Operators</strong></td>
<td>Pavement Breaker</td>
<td>$55.21</td>
<td>7A</td>
<td>3C  8P</td>
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<td></td>
<td><strong>Power Equipment Operators</strong></td>
<td>Pile Driver (other Than Crane Mount)</td>
<td>$58.17</td>
<td>7A</td>
<td>3C  8P</td>
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<td></td>
<td><strong>Power Equipment Operators</strong></td>
<td>Plant Oiler - Asphalt, Crusher</td>
<td>$57.72</td>
<td>7A</td>
<td>3C  8P</td>
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<td></td>
<td><strong>Power Equipment Operators</strong></td>
<td>Posthole Digger, Mechanical</td>
<td>$55.21</td>
<td>7A</td>
<td>3C  8P</td>
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<td><strong>Power Equipment Operators</strong></td>
<td>Power Plant</td>
<td>$55.21</td>
<td>7A</td>
<td>3C  8P</td>
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<td></td>
<td><strong>Power Equipment Operators</strong></td>
<td>Pumps - Water</td>
<td>$55.21</td>
<td>7A</td>
<td>3C  8P</td>
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<td><strong>Power Equipment Operators</strong></td>
<td>Quad 9, Hd 41, D10 And Over</td>
<td>$58.69</td>
<td>7A</td>
<td>3C  8P</td>
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<tr>
<td></td>
<td><strong>Power Equipment Operators</strong></td>
<td>Quick Tower - No Cab, Under 100 Feet In Height Based To Boom</td>
<td>$55.21</td>
<td>7A</td>
<td>3C  8P</td>
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<td></td>
<td><strong>Power Equipment Operators</strong></td>
<td>Remote Control Operator On Rubber Tired Earth Moving Equipment</td>
<td>$58.69</td>
<td>7A</td>
<td>3C  8P</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Description</td>
<td>Rate</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Rigger And Bellman</td>
<td>$55.21</td>
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<td>Power Equipment Operators</td>
<td>Rigger/Signal Person, Bellman (Certified)</td>
<td>$57.72</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Rollagon</td>
<td>$58.69</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Roller, Other Than Plant Mix</td>
<td>$55.21</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Roller, Plant Mix Or Multi-lift Materials</td>
<td>$57.72</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Roto-mill, Roto-grinder</td>
<td>$58.17</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Saws - Concrete</td>
<td>$57.72</td>
<td></td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Scraper, Self Propelled Under 45 Yards</td>
<td>$58.17</td>
<td></td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Scrapers - Concrete &amp; Carry All</td>
<td>$57.72</td>
<td></td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Scrapers, Self-propelled: 45 Yards And Over</td>
<td>$58.69</td>
<td></td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Service Engineers - Equipment</td>
<td>$57.72</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Shotcrete/gunite Equipment</td>
<td>$55.21</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons.</td>
<td>$57.72</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons</td>
<td>$58.69</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Shovel, Excavator, Backhoe: 15 To 30 Metric Tons</td>
<td>$58.17</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons</td>
<td>$59.28</td>
<td></td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Shovel, Excavator, Backhoes: Over 90 Metric Tons</td>
<td>$59.88</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Slipform Pavers</td>
<td>$58.69</td>
<td></td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Spreader, Topsider &amp; Screedman</td>
<td>$58.69</td>
<td></td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Subgrader Trimmer</td>
<td>$58.17</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Tower Bucket Elevators</td>
<td>$57.72</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Tower Crane Up To 175’ In Height Base To Boom</td>
<td>$59.28</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Tower Crane: over 175’ through 250’ in height, base to boom</td>
<td>$59.88</td>
<td></td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Tower Cranes: over 250’ in height from base to boom</td>
<td>$60.47</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Transporters, All Track Or Truck Type</td>
<td>$58.69</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Trenching Machines</td>
<td>$57.72</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Truck Crane Oiler/driver - 100 Tons And Over</td>
<td>$58.17</td>
<td></td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Truck Crane Oiler/driver Under 100 Tons</td>
<td>$57.72</td>
<td></td>
<td></td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Truck Mount Portable Conveyor</td>
<td>$58.17</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Welder</td>
<td>$58.69</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Wheel Tractors, Farmall Type</td>
<td>$55.21</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Yo Yo Pay Dozer</td>
<td>$58.17</td>
<td></td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Asphalt Plant Operators</td>
<td>$58.69</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Assistant Engineer</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<tr>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Barrier Machine (zipper)</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Batch Plant Operator, Concrete</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Bobcat</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Brokk - Remote Demolition Equipment</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Brooms</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Bump Cutter</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Cableways</td>
<td>$58.69</td>
<td>7A</td>
<td>3C</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Chipper</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Compressor</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Concrete Pump: Truck Mount With Boom Attachment Over 42 M</td>
<td>$58.69</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Concrete Finish Machine -laser Screed</td>
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<td>7A</td>
<td>3C</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure.</td>
<td>$57.72</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Concrete Pump: Truck Mount With Boom Attachment Up To 42m</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Conveyors</td>
<td>$57.72</td>
<td>7A</td>
<td>3C</td>
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<tr>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Cranes Friction: 200 tons and over</td>
<td>$60.47</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Cranes: 20 Tons Through 44 Tons With Attachments</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Cranes: 100 Tons Through 199 Tons, Or 150’ Of Boom (Including Jib With Attachments)</td>
<td>$59.28</td>
<td>7A</td>
<td>3C</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Cranes: 200 tons- 299 tons, or 250’ of boom including jib with attachments</td>
<td>$59.88</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Cranes: 300 tons and over or 300’ of boom including jib with attachments</td>
<td>$60.47</td>
<td>7A</td>
<td>3C</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Cranes: 45 Tons Through 99 Tons, Under 150’ Of Boom (including Jib With Attachments)</td>
<td>$58.69</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Cranes: A-frame - 10 Tons And Under</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Cranes: Friction cranes through 199 tons</td>
<td>$59.88</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Cranes: Through 19 Tons With Attachments A-frame Over 10</td>
<td>$57.72</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>Employee</td>
<td>Position Description</td>
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<td>Zip</td>
<td>Class</td>
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<tr>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
<td>8P</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
<td>8P</td>
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<tr>
<td></td>
<td>Deck Engineer/deck Winches (power)</td>
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<tr>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
<td>8P</td>
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<td>Derricks, On Building Work</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>$57.72</td>
<td>7A</td>
<td>3C</td>
<td>8P</td>
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<td>Dozers D-9 &amp; Under</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>$57.72</td>
<td>7A</td>
<td>3C</td>
<td>8P</td>
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<td>Drill Oilers: Auger Type, Truck Or Crane Mount</td>
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<td>3C</td>
<td>8P</td>
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<td>$55.21</td>
<td>7A</td>
<td>3C</td>
<td>8P</td>
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<td>Elevator And Man-lift: Permanent And Shaft Type</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
<td>8P</td>
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<td>Finishing Machine, Bidwell And Gamaco &amp; Similar Equipment</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>$57.72</td>
<td>7A</td>
<td>3C</td>
<td>8P</td>
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<td>Forklift: 3000 Lbs And Over With Attachments</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<td>Forklifts: Under 3000 Lbs. With Attachments</td>
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<td>$58.17</td>
<td>7A</td>
<td>3C</td>
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<td>Grade Engineer: Using Blue Prints, Cut Sheets, Etc</td>
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<td>Gradechecker/stakeman</td>
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<td>Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. &amp; Over</td>
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<td>Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards</td>
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<td>Horizontal/directional Drill Locator</td>
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<td>7A</td>
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<td></td>
<td>Hydralifts/boom Trucks Over 10 Tons</td>
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<td>Hydralifts/boom Trucks, 10 Tons And Under</td>
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<td>Loader, Overhead 8 Yards. &amp; Over</td>
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<td>7A</td>
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<td>Loader, Overhead, 6 Yards. But Not Including 8 Yards</td>
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<td>7A</td>
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<td>Loaders, Overhead Under 6 Yards</td>
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<td>7A</td>
<td>3C</td>
<td>8P</td>
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<td>Loaders, Plant Feed</td>
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<td>7A</td>
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<td>Loaders: Elevating Type Belt</td>
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<td>7A</td>
<td>3C</td>
<td>8P</td>
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<td>Locomotives, All</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Material Transfer Device</td>
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<td>Mechanics, All (leadmen - $0.50 Per Hour Over Mechanic)</td>
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<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Motor Patrol Graders</td>
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<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield</td>
<td>$58.69</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Oil Distributors, Blower Distribution &amp; Mulch Seeding Operator</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Outside Hoists (elevators And Manlifts), Air Tuggers,strato hoist</td>
<td>$57.72</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Overhead, Bridge Type Crane: 20 Tons Through 44 Tons</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Overhead, Bridge Type: 100 Tons And Over</td>
<td>$59.28</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Overhead, Bridge Type: 45 Tons Through 99 Tons</td>
<td>$58.69</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Pavement Breaker</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Pile Driver (other Than Crane Mount)</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Plant Oiler - Asphalt, Crusher</td>
<td>$57.72</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Posthole Digger, Mechanical</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Power Plant</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Pumps - Water</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Quad 9, Hd 41, D10 And Over</td>
<td>$58.69</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Quick Tower - No Cab, Under 100 Feet In Height Based To Boom</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Remote Control Operator On Rubber Tired Earth Moving Equipment</td>
<td>$58.69</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Rigger And Bellman</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Rigger/Signal Person, Bellman (Certified)</td>
<td>$57.72</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Rollagon</td>
<td>$58.69</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Roller, Other Than Plant Mix</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Roller, Plant Mix Or Multi-lift Materials</td>
<td>$57.72</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Roto-mill, Roto-grinder</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Saws - Concrete</td>
<td>$57.72</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Scraper, Self Propelled Under 45 Yards</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Scrapers - Concrete &amp; Carry All</td>
<td>$57.72</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Scrapers, Self-propelled: 45 Yards And Over</td>
<td>$58.69</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Service Engineers - Equipment</td>
<td>$57.72</td>
<td>7A</td>
<td>3C</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Shotcrete/gunite Equipment</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons.</td>
<td>$57.72</td>
<td>7A</td>
<td>3C</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons</td>
<td>$58.69</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons</td>
<td>$59.28</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Shovel, Excavator, Backhoes: Over 90 Metric Tons</td>
<td>$59.88</td>
<td>7A</td>
<td>3C</td>
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<td>Slipform Pavers</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Spreader, Topsider &amp; Screedman</td>
<td>$58.69</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Subgrader Trimmer</td>
<td>$58.17</td>
<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Tower Bucket Elevators</td>
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<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Tower Crane Up To 175' In Height Base To Boom</td>
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<td>7A</td>
<td>3C</td>
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<td>King</td>
<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Tower Crane: over 175' through 250' in height, base to boom</td>
<td>$59.88</td>
<td>7A</td>
<td>3C</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Tower Cranes: over 250' in height from base to boom</td>
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<td>Transporters, All Track Or Truck Type</td>
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<td>7A</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Trenching Machines</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Truck Crane Oiler/driver - 100 Tons And Over</td>
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<td>7A</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Truck Crane Oiler/driver Under 100 Tons</td>
<td>$57.72</td>
<td>7A</td>
<td>3C</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Truck Mount Portable Conveyor</td>
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<td>7A</td>
<td>3C</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Welder</td>
<td>$58.69</td>
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<td>3C</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Wheel Tractors, Farmall Type</td>
<td>$55.21</td>
<td>7A</td>
<td>3C</td>
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<td>Power Equipment Operators-Underground Sewer &amp; Water</td>
<td>Yo Yo Pay Dozer</td>
<td>$58.17</td>
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<td>King</td>
<td>Power Line Clearance Tree Trimmers</td>
<td>Journey Level In Charge</td>
<td>$48.54</td>
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<td>Occupation</td>
<td>Job Title</td>
<td>Journey Level</td>
<td>Rate</td>
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<td>Spray Person</td>
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<td>Tree Equipment Operator</td>
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<td>Tree Trimmer</td>
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<td>Tree Trimmer Groundperson</td>
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<td>$32.68</td>
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<td>King Refrigeration &amp; Air</td>
<td>Journey Level</td>
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<td>King Residential Cement Masons</td>
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APPENDIX A

PLANS (INCLUDED BY REFERENCE — PUBLISHED SEPARATELY)
APPENDIX B

GEOTECHNICAL EVALUATION REPORT

City of Kirkland
April 25, 2017
HWA Project No. 2016-143-21

CHS Engineers, LLC
12507 Bel-Red Road, Suite 101
Bellevue, Washington 98005

Attention: Rodney Langer, P.E.

SUBJECT: Geotechnical Report
5th & 6th Street Sewer Main Replacement
Kirkland, Washington

Dear Mr. Langer:

As requested, HWA GeoSciences Inc. (HWA) has performed geotechnical engineering evaluations for the 5th and 6th Street Sewer Main Replacement Project in Kirkland, Washington. The objective of this work was to evaluate subsurface conditions at the site and provide recommendations for design and construction of the proposed replacement of sewer lines and manholes along 5th Street between Central Way and 9th Avenue, in the alley between 8th and 9th Avenues, and along 6th Street between 10th and 11th Avenues. The attached final geotechnical report summarizes the results of our study and presents our conclusions and recommendations.

We appreciate the opportunity to provide geotechnical engineering services on this project. If you have any questions regarding this report or require additional information or services, please contact the undersigned at your convenience.

Sincerely,

HWA GEO SCIENCES INC.

Zakeyo Ngoma, P.E.
Geotechnical Engineer

JoLyn Gillie, P.E.
Geotechnical Engineer, Principal

Enclosure: Final Geotechnical Report
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Figure 2  Site and Exploration Plan  
Figure 3  Ground Water Elevation Data in BH-1

**Appendix A: Logs of HWA Explorations**

Figure A-1  Legend of Terms and Symbols used on Exploration Logs  
Figure A-2 to A-5  Logs of Borings BH-1 through BH-4

**Appendix B: Laboratory Test Results**

Figure B-1  Summary of Material Properties  
Figures B-2 to B-5  Grain Size Distributions  
Figure B-6  Atterberg Limits

**Appendix C: CHS Engineers Preliminary Drawings**

Figure 1  Conditions Summary  
Figure 2  Sewer Profiles
GEOTECHNICAL REPORT
5TH & 6TH STREET SEWER MAIN REPLACEMENT
KIRKLAND, WASHINGTON

1. INTRODUCTION

1.1 General

This report summarizes the results of the geotechnical study conducted in support of design for the 5th and 6th Street Sewer Main Replacement Project in Kirkland, Washington. The purpose of this study was to evaluate the soil and ground water conditions at the project site and provide geotechnical recommendations for design and construction for replacing and upsizing the existing sewer mains.

1.2 Project Understanding

It is our understanding that the City of Kirkland will be replacing approximately 1,120 lineal feet of sewer line and a manhole along 5th Street between Central Way and 9th Avenue, and installing and replacing about 310 lineal feet of sewer line in the alley between 8th and 9th Avenues. The work will also include replacing approximately 315 feet of sewer line along 6th Street. Installation of upsized sewer mains will require excavations as deep as 13 feet, requiring vertical shoring and dewatering, and pavement restoration. The approximate location of the project site is shown on the Site Vicinity Map, Figure 1. The proposed layout of the new facilities is shown on the Site and Exploration Plan, Figure 2.

Information regarding the current condition of the existing pipes and the proposed improvements are indicated in the Conditions Summary (Figure 1) and Sewer Profiles (Figure 2), provided to HWA on December 22, 2016, and are attached as Appendix C.

2. FIELD AND LABORATORY TESTING

2.1 Subsurface Explorations

Four borings, designated BH-1 through BH-4, were drilled along the alignments to provide information regarding soil and ground water conditions. Each boring was drilled and sampled to a depth of approximately 26.5 feet. The locations of these borings are shown on Figure 2.

The borings were drilled on February 21 and 22, 2017, by Gregory Drilling, Inc. under subcontract to HWA. The borings were drilled using the hollow-stem auger drilling technique. BH-3 and BH-4 were completed on February 21, 2017 using a CME 55 track-mounted drill rig. BH-1 and BH-2 were completed on February 22, 2017 using a CME 75 truck-mounted drill rig. One of the borings (BH-1) was completed as a 2-inch diameter monitoring well. Continuous monitoring of ground water level over a period of up to six months using a ground water monitoring transducer began on March 8, 2017.
Sampling in the soil borings was performed using Standard Penetration Test (SPT) methods. This includes driving a 2-inch outside diameter split-spoon sampler into the bottom of the borehole at selected depths with a 140-pound automatic hammer. During the SPT, samples were obtained by driving the sampler 18 inches with the hammer free-falling 30 inches. The number of blows required for each 6 inches of penetration was recorded. The N-value (or resistance in terms of blows per foot) is defined as the number of blows recorded to drive the sampler the final 12 inches. This resistance provides an indication of the relative density of granular soils and the relative consistency of cohesive soils. If a total of 50 blows was recorded within a single 6-inch interval, the test was terminated, and the blow count was recorded as 50 blows for the number of inches of penetration achieved.

Each of the explorations was completed under the full-time observation of a geotechnical engineer from HWA. Pertinent information including soil sample depths, stratigraphy, and soil engineering characteristics was recorded as the explorations were advanced. Soils were classified in general accordance with the classification system described in Figure A-1, which also provides a key to the exploration log symbols. The summary logs are presented on Figures A-2 through A-5.

The stratigraphic contacts shown on the exploration logs represent the approximate boundaries between soil types; actual transitions may be more gradual. The ground water conditions depicted are only for the specific date and location reported and, therefore, are not necessarily representative of other locations and times.

### 2.2 Laboratory Testing

Laboratory tests were conducted at HWA’s laboratory in Bothell, Washington on selected samples to determine relevant index and engineering properties of the soils encountered at the site. The tests included visual classification, natural moisture content, grain size distribution, and Atterberg Limits. The tests were conducted in general accordance with appropriate American Society of Testing and Materials (ASTM) standards. The test results are presented in Appendix B, and/or displayed on the exploration logs in Appendix A, as appropriate.

### 3. Site Conditions

#### 3.1 Site Topography

The project is located in a sloping glacial upland area north of Central Way in Kirkland, Washington. The project is located along relatively quiet residential streets having two paved traffic lanes and typically room for parked vehicles on both sides. The site slopes downward to the south with the lowest point of the project being at the intersection between 5th Street and Central Way.
3.2 GENERAL GEOLOGIC CONDITIONS

The project is located within the Puget Lowland. The Puget Lowland has repeatedly been occupied by a portion of the continental glaciers that developed during the ice ages of the Quaternary period. During at least four periods, portions of the ice sheet advanced south from British Columbia into the lowlands of Western Washington. The southern extent of these glacial advances was near Olympia, Washington. Each major advance included numerous local advances and retreats, and each advance and retreat resulted in its own sequence of erosion and deposition of glacial lacustrine, outwash, till, and drift deposits. Between and following these glacial advances, sediments from the Olympic and Cascade Mountains accumulated in the Puget Lowland. As the most recent glacier retreated, it uncovered a sculpted landscape of elongated, north-south trending hills and valleys between the Cascade and Olympic mountain ranges. This landscape is composed of a complex sequence of glacial and interglacial deposits.

Geologic information for the project area was obtained from the Geologic Map of the Kirkland Quadrangle, Washington (James P. Minard, 1983). According to this map, near-surface deposits at the project site consist of advance outwash which is a clean, pebbly sand with an increasing gravel component higher in the section. Distinctive features of the outwash are its sorting, cross and horizontal stratification, and cut and fill structures. Locally, some of the sediments are stained by iron oxide precipitated from ground water. Fine grained sand and some silt are common in the lower part of the unit but occur sparingly in the upper part. In general, outwash deposits are a dense to very dense, brown or gray, clean to silty, fine to coarse sand, and are locally gravelly. In some areas, thin layers of silt are interbedded in the sand, especially low in the section.

3.3 SUBSURFACE CONDITIONS

Our interpretations of subsurface conditions are based on a review of available geologic and geotechnical information for the project site, as well as our field explorations. The results of our explorations indicate that the project site is underlain by a sequence of fill, glaciolacustrine, and advance outwash. Brief descriptions of the major soil units observed in our explorations are presented below in order of deposition, beginning with the most recently deposited.

- **Fill** – Fill was encountered near the surface beneath the asphalt concrete in each of the borings. In each boring, the fill below the pavement was medium dense to dense, olive-gray, silty, sandy, gravel, with scattered refuse. This material varied in depth from less than one foot in BH-3 and BH-4 to about 4 feet in BH-1. In BH-1, very loose to loose, silty sand extended from about 4 to 15 feet, which we interpret to be trench backfill for the manhole located about 10 feet to the southeast.

- **Glaciolacustrine** – Below the fill, in boring BH-1, glaciolacustine deposits were observed below the depth of 15 feet. In BH-3, glaciolacustine was observed below the advance outwash at a depth of about 25 feet. These soils were deposited in a slackwater
environment (typically lakes) from glacial meltwater. In BH-1, the glaciolacustrine consisted of stiff to hard, gray, lean clay, with fine laminations. In BH-3, the glaciolacustrine consisted of very stiff, olive-brown, lean clay. Both BH-1 and BH-3 were terminated within this deposit at a depth of 26.5 feet.

- **Recessional Outwash** – Recessional outwash deposits were encountered below the fill in boring BH-2 and consisted of medium dense, olive-brown, very silty, fine to medium sand with trace gravel. These deposits can vary markedly in relative density over short distances and can easily be excavated with backhoes. Excavations into recessional outwash will not stand vertical.

- **Advance Outwash** – Advance outwash deposits were encountered in borings BH-2, BH-3 and BH-4 and consisted of dense to very dense, very silty, fine to medium sand with trace gravel. The advance outwash was encountered within one foot of the surface (below the pavement section) in BH-3 and BH-4, and below the glaciolacustine soil in BH-2. BH-2 and BH-4 were terminated within the advance outwash. These deposits have high shear strengths as they have been densified by the weight of the glacial ice during the most recent glacial advance.

### 3.4 GROUND WATER CONDITIONS

Ground water seepage was observed in all four borings during drilling. The water observed in all borings is likely perched in permeable soils, such as fill and advance outwash, and atop glacial deposits with lower permeability, such as glaciolacustrine.

The ground water level at BH-1, located approximately 100 feet north of Central Way, as measured in the well on March 2, 2017, was 6 feet below the ground surface. This indicates a rise of 4 feet from the initial reading at the time of exploration. Ground water data collected by the transducer installed in BH-1 from March 8, 2017 to March 27, 2017 is presented in Figure 3.

Note that ground water levels were only observed during drilling for BH-2 through BH-4, and the stabilized ground water levels are expected to be higher than those observed during drilling.

### 4. CONCLUSIONS AND RECOMMENDATIONS

#### 4.1 GENERAL

The results of our studies indicate that the ground conditions are suitable for traditional open trench construction, as well as pipe bursting. We anticipate that the existing trench backfill around the pipe is loose to medium dense. Much of the alignment along 5th Street will be below the ground water table and portions of the alignment have been observed to have roots intruding into the pipe. For open excavations, the Contractor will need to provide adequate shoring and dewatering to provide stable excavations for workers to enter during pipe installation. If pipe
bursting is used, we recommend making local excavations around any existing utilities which cross within 3 feet (e.g. 3 times the diameter of the bursting head) over the sewer pipe to relieve the stresses that would occur due to ground displacements during bursting.

4.2 OPEN-CUT EXCAVATIONS

We understand open-cut trenching will be used to replace the pipeline alignments on 5th and 6th Streets, as well as to install the new sewer line and manhole in the alley between 8th and 9th Avenues. If pipe bursting were selected, open-cut would be used for the construction of insertion/receiving pits and side sewer connections.

4.2.1 Excavation and Temporary Shoring

Trench excavations for the pipelines can be accomplished with conventional excavation equipment such as backhoes and trackhoes. Trench excavation should be made with a smooth-edge (toothless) bucket or a bucket with a plate welded over the teeth to minimize disturbance to the pipe subgrade. Although not reported on the exploration logs, there is a potential for oversize objects, such as boulders or buried logs, to be encountered in the excavations.

All temporary cuts more than 4 feet in height should be sloped in accordance with Part N of WAC (Washington Administrative Code) 296-155, or should be temporarily shored. Trench support can be achieved using a trench box, augmented as necessary with steel sheets and struts. Caving of the sidewalls is anticipated and temporary shoring will be necessary to limit the extents of the excavation.

4.2.2 Dewatering

Based on the transducer data, ground water level has fluctuated between a depth of 4 and 6 feet below ground surface in the monitoring well at BH-1. Ground water was observed while drilling in BH-2 through BH-3, however, ground water level observations made during drilling are often lower than the stabilized ground water levels.

Moderate to rapid ground water seepage can be expected on top of the glaciolacustrine soils; however, we expect that the use of sumps and trash pumps may adequately dewater short sections of shallow open trenches.

Significant ground water flows are likely from the backfill of existing utility trenches.

4.2.3 Trench Subgrade Preparation

Subgrade preparation and verification should be performed at the base of all excavations. This work should be observed by the geotechnical consultant. Any soft or yielding materials identified at the base of the excavation should be removed and replaced with trench backfill as
directed by the geotechnical consultant in the field. Any loose materials should be compacted prior to placement of pipe bedding or foundation pad for manhole structures.

4.2.4 Pipe Bedding

The soils at, or near, the bottom of the proposed sewer line and manhole excavations are expected to consist of slightly silty to silty sand. We do not recommend pea gravel for use as pipe bedding material or backfill. To provide suitable support and bedding, we recommend the pipes and be founded on suitable bedding material, such as Gravel Backfill for Pipe Zone Bedding meeting the requirements of Section 9-03.12(3) of the Standard Specifications (WSDOT, 2016).

Pipe bedding should provide a firm uniform cradle for support of the pipes. A minimum 4-inch thickness of bedding material beneath the pipe should be provided. Prior to installation of the pipe, the pipe bedding should be shaped to fit the lower part of the pipe exterior with reasonable closeness to provide uniform support along the pipe. Pipe bedding material should be used as pipe zone backfill and placed in layers and tamped around the pipe to obtain complete contact. To protect the pipe, bedding material should extend at least 12 inches above the top of the pipe.

4.3 Backfill and Compaction

Existing materials along the alignment are anticipated to consist of slightly silty to silty sand to sandy silt and clayey silt. Where these materials are encountered below the ground water table, they are likely to be too wet for compaction; however, these materials may be suitable for re-use as trench backfill if they can be properly moisture conditioned and placed within 3 percent of the optimum moisture content as determined using the test method ASTM D1557 (Modified Proctor). These materials should be compacted to 95 percent of their maximum dry density as determined by ASTM D1557.

If import materials are needed because the existing materials are too difficult to re-use for compaction; we recommend using clean, free-draining, granular such as Gravel Borrow as specified in Section 9-03.14(1) of the Standard Specifications (WSDOT, 2016) or Bank Run Gravel for Trench Backfill as specified in Section 9-03.19 of the Standard Specifications (WSDOT, 2016). As with the native materials, import materials should be placed within 3 percent of their optimum water content and compacted to 95 percent of their maximum dry density as determined by ASTM D1557.

Trench backfill should be placed in lifts with a maximum uncompacted thickness of 8 to 12 inches and densely compacted in a systematic manner. The contractor should develop compaction methods that consistently produce adequate compaction levels. All backfilling operations should be monitored full-time by a qualified inspector and a sufficient number of in-place density tests should be performed as the fill is placed to determine that the required compaction is being achieved.
During placement of the initial lifts, the trench backfill material should not be bulldozed into the excavation or dropped directly on the pipe. Furthermore, heavy vibratory equipment should not be permitted to operate directly over the pipe until a minimum of 2 feet of backfill has been placed over the pipe bedding.

A significant cause of trench settlement is inadequate shoring practices and inadequate compaction during shoring removal and backfilling. Special care must be taken to obtain good compaction up to the edges of the excavation as the shoring is removed. Moreover, attention must be paid to ensure good compaction around manholes.

4.4 PIPE BURSTING

We understand that the trenchless construction method of pipe bursting has been considered as a method of pipe replacement for the respective sewer lines to reduce the extents for which open excavations are needed.

The pipe bursting process consists of in-situ pipe fragmentation, displacement, and replacement of the existing pipe with new, typically larger diameter, fusible PVC or high density polyethylene (HDPE) pipe. The existing pipe is split by one of three main pipe bursting systems: static pull, hydraulic expansion, or a pneumatic bursting-head or nose cone. With the static pull method, the head is simply pulled through the existing pipe by a heavy duty pulling device via a segmented drill rod assembly or heavy anchor chain. In hydraulic expansion, the head expands and closes sequentially as it is pulled through the pipe, bursting the pipe on its way. Pneumatic pipe bursting uses pulsating air pressure to drive the head forward and burst the existing pipe. This method of pipe bursting may create noticeable ground vibrations on the surface above the bursting operation.

A small pulling device guides the head via a constant tension winch and cable. As the existing pipe is burst using any of the three methods, the replacement pipe is pulled along the alignment of the old pipe behind the bursting-head. Typically, the fusible pipe installed during the pipe bursting process consists of 20 to 40 foot sections that are welded together on site. Pipe bursting is conducted between two points of access; i.e., station-to-station with stations consisting of existing or newly constructed manholes, or insertion and extraction pits.

We understand that the existing concrete pipe (8 inches in diameter) in the project alignment will be replaced with 8-inch HDPE pipe to handle future sewage flows. We do not have the benefit of compaction records documenting the density and type of materials used as trench backfill along the existing alignment. However, it is typical for trench backfill to be medium dense and, in our opinion, the existing conditions are likely suitable for allowing pipe replacement by means of pipe bursting. Notwithstanding, the contractor should anticipate local variations in fill conditions, the presence or absence of ground water, and intrusion of roots. These factors will
affect the force required to burst and pull replacement pipe. Other considerations would be the presence of trench dams that would likely obstruct the advance of the pipe bursting head.

Some ground displacement effects should be expected as a result of a pipe bursting procedure. Displacements tend to be localized, and develop in the direction of least resistance. The magnitude and orientation of the displaced soil is largely dependent upon the degree of pipe upsizing, the type and compaction level of the soil surrounding the pipe, and the depth of the pipe. Typically, loose soils will undergo uniform displacement where more densely compacted soils at the same depth will most likely exhibit vertical (heave) expansion. The localized restraining effect of strong soils along trench sides and bottom also serves to direct ground movement upward above the pipe. Conversely, if the existing pipes were founded on weak soil, displacement could be directed downward. Our subsurface data indicates the native soils are relatively dense; therefore, we anticipate that much of the ground displacements will consist of compaction of the loose to medium dense trench backfill in a generally upward direction.

We understand that the existing pipe invert level ranges from 8 to 13 feet below existing surface grade. At this depth, surface heave is generally not anticipated. In the unlikely event that ground movement (heaving) distorts the existing road surface, we recommend that some contingency provision be made to accommodate the rehabilitation of the existing road surface.

Pipe bursting will require excavations for insertion pits, receiving pits, and reconnection of side sewers.

4.4.1 Pipe Bursting and Adjacent Utilities

Potential impacts to adjacent utilities due to ground disturbance from pipe bursting should be considered. The risk of distress to existing pipes due to vibration and ground displacement from pipe bursting is typically low for pipes farther than about 3 diameters from the bursting head. Where existing utilities are within this distance, local excavations should be made around the utilities prior to bursting. They should be left open during bursting and backfilled once installation of the pipe is complete.

4.5 Pavement Design

Based on input from the City of Kirkland, our pavement design recommendations for pavement restoration along 5th Street and 6th Street are based on the following parameters and traffic loading, using the design method given in the 1993 AASHTO Design Guide (AASHTO, 1993):

- A resilient modulus of 7,500 psi was assumed for the native soils.
- A resilient modulus of 20,000 psi was estimated for the Crushed Surfacing Base Course (CSBC).
- Initial and terminal serviceability index of 4.2 and 2.2, respectively.
- Reliability and standard deviation of 80% and 0.35, respectively.
- Structural coefficient of 0.40 and 0.13 for the HMA and CSBC, respectively.
- 500,000 Equivalent Single Axle Loads (ESALs) based on an Average Daily Traffic (ADT) of 7,000 in both directions over a 20-year design period and 1% truck traffic at 1.4 ESALs per truck.

These values result in a required AASHTO Structural Number of 2.73.

Table 1 provides our Hot Mix Asphalt (HMA) design recommendations for pavement restoration based on the parameters and traffic loading presented above.

**Table 1. Structure Requirements for New HMA Pavement – 20-Year Design Life**

<table>
<thead>
<tr>
<th>Material Description</th>
<th>Option A Minimum Layer Thickness (inches)</th>
<th>Option B Minimum Layer Thickness (inches)</th>
<th>WSDOT Standard Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMA</td>
<td>5</td>
<td>4</td>
<td>5-04 &amp; 9-02.1</td>
</tr>
<tr>
<td>CSBC</td>
<td>6</td>
<td>9</td>
<td>9-03.9(3)</td>
</tr>
</tbody>
</table>

We recommend that the asphaltic layer consist of HMA Class ½-inch. The maximum lift thickness for HMA Class ½-inch is 0.3 feet (or 3.6 inches), as stipulated by WSDOT Standard Specifications (WSDOT, 2016).

**4.5.1 Pavement Design Considerations**

The following design considerations should be noted and implemented:

- The pavement will likely require a functional overlay after about 10 to 12 years because of non-structural associated distress caused by environmental factors such as degradation of the asphalt surface and rutting.
- HMA pavements are susceptible to shoving and rutting from heavy vehicles, such as buses and heavy delivery trucks, particularly at intersections. In these areas, more frequent maintenance and even premature reconstruction of the pavement may be required. As indicated in the following section, we recommend a Performance Grade (PG) asphalt binder that is one grade higher than the standard recommended by WSDOT for this region. By bumping the PG binder one grade, greater resistance to rutting and shoving in higher temperatures will be achieved.

**4.5.2 HMA Binder Selection**

The selection of the optimum asphalt binder type for the prevailing climate is critical to ensure long-term pavement performance. Use of the wrong binder can result in low temperature cracking or permanent deformation at high temperatures.
Based on the climate in Kirkland, we recommend Superpave Performance Grade binder PG 64-22 be used for pavement restoration and pavement overlays to provide greater resistance to potential pavement distresses.

### 4.5.3 Placement of HMA

Placement of HMA should be in accordance with Section 5-04 of the WSDOT *Standard Specifications* (WSDOT, 2016). Particular attention should be paid to the following:

- HMA should not be placed until the engineer has accepted the previously constructed pavement layers.
- HMA should not be placed on any frozen or wet surface.
- HMA should not be placed when precipitation is anticipated before the pavement can be compacted, or before any other weather conditions which could prevent proper handling and compaction of HMA.
- HMA should not be placed when the average surface temperatures are less than 45 °F.
- HMA temperature behind the paver should be in excess of 240 °F. Compaction should be completed before the mix temperature drops below 180 °F. Comprehensive temperature records should be kept during the HMA placement.
- For cold joints, tack coat should be applied to the edge to be joined and the paver screed should be set to overlap the first mat by 1 to 2 inches.

### 4.5.4 Drainage

It is essential to the satisfactory performance of the roadway that good drainage is provided to prevent water ponding on or alongside, or accumulating beneath, the pavement. Water ponding can cause saturation of the pavement and subgrade layers and lead to premature failure. The base layers and subgrade surface should be graded to prevent water being trapped within the layer. The surface of the pavement should be sloped to convey water from the pavement to appropriate drainage facilities.

### 4.6 Wet Weather Earthwork

If fill is to be placed or earthwork is to be performed in wet weather or under wet conditions, the following recommendations should apply:

- Earthwork should be performed in small sections to minimize exposure to wet weather. Excavation or the removal of unsuitable soil should be followed promptly by the placement and compaction of a suitable thickness of clean structural fill with less than 5 percent of the particles passing the No. 200 sieve.
• The ground surface within the construction area should be sloped and sealed with a smooth drum vibratory roller, or equivalent, to promote rapid runoff of precipitation and to prevent ponding of water.

• No soil should be left uncompacted so it can absorb water. Soils that become too wet for compaction should be removed and replaced with clean granular materials.

• Excavation and placement of fill should be observed by personnel from HWA to verify that all unsuitable materials are removed and suitable compaction and site drainage are achieved.

The above recommendations for wet weather earthwork should be incorporated into the contract specifications.

5. CONDITIONS AND LIMITATIONS

We have prepared this report for CHS Engineers, LLC and the City of Kirkland for their use in design and construction of sewer main replacement on 5th and 6th Street in Kirkland, Washington. This report should be provided in its entirety to prospective contractors for bidding and estimating purposes; however, the conclusions and interpretations presented in this report should not be construed as a warranty of existing subsurface conditions. Experience has shown that soil and ground water conditions can vary significantly over small distances and ground water can vary significantly over time. Inconsistent conditions can occur between exploration locations and may not be detected by a geotechnical study of this nature. If, during future site operations, subsurface conditions are encountered which vary appreciably from those described herein, HWA should be notified for review of the recommendations of this report, and revision of such if necessary.

HWA should review the plans and specifications to verify that our recommendations have been properly incorporated into the design. Sufficient geotechnical monitoring, testing, and consultation should be provided during construction to confirm that the conditions encountered are consistent with those indicated by the explorations, to provide recommendations for design changes should conditions revealed during construction differ substantially from those anticipated, and to verify that geotechnical aspects of construction comply with the contract plans and specifications.

Within the limitations of scope, schedule and budget, HWA attempted to execute these services in accordance with generally accepted professional principles and practices in the fields of geotechnical and pavement engineering and engineering geology in the area at the time the report was prepared. No warranty, express or implied, is made. The scope of our work did not include environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous substances in the soil, surface water, or ground water at this site.
April 25, 2017  
HWA Project No. 2016-143-21

This firm does not practice or consult in the field of safety engineering. We do not direct the contractor’s operations, and cannot be responsible for the safety of personnel other than our own on the site. As such, the safety of others is the responsibility of the contractor. The contractor should notify the owner if he/she considers any of the recommended actions presented herein unsafe.

We appreciate the opportunity to provide geotechnical services on this project. Should you have any questions or comments, or if we may be of further service, please do not hesitate to call.

Sincerely,

HWA GEOSCIENCES INC.

Zakeyo Ngoma, P.E.  
Geotechnical Engineer  

JoLyn Gillie, P.E.  
Geotechnical Engineer, Principal
REFERENCES


Approximate Project Location

Sewer mains to be replaced

SITE VICINITY MAP

5TH & 6TH STREET SEWER MAIN REPLACEMENT
KIRKLAND, WASHINGTON

FIGURE NO. 1

PROJECT NO. 2016-143-21
Ground Water Elevation from March 8 to March 27, 2017

* Estimated Well Surface Elevation of 72 feet

Ground Water Elevation Data in BH-1

5TH & 6TH STREET SEWER MAIN REPLACEMENT
KIRKLAND, WASHINGTON

FIGURE NO. 3
PROJECT NO. 2016-143-21
APPENDIX A

EXPLORATION LOGS
### Relative Density or Consistency Versus SPT N-Value

<table>
<thead>
<tr>
<th>Density</th>
<th>N (blows/ft)</th>
<th>Approximate Density (%)</th>
<th>Consistency</th>
<th>N (blows/ft)</th>
<th>Approximate Undrained Shear Strength (psf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Loose</td>
<td>0 to 4</td>
<td>0 - 15</td>
<td>Very Soft</td>
<td>0 to 2</td>
<td>&lt;250</td>
</tr>
<tr>
<td>Loose</td>
<td>4 to 10</td>
<td>15 - 35</td>
<td>Soft</td>
<td>2 to 4</td>
<td>250 - 500</td>
</tr>
<tr>
<td>Medium Dense</td>
<td>10 to 30</td>
<td>35 - 65</td>
<td>Medium Stiff</td>
<td>4 to 8</td>
<td>500 - 1000</td>
</tr>
<tr>
<td>Dense</td>
<td>30 to 50</td>
<td>65 - 85</td>
<td>Stiff</td>
<td>8 to 15</td>
<td>1000 - 2000</td>
</tr>
<tr>
<td>Very Dense</td>
<td>over 50</td>
<td>85 - 100</td>
<td>Very Stiff</td>
<td>15 to 30</td>
<td>2000 - 4000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hard</td>
<td>over 30</td>
<td>&gt;4000</td>
</tr>
</tbody>
</table>

### Cohesionless Soils

**Gravel and Gravelly Soils**
- More than 50% of Coarse Fraction Retained on No. 4 Sieve
- Clean Gravel (little or no fines)

**Sand and Sandy Soils**
- 50% or More of Coarse Fraction Passing No. 4 Sieve
- Clean Sand (little or no fines)

**Fine Grained Soils**
- 50% or More Passing No. 200 Sieve Size
- Liquid Limit Less than 50%

**Silt and Clay**
- Liquid Limit 50% or More

### Cohesive Soils

**Cohesionless Soils**
- Clean Gravel (little or no fines)
- Gravel with Fines (appreciable amount of fines)
- Sand with Fines (appreciable amount of fines)
- Liquid Limit Less than 50%
- Liquid Limit 50% or More

**Cohesive Soils**
- Clayey GRAVEL
- Silty SAND

### USCS Soil Classification System

**Coarse Grained Soils**
- Group Description: Well-graded GRAVEL

**Fine Grained Soils**
- Group Description: Organics ILT/Organic CLAY

**Silt and Clay**
- Group Description: PEAT

### Component Definitions

<table>
<thead>
<tr>
<th>Component</th>
<th>Size Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boulders</td>
<td>Larger than 12 in</td>
</tr>
<tr>
<td>Cobble</td>
<td>3 in to 12 in</td>
</tr>
<tr>
<td>Gravel</td>
<td>3 in to No 4 (4.5mm)</td>
</tr>
<tr>
<td>Coarse gravel</td>
<td>3 in to 3/4 in</td>
</tr>
<tr>
<td>Fine gravel</td>
<td>3/4 in to No 4 (4.5mm)</td>
</tr>
<tr>
<td>Sand</td>
<td>No. 4 (4.5 mm) to No. 200 (0.074 mm)</td>
</tr>
<tr>
<td>Coarse sand</td>
<td>No. 4 (4.5 mm) to No. 10 (2.0 mm)</td>
</tr>
<tr>
<td>Medium sand</td>
<td>No. 10 (2.0 mm) to No. 40 (0.42 mm)</td>
</tr>
<tr>
<td>Fine sand</td>
<td>No. 40 (0.42 mm) to No. 200 (0.074 mm)</td>
</tr>
<tr>
<td>Silt and Clay</td>
<td>Smaller than No. 200 (0.074 mm)</td>
</tr>
</tbody>
</table>

### Component Proportions

<table>
<thead>
<tr>
<th>Component</th>
<th>Proportion Range</th>
<th>Descriptive Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt; 5%</td>
<td>Clean</td>
</tr>
<tr>
<td></td>
<td>5 - 12%</td>
<td>Slightly (Clayey, Silty, Sandy)</td>
</tr>
<tr>
<td></td>
<td>12 - 30%</td>
<td>Clayey, Silty, Sandy, Gravelly</td>
</tr>
<tr>
<td></td>
<td>30 - 50%</td>
<td>Very (Clayey, Silty, Sandy, Gravelly)</td>
</tr>
</tbody>
</table>

**Notes:** Soil classifications presented on exploration logs are based on visual and laboratory observation. Soil descriptions are presented in the following general order:

- Density/consistency, color, modifier (if any) GROUP NAME, additions to group name (if any), moisture content. Proportion, gradation, and angularity of constituents, additional comments.

**Geologic Interpretation**

Please refer to the discussion in the report text as well as the exploration logs for a more complete description of subsurface conditions.

### Moisture Content

- **DRY:** Absence of moisture, dusty, dry to the touch.
- **MOIST:** Damp but no visible water.
- **WET:** Visible free water, usually soil is below water table.

### Legend of Terms and Symbols Used on Exploration Logs

- **5th & 6th Street Sewer Main Replacement Kirkland, Washington**
5th & 6th Street Sewer Main Replacement
Kirkland, Washington

NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.
3-inch thick asphalt pavement surface.

Medium dense to dense, olive-gray, silty, sandy, GRAVEL, moist.

Medium dense, olive-brown, very silty SAND, moist. Trace gravel (dropstones).

Medium dense, olive-brown, very silty SAND, moist. Stratified.

Dense, olive-brown, silty SAND, moist.

Dense, olive-brown, silty SAND, wet.

Borehole terminated at 26.5'.
Ground water seepage was observed at 15' below ground surface at the time of exploration.
Borehole abandoned with 3/8" bentonite chips.

**NOTE:** This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.
3-inch thick asphalt pavement surface. Medium dense to dense, olive-gray, silty, sandy, GRAVEL, moist.

(DIRECT OUTWASH)

Dense, olive-brown, silty SAND with SILT lenses to 2" thick, moist. Trace gravel. Plastic.

(DIRECT OUTWASH)

Dense, yellow-brown, silty SAND, moist. Trace gravel.

Very dense, brown, silty SAND, moist.

Dense, rust-mottled olive-gray, silty SAND with SILT lenses to 2" thick, moist. Trace gravel. Plastic.

Very dense, rust-mottled olive-gray, gravelly, very silty SAND, wet.

Very dense, dark yellow-brown, slightly gravelly, silty SAND, wet.

Very stiff, olive-brown, lean CLAY. Plastic.

Borehole terminated at 26.5'. Ground water seepage was observed at 15' below ground surface at the time of exploration. Borehole was abandoned with 3/8" bentonite chips.
3-inch thick asphalt pavement surface.

Medium dense to dense, olive-gray, silty, sandy, GRAVEL, moist

(FILL)

Very dense, slightly rust-mottled olive-gray, very silty, fine to medium SAND, moist. Trace gravel.

(ADVANCE OUTWASH)

Hard, brown, sandy SILT, moist. Plastic.

Very dense, reddish-brown, silty SAND, moist.

Very dense, dark olive-brown, silty SAND with gravel, moist.


Very dense, rust-mottled olive brown, silty SAND with sandy SILT lenses to 2", moist. Trace gravel.


Borehole terminated at 26'5'.

Ground water seepage was observed at 26' below ground surface at the time of exploration.

Borehole abandoned with 3/8" bentonite chips.

NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.
APPENDIX B

LABORATORY INVESTIGATION

Representative soil samples obtained from the explorations were placed in plastic bags to prevent loss of moisture and transported to our Bothell, Washington, laboratory for further examination and testing. Laboratory tests were conducted on selected soil samples to characterize relevant engineering and index properties of the site soils. Laboratory testing was conducted as described below:

**MOISTURE CONTENT OF SOIL:** The moisture content of selected soil samples (percent by dry mass) was determined in general accordance with ASTM D 2216. The results are shown at the sampled intervals on the appropriate summary logs in Appendix A.

**PARTICLE SIZE ANALYSIS OF SOILS:** Selected samples were tested to determine the particle (grain) size distribution of material in general accordance with ASTM D 422. The results are summarized on the attached Particle Size Distribution reports, Figures B-1 through B-5, which also provide information regarding the classification of the sample, and the moisture content at the time of testing.

**PERCENT OF MATERIAL PASSING THE U.S. NO. 200 SIEVE:** Selected samples were tested to determine the quantity by mass of soil particles finer than 0.075 mm (U.S. No. 200 sieve) in general accordance with ASTM D1140. The results are summarized on the attached Particle Size Distribution reports, Figures B-1 through B-5, which also provide information regarding the classification of the sample, and the moisture content at the time of testing.

**LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ATTERBERG LIMITS):**
Selected sample was tested using method ASTM D 4318, multi-point method. The results are reported on the attached Liquid Limit, Plastic Limit, and Plasticity Index report found in Figure B-6.
<table>
<thead>
<tr>
<th>EXPLORATION DESIGNATION</th>
<th>TOP DEPTH (feet)</th>
<th>BOTTOM DEPTH (feet)</th>
<th>MOISTURE CONTENT (%)</th>
<th>ORGANIC CONTENT (%)</th>
<th>SPECIFIC GRAVITY LL</th>
<th>PL</th>
<th>PI</th>
<th>% GRAVEL</th>
<th>% SAND</th>
<th>% FINES</th>
<th>ASTM SOIL CLASSIFICATION</th>
<th>SAMPLE DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
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<td>17.1</td>
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<tr>
<td>BH-4.5-4</td>
<td>7.5</td>
<td>9.0</td>
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<tr>
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<td>74.1</td>
<td>11.0</td>
<td>SW-SM</td>
<td>Olive brown, well graded SAND with silt</td>
</tr>
</tbody>
</table>

Notes: 1. This table summarizes information presented elsewhere in the report and should be used in conjunction with the report test, other graphs and tables, and the exploration logs. 2. The soil classifications in this table are based on ASTM D2487 and D2488 as applicable.
PARTICLE-SIZE ANALYSIS OF SOILS
METHOD ASTM D422

5th & 6th Street Sewer Main Replacement
Kirkland, Washington

PROJECT NO.: 2016-143-21 FIGURE: B-2
### Particle-Size Analysis of Soils

**Method:** ASTM D422

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>SAMPLE</th>
<th>DEPTH (ft)</th>
<th>CLASSIFICATION OF SOIL - ASTM D2487 Group Symbol and Name</th>
<th>% MC</th>
<th>LL</th>
<th>PL</th>
<th>PI</th>
<th>Gravel %</th>
<th>Sand %</th>
<th>Fines %</th>
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<tbody>
<tr>
<td>●</td>
<td>BH-2</td>
<td>S-1</td>
<td>(SM) Olive brown, silty SAND</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.3</td>
<td>46.6</td>
<td>48.1</td>
</tr>
<tr>
<td>□</td>
<td>BH-2</td>
<td>S-6</td>
<td>(SM) Olive brown, silty SAND</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>▲</td>
<td>BH-3</td>
<td>S-3</td>
<td>(SM) Brown, silty SAND</td>
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<td></td>
<td></td>
<td>10.1</td>
<td>64.3</td>
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**Notes:**
- U.S. Standard sieve sizes are shown.
- PERCENT FINER BY WEIGHT is determined for each sample.
- SYMBOL and SAMPLE identifiers are used to distinguish between samples.
- GRAVEL, SAND, SILT, and CLAY classifications are identified.

**Project Information:**
- **5th & 6th Street Sewer Main Replacement**
- **Kirkland, Washington**
- **HWAGRSZ 2016-143.GPJ**
- **3/21/17**

**Figure Information:**
- **5th & 6th Street Sewer Main Replacement Kirkland, Washington**
- **HWAGRSZ 2016-143.GPJ 3/21/17**
- **PROJECT NO.: 2016-143-21**
- **FIGURE: B-3**
PARTICLE-SIZE ANALYSIS OF SOILS
METHOD ASTM D422

5th & 6th Street Sewer Main Replacement
Kirkland, Washington
PARTICLE-SIZE ANALYSIS OF SOILS
METHOD ASTM D422

5th & 6th Street Sewer Main Replacement
Kirkland, Washington

<table>
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<th>SYMBOL</th>
<th>SAMPLE</th>
<th>DEPTH (ft)</th>
<th>CLASSIFICATION OF SOIL- ASTM D2487 Group Symbol and Name</th>
<th>% MC</th>
<th>LL</th>
<th>PL</th>
<th>PI</th>
<th>Gravel%</th>
<th>Sand%</th>
<th>Fines%</th>
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</thead>
<tbody>
<tr>
<td></td>
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<td>10.0 - 10.9</td>
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<td>26.0</td>
<td>56.9</td>
<td>17.1</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

U.S. STANDARD SIEVE SIZES

Coarse | Fine | Coarse | Medium | Fine
---|---|---|---|---
#10 | 100 | #20 | 50 | 10 | 5 | 3 |
#40 | 30 | #100 | 5 | 3/8" | 5/8" | 3/4" | 1-1/2" | 3"
LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS
METHOD ASTM D4318

5th & 6th Street Sewer Main Replacement
Kirkland, Washington

HWAATTB 2016-143.GPJ 4/25/17
APPENDIX C

CHS ENGINEERS PRELIMINARY DRAWINGS
SEGMENT NOTES:

1. REPLACE 8" CONC. SEWER WITH 12" PVC SEWER.
2. REPLACE 8" CONC. SEWER WITH 8" PVC SEWER.
3. PLUG AND ABANDON 8" CONC. SEWER.
4. REMOVE 8" SEWER AND REDIRECT IN 8" PVC SEWER TO 5TH STREET.
5. ADJUST GRADE TO SUIT SEWER REDIRECTED FROM ALLEY.
6. MANHOLE IN INSIDE LANE, CONSIDER NIGHT WORK TO AVOID DAYTIME TRAFFIC IMPACTS.
7. REMOVE/REPLACE TREE NEAR MANHOLE IN TRAFFIC CIRCLE.
8. REMOVE/REPLACE DISPLACED CURB AND GUTTER.
9. PAVEMENT TRENCH PATCH AND GRIND/OVERLAY ROADWAY.
10. REPLACE 6" CONC. SEWER WITH 8" PVC SEWER.

SEWER RIM AND INVERT ELEVATIONS ARE DERIVED FROM GOOGLE EARTH SURFACE ELEVATIONS AND CITY PROVIDED APPROXIMATE MANHOLE DEPTHS. ELEVATIONS ARE PRESENTED SOLELY FOR ILLUSTRATIVE AND PRELIMINARY REVIEW PURPOSES.
City of Kirkland
5TH Street Sewer Main Replacement
FIGURE 2
SEWER PROFILES

SEWER PROFILE ON 5TH ST

FAULT NOTES:
A  SAG
B  OFFSET JOINT
C  PRIOR REPAIR – PVC
D  PIPE CRACKED
E  ROOTS

SEGMENT NOTES:
1. REPLACE 8" CONCRETE SEWER WITH 12" PVC SEWER.
2. REPLACE 8" CONCRETE SEWER WITH 8" PVC SEWER.
3. ADJUST GRADE TO SUIT SEWER REDIRECTED FROM ALLEY.
4. REMOVE EXISTING SEWER.
5. NEW 8" SEWER IN ALLEY TOO FLAT TO MATCH AT EXISTING MH 1647.
6. SEWER RIM AND INERT ELEVATIONS ARE DERIVED FROM GOOGLE EARTH
SURFACE ELEVATIONS AND CITY PROVIDED APPROXIMATE MANHOLE
DEPTHS. ELEVATIONS ARE PRESENTED SOLELY FOR ILLUSTRATIVE AND
PRELIMINARY REVIEW PURPOSES.
APPENDIX C

CITY POLICY E-1

City of Kirkland
Policy E-1: USE OF TEMPORARY SEDIMENT SETTLING TANKS

Purpose
Temporary sediment settling (TSS) tanks are commonly used to remove sediment from stormwater runoff and groundwater associated with construction activities. Common trade names for these facilities include “Baker Tanks” or “Rain For Rent” tanks. Alternative sediment retention facilities include in-ground sediment traps or ponds. TSS tanks are often a good option in cases where the building footprint covers a large portion of the site. The tanks are portable so they can be moved to accommodate construction, and require less area than an in-ground sediment pond or trap.

FREQUENTLY ASKED QUESTIONS ASSOCIATED WITH TSS TANKS & CONSTRUCTION DEWATERING

1. What are the requirements in Kirkland for Construction Dewatering?
It may be necessary during construction to pump groundwater or excess stormwater away from the project site. This water can be contaminated with pollutants (including sediment) and cannot be discharged directly into the street or down a storm drain without any precautions. Discharges to the public stormwater drainage system must be below 25ntu, and not considered a prohibited discharge (per KMC 15.52.090). If sediment filled stormwater flows off the site, the property owner or contractor will be required to clean the street and all polluted storm drains downstream of the project, and may be subject to fines or penalties.

The following options are available to applicants for construction dewatering:
1) Pump the excess water to another area of the site, and allow it to disperse or infiltrate on site.
2) If infiltration/dispersion is not possible, water can temporarily be pumped to a storage facility (e.g., a pond or tank) to allow settling prior to discharge to storm or sanitary sewer.
   • To discharge to the storm system, water turbidity must be less than 25ntu and cannot have an odor of solvent gasoline, hydrogen sulfide (rotten egg odor), oil sheen, or unusual color.
3) Before discharging to the sanitary sewer:
   • Notify the City of Kirkland, Public Works Inspector at (425) 587-3800
   • All projects (except Single Family Infill) must obtain permit authorization from the King County Industrial Waste Program (206-263-3000). More information is available at the website listed below.
   • Single family infill projects may discharge to sanitary sewer without a permit from King County Industrial Waste Program as long as the discharge is less than 7 mg/L of suspended solids.

2. **Where can I get a TSS tank?**

Vendors providing TSS tanks can be found on the internet, ask other contractors for recommendations, or look at the list below. The City of Kirkland provides this list for your convenience and makes no recommendation whatsoever regarding these firms. If you would like your business added to this list, please contact a Surface Water Utility Engineer at (425) 587-3800.

**BAKER TANKS**
6100 – 238th St. SE  
Woodinville, WA  98072  
Phone: (425) 487-6503  
Or 1-800-225-3712  
www.bakercorp.com

**RAIN FOR RENT**
19430 – 59th Ave. NE  
Arlington, WA  98223  
Phone: (360) 403-3091  
Or 1-800-742-7246  
www.rainforrent.com

3. **How do I determine what size TSS tank to use?**

To determine the appropriate size of a TSS tank, see calculations in the 2009 King County Surface Water Design Manual (Appendix D) or use the size recommended by the product manufacturer.

4. **How do I pump sediment-laden storm runoff into a TSS tank?**

Excavate a small “sump”, like a 4’x4’x4’ pit filled with cobbles, at the naturally occurring low elevation on-site. The inlet hose from the sump pump will then discharge storm/ground water collected within this sump into the TSS tank.

5. **How do I determine where and when water in a TSS tank may be discharged?**

The contractor shall coordinate water quality sampling and discharge with the PW Inspector. Prior to discharge, the PW Inspector will verify water quality sampling results, and will determine whether runoff meets guidelines for discharge into a piped stormwater system or a natural drainage course, or for discharge to the sanitary sewer system.

Sampling is used to determine whether storm/ground water meets the discharge guidelines outlined below. The purpose of the guidelines is to keep excess sediment and other contaminants out of natural waterways, the storm drainage system, and the sanitary sewer. The PW Inspector may require a sampling log be kept for record keeping purposes (see sample log on page 4).

<table>
<thead>
<tr>
<th>WATER QUALITY GUIDELINES FOR CONSTRUCTION DEWATERING DISCHARGE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>&lt; 25 NTUs</strong></td>
</tr>
<tr>
<td><strong>&gt; 25 NTUs</strong></td>
</tr>
<tr>
<td><strong>&gt; 7 ml/L</strong>*</td>
</tr>
</tbody>
</table>

**Notes:**
The discharge of construction dewatering runoff to the sanitary sewer system requires prior approval from King Co. Dept. of Natural Resources (Contact King Co. Industrial Waste Program, 206-263-
6. **What is the difference between Total Suspended Solids and Turbidity?**

Total suspended solids (TSS) concentrations and turbidity both indicate the amount of solids suspended in the water, whether mineral (like soil particles) or organic (like algae). The TSS test measures an actual weight of material per volume of water, while turbidity measures the amount of light scattered from a sample (more suspended particles cause greater scattering). TSS concentrations are reported in units of milligrams of suspended solids per liters of water (mg/L). Turbidity is reported as nephelometric turbidity units (NTUs). Although the correlation between turbidity and total suspended solids is inexact and depends on site soils, the City has found that turbidity is a reasonable indicator of the magnitude of the total suspended solids load in the water.

### Nephelometer Sampling Process

Turbidity measurement does not require any sample preparation, other than shaking the sample bottle well before analysis. The sample is simply poured into a glass tube, placed inside the instrument with a reference solution and the result is read directly from the instrument.

### Imhoff Cone Sampling Process

A wastewater sample is poured into an Imhoff cone for settleable solids analysis. The sample is added to the 1-liter mark. After 45 minutes, the cone will be turned to loosen material which has stuck to the sides during settling. After another 15 minutes, the volume of collected material will be read, in milliliters, from graduations marked near the bottom of the cone.
TEMPORARY SEDIMENT SETTLING TANK
SAMPLING LOG EXAMPLE

This TSS Tank Sampling Log example has been prepared to assist construction contractors and PW Inspectors. City policy provides the PW Inspector with discretion to require the use and maintenance of a TSS Tank Sampling Log to document the effectiveness of this Best Management Practice. In addition to the log, the City will continue to rely upon Federal, State, and municipal regulations to insure water quality requirements have been achieved.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Turbidity Reading (NTUs)</th>
<th>Imhoff Cone Reading (ml/L)</th>
<th>Discharge Location (Storm, Stream, or Sanitary sewer)</th>
<th>Total Discharge Volume – Estimated</th>
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<tbody>
<tr>
<td>Tank Installation:</td>
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</tr>
<tr>
<td>Water Quality Sample Verification #1</td>
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<td>___ NTUs</td>
<td>Storm system, Stream, or Sanitary sewer</td>
<td>___ Gal’s.</td>
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<tr>
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<td>Storm system, Stream, or Sanitary sewer</td>
<td>___ Gal’s.</td>
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<td>___ ml/L</td>
<td>Storm system, Stream, or Sanitary sewer</td>
<td>___ Gal’s.</td>
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<td>___ ml/L</td>
<td>Storm system, Stream, or Sanitary sewer</td>
<td>___ Gal’s.</td>
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<tr>
<td>Water Quality Sample Verification #5</td>
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<td>Storm system, Stream, or Sanitary sewer</td>
<td>___ Gal’s.</td>
</tr>
<tr>
<td>Water Quality Sample Verification #6</td>
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<td>Storm system, Stream, or Sanitary sewer</td>
<td>___ Gal’s.</td>
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<tr>
<td>Tank Removal</td>
<td><em><strong>/</strong>/</em>_</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes/Comments:
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________

C.E.S.C.L. Name: ____________________________________________________________________
24 Hour Emergency Contact Number: ____________________________ Permit No.: ______ - ________
Applicant: ________________________________________________________________________