Specifications, Proposal, and Contract Documents for:

CKC to RCC Regional Connector
Willows Road NE
CIP No. CNM-0081
Job No. 02-20-PW
January 2020
Bid Documents

City of Kirkland
Department of Public Works
123 Fifth Avenue
Kirkland, Washington 98033
CITY OF KIRKLAND

DEPARTMENT OF PUBLIC WORKS
CKC to RCC Regional Connector
Willows Road NE

Job No. 02-20-PW

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.

[Signature]

Erick E. Olson, P.E.

Approved for Construction:

[Signature]

Rod Steitzer, P.E.
Capital Projects Manager
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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 1:00 p.m. local time on February 12, 2020 for the project hereinafter referred to as:

CKC to RCC Regional Connector
CIP No. CNM-0081
Job No. 02-20-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. Fax or emailed responses are not acceptable.

The work to be performed under these specifications consists of furnishing all labor, tools, materials, and equipment necessary for construction of the CKC to RCC Regional Connector.

- This Contract provides for the construction of the City of Kirkland CKC to RCC Regional Connector; including construction of 11-foot wide shared use pedestrian & bicycle path along the eastern side of Willows Road NE from the intersection of NE 124th St north to the Eastside Rail Corridor (ERC), approximately 1,800 LF. Other improvements include stormwater detention vault, storm water collection system, gravity block and soldier pile retaining walls, illumination system, curbs, and HMA. The estimated construction cost is in the range of $2,300,000 to $2,500,000

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.

Questions regarding this project shall be submitted in writing to Aaron McDonald, P.E. via fax (425) 587-3844. Questions via phone or email will not be accepted. Bidders shall submit questions no later than 4:00 p.m. February 7, 2020.

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
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</thead>
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<tr>
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<td>17</td>
</tr>
</tbody>
</table>
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. **NON-COLLUSION 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.

8. **CONTRACTOR CERTIFICATION WAGE LAW COMPLIANCE**
   - This form must be filled out by contractor.
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. **LABOR, MATERIALS, AND TAXES PAYMENT BOND**

4. **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.

5. **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.

6. **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). Meet responsibility criteria in RCW 39.04.350

☐ 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 39.04.320, 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.
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). Meet responsibility criteria in RCW 39.04.350

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.
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.

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.

Total Bid Schedule A (in words): __________________________

________________________________________
Receipt of Addenda No(s). _______________ is hereby acknowledged.

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

CONTRACTOR (Firm Name) Location or Place Executed: (City, State)

________________________________________
By

________________________________________
Name and title of person signing

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

Date

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

Employment Security Identification Uniform Business Identification
Number (UBI) Number

BID PROPOSAL - PAGE- 6 -
MUST BE SUBMITTED WITH PROPOSAL

Contractor’s Address:

___________________________________  Telephone Number

___________________________________  Fax Number

___________________________________  EMAIL

** Bid proposal to be submitted in a sealed envelope marked "Bid Enclosed" for CKC to RCC Regional Connector; Job No. 02-20-PW
# CKC to RCC Regional Connector
## CITY OF KIRKLAND
### BID SCHEDULE

Note: Unit prices for all items, all extensions, and the other total amount of the Bid must be shown. All entries must be typed or entered in ink.

<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>
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</thead>
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<td>9</td>
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</tr>
</tbody>
</table>

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## CKC to RCC Regional Connector
### CITY OF KIRKLAND
### BID SCHEDULE

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<th>Unit</th>
<th>Unit Price</th>
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<td>Stormwater Detention Vault</td>
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<td>7-14</td>
<td>2</td>
<td>EA</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>Service Connection 1 In. Diam.</td>
<td>7-15</td>
<td>1</td>
<td>LS</td>
<td>LUMP SUM</td>
<td>$</td>
</tr>
<tr>
<td>47</td>
<td>Erosion Control and Water Pollution Prevention</td>
<td>8-01</td>
<td>1</td>
<td>LS</td>
<td>LUMP SUM</td>
<td>$</td>
</tr>
<tr>
<td>48</td>
<td>Inlet Protection</td>
<td>8-01</td>
<td>21</td>
<td>EA</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>NPDES Construction Stormwater General Permit</td>
<td>8-01</td>
<td>1</td>
<td>LS</td>
<td>LUMP SUM</td>
<td>$</td>
</tr>
<tr>
<td>50</td>
<td>High Visibility Silt Fence</td>
<td>8-01</td>
<td>2,000</td>
<td>LF</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>Seeding, Fertilizing, and Mulching with Moderate-Term Mulch</td>
<td>8-01</td>
<td>1</td>
<td>LS</td>
<td>LUMP SUM</td>
<td>$</td>
</tr>
<tr>
<td>52</td>
<td>Topsoil Type A</td>
<td>8-02</td>
<td>210</td>
<td>CY</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>Bark or Wood Chip Mulch</td>
<td>8-02</td>
<td>60</td>
<td>CY</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>PSIPE Cistus x canescens/ Rockrose; 2 Gal. Cont.</td>
<td>8-02</td>
<td>88</td>
<td>EA</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>PSIPE Cotoneaster apiculatus/ Cranberry Cotoneaster; 2 Gal. Cont.</td>
<td>8-02</td>
<td>148</td>
<td>EA</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>PSIPE Lavandula stoechas 'Silver Anouk'/ Silver Anouk Lavender; 1 Gal. Cont.</td>
<td>8-02</td>
<td>142</td>
<td>EA</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>PSIPE Mahonia repens/ Low Oregon Grape; 1 Gal. Cont.</td>
<td>8-02</td>
<td>191</td>
<td>EA</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>PSIPE Nassella tenuissima/ Mexican Feather Grass; 1 Gal. Cont.</td>
<td>8-02</td>
<td>340</td>
<td>EA</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>PSIPE Sesleria autumnalis/ Autumn Moor Grass; 1 Gal. Cont.</td>
<td>8-02</td>
<td>9</td>
<td>EA</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>PSIPE Rubus pentalobus 'Emerald Carpet'/ Emerald Carpet Bramble; 1 Gal. Cont.</td>
<td>8-02</td>
<td>854</td>
<td>EA</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>PSIPE Allium 'Millenium'/ Millenium Ornamental Onion; Quart Cont.</td>
<td>8-02</td>
<td>110</td>
<td>EA</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>Cement Conc. Traffic Curb and Gutter</td>
<td>8-04</td>
<td>1,880</td>
<td>LF</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>Extruded Curb</td>
<td>8-04</td>
<td>120</td>
<td>LF</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>Cement Conc. Pedestrian Curb</td>
<td>8-04</td>
<td>50</td>
<td>LF</td>
<td>$</td>
<td></td>
</tr>
</tbody>
</table>

BID PROPOSAL - PAGE -9
<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>65</td>
<td>Concrete Vertical Curb</td>
<td>8-04</td>
<td>50</td>
<td>LF</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>66</td>
<td>Remove and Replace Cement Conc. Curb with Integrated Lighting</td>
<td>8-04</td>
<td>40</td>
<td>LF</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>67</td>
<td>Potholing</td>
<td>8-05</td>
<td>5</td>
<td>EA</td>
<td>$</td>
<td>$</td>
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<tr>
<td>68</td>
<td>Cement Conc. Driveway Entrance</td>
<td>8-06</td>
<td>200</td>
<td>SY</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>69</td>
<td>Raised Pavement Marker Type 2</td>
<td>8-09</td>
<td>1.1</td>
<td>HUND</td>
<td>$</td>
<td>$</td>
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<tr>
<td>70</td>
<td>Flexible Guide Post</td>
<td>8-10</td>
<td>32</td>
<td>EA</td>
<td>$</td>
<td>$</td>
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<tr>
<td>71</td>
<td>Beam Guardrail Type 31</td>
<td>8-11</td>
<td>90</td>
<td>LF</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>72</td>
<td>Beam Guardrail Anchor Type 10</td>
<td>8-11</td>
<td>2</td>
<td>EA</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>73</td>
<td>Coated Chain Link Fence Type 4</td>
<td>8-12</td>
<td>1,520</td>
<td>LF</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>74</td>
<td>Cement Conc. Shoulder</td>
<td>8-14</td>
<td>170</td>
<td>LF</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>75</td>
<td>Cement Conc. Cap for Block Wall</td>
<td>8-14</td>
<td>1,050</td>
<td>LF</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>76</td>
<td>Cement Conc. Cap for Pile Wall</td>
<td>8-14</td>
<td>490</td>
<td>LF</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>77</td>
<td>Cement Conc. Sidewalk</td>
<td>8-14</td>
<td>90</td>
<td>SY</td>
<td>$</td>
<td>$</td>
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<tr>
<td>78</td>
<td>Cement Conc. Curb Ramp</td>
<td>8-14</td>
<td>110</td>
<td>SY</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>79</td>
<td>Detectable Warning Surface</td>
<td>8-14</td>
<td>110</td>
<td>SF</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>80</td>
<td>Cement Conc. Stairs STA 30+19</td>
<td>8-14</td>
<td>1</td>
<td>LS</td>
<td>LUMP SUM</td>
<td>$</td>
</tr>
<tr>
<td>81</td>
<td>Cement Conc. Stairs STA 31+79</td>
<td>8-14</td>
<td>1</td>
<td>LS</td>
<td>LUMP SUM</td>
<td>$</td>
</tr>
<tr>
<td>82</td>
<td>Mailbox Support Type 1</td>
<td>8-18</td>
<td>3</td>
<td>EA</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>83</td>
<td>Illumination System, Complete</td>
<td>8-20</td>
<td>1</td>
<td>LS</td>
<td>LUMP SUM</td>
<td>$</td>
</tr>
<tr>
<td>84</td>
<td>Traffic Signal System, Complete</td>
<td>8-20</td>
<td>1</td>
<td>LS</td>
<td>LUMP SUM</td>
<td>$</td>
</tr>
<tr>
<td>85</td>
<td>Conduit Pipe 2 In. Diam.</td>
<td>8-20</td>
<td>1</td>
<td>LS</td>
<td>LUMP SUM</td>
<td>$</td>
</tr>
<tr>
<td>86</td>
<td>Permanent Signing</td>
<td>8-21</td>
<td>1</td>
<td>LS</td>
<td>LUMP SUM</td>
<td>$</td>
</tr>
<tr>
<td>87</td>
<td>Removal of Pavement Markings</td>
<td>8-22</td>
<td>1</td>
<td>LS</td>
<td>LUMP SUM</td>
<td>$</td>
</tr>
<tr>
<td>88</td>
<td>Paint Line</td>
<td>8-22</td>
<td>2,910</td>
<td>LF</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>89</td>
<td>Painted Wide Lane Line</td>
<td>8-22</td>
<td>110</td>
<td>LF</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>90</td>
<td>Plastic Crosswalk Line</td>
<td>8-22</td>
<td>520</td>
<td>SF</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>91</td>
<td>Plastic Stop Line</td>
<td>8-22</td>
<td>50</td>
<td>LF</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>92</td>
<td>Plastic Traffic Arrow</td>
<td>8-22</td>
<td>3</td>
<td>EA</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

Total =
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
NON-COLLUSION AFFIDAVIT
CKC to RCC Regional Connector
JOB NO. 02-20-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>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</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: ____________________________

- make additional pages if necessary -

Work to be performed by Prime Contractor:
Item Numbers: ____________________________
Contractor Certification
Wage Law Compliance - Responsibility Criteria
Washington State Public Works Contracts

FAILURE TO RETURN THIS CERTIFICATION AS PART OF THE BID PROPOSAL PACKAGE WILL
MAKE THIS BID NONRESPONSIVE AND INELIGIBLE FOR AWARD

I hereby certify, under penalty of perjury under the laws of the State of Washington, on behalf of the firm
identified below that, to the best of my knowledge and belief, this firm has NOT been determined by a final
and binding citation and notice of assessment issued by the Washington State 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 RCW chapters 49.46, 49.48, or 49.52 within three
(3) years prior to the date of the Call for Bids.

Bidder Name: ________________________________________________
Name of Contractor/Bidder - Print full legal entity name of firm

By: _________________________________________________________
Signature of authorized person

Print Name of person making certifications for firm

Title: _______________________________________________________
Title of person signing certificate

Place: ______________________________________________________
Print city and state where signed

Date: _______________________________________________________

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 Contractor Certification Wage Law Compliance?
11. Bid proposal to be submitted in a sealed envelope marked "Bid Enclosed" for: CKC to RCC Regional Connector.
INFORMATION ONLY

The following forms must be executed and submitted by the successful bidder within ten (10) calendar days following Notice of Award.
<table>
<thead>
<tr>
<th>Contract Form</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Works Agreement</td>
<td>1</td>
</tr>
<tr>
<td>Performance Bond</td>
<td>3</td>
</tr>
<tr>
<td>Labor, Material and Taxes Payment Bond</td>
<td>4</td>
</tr>
<tr>
<td>Contractor's Declaration of Option for Management of Statutory Retained Percentage</td>
<td>6</td>
</tr>
<tr>
<td>Retainage Bond</td>
<td>7</td>
</tr>
<tr>
<td>Retained Percentage Escrow Agreement</td>
<td>8</td>
</tr>
<tr>
<td>Retainage Release Requirements</td>
<td>11</td>
</tr>
</tbody>
</table>
CITY OF KIRKLAND
PUBLIC WORKS AGREEMENT
CKC to RCC Regional Connector
JOB NO. 02-20-PW

This agreement is made and entered into this _____ day of ______________, 20___, 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: "CKC to RCC Regional Connector JOB NO. 02-20-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)

PUBLIC WORKS AGREEMENT– PAGE -1-
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 ________________, 2____.

__________________________________
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 ________________, 2____.

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

CITY OF KIRKLAND

BY:

Tracey Dunlap, 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 name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ___________, (insert name of surety), as Surety, a corporation duly

WHEREAS, the Principal has been awarded, and is about to enter into, a written Contract with the City for CKC to RCC Regional Connector

JOB NO. 02-20-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 ________________________, 2____.

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.
LABOR, 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 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 CKC to RCC Regional Connector

JOB NO. 02-20-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 __________________ , 2____
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.
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>________________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract Number</td>
<td>________________________________</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 __________, 2____, 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 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 ______________, 2____.

SURETY                                 PRINCIPAL

By: ________________________________  By: ________________________________
Name/Title                             Name/Title

OF: ________________________________  OF: ________________________________

Surety Name and Local Office of Agent:

Surety Address and Phone of Local Office and Agent:

_______________________________________________________________________________________
CITY OF KIRKLAND  
RETAINED PERCENTAGE ESCROW AGREEMENT  
CKC to RCC Regional Connector  
JOB NO. 02-20-PW

Escrow No. ______________________________

City of Kirkland  
123 Fifth Avenue  
Kirkland, Washington 98033

Contractor: ______________________________
Address: ______________________________

Project Description: _____________________

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 ____________________, 2____.

CONTRACTOR:    CITY OF KIRKLAND:

By: ________________________________    By: ________________________________
    Signature

Print or Type Name ____________________________________________

Title __________________________________________________________

Address: _____________________________________________________

123 Fifth Avenue

Kirkland, Washington  98033

The above escrow instructions received and accepted this _____ day of ____________________, 2____.

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
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
INTRO.AP1

INTRODUCTION

The following Amendments and Special Provisions shall be used in conjunction with the 2018 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 6, 2018

1-01.3 Definitions
The following new term and definition is inserted before the definition for “Shoulder”:

Sensitive Area – Natural features, which may be previously altered by human activity, that are present on or adjacent to the project location and protected, managed, or regulated by local, tribal, state, or federal agencies.

The following new term and definition is inserted after the definition for “Working Drawings”:

WSDOT Form – Forms developed and maintained by WSDOT that are required or available for use on a project. These forms can be downloaded from the forms catalogue at:

http://wsdot.wa.gov/forms/pdfForms.html

1-02.AP1

Section 1-02, Bid Procedures and Conditions
June 3, 2019

1-02.4(1) General
This section is supplemented with the following:

Prospective Bidders are advised that the Contracting Agency may include a partially completed Washington State Department of Ecology (Ecology) Transfer of Coverage (Ecology Form ECY 020-87a) for the Construction Stormwater General Permit (CSWGP) as part of the Bid Documents. When the Contracting Agency requires the transfer of coverage of the CSWGP to the Contractor, an informational copy of the Transfer of Coverage and the associated CSWGP will be included in the appendices. As a condition of Section 1-03.3, the Contractor is required to complete sections I, III, and VIII of the Transfer of Coverage and return the form to the Contracting Agency.
The Contracting Agency is responsible for compliance with the CSWGP until the end of the day that the Contract is executed. Beginning on the day after the Contract is executed, the Contractor shall assume complete legal responsibility for compliance with the CSWGP and full implementation of all conditions of the CSWGP as they apply to the Contract Work.

1-02.5 Proposal Forms
The first sentence of the first paragraph is revised to read:

At the request of a Bidder, the Contracting Agency will provide a physical Proposal Form for any project on which the Bidder is eligible to Bid.

1-02.6 Preparation of Proposal
Item number 1 of the second paragraph is revised to read:

1. A unit price for each item (omitting digits more than two places to the right of the decimal point),

In the third sentence of the fourth paragraph, “WSDOT Form 422-031” is revised to read “WSDOT Form 422-031U”.

The following new paragraph is inserted before the last paragraph:

The Bidder shall submit with their Bid a completed Contractor Certification Wage Law Compliance form (WSDOT Form 272-009). Failure to return this certification as part of the Bid Proposal package will make this Bid Nonresponsive and ineligible for Award. A Contractor Certification of Wage Law Compliance form is included in the Proposal Forms.

1-02.13 Irregular Proposals
Item 1(h) is revised to read:

h. The Bidder fails to submit Underutilized Disadvantaged Business Enterprise 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;

Item 1(i) is revised to read the following three items:

i. The Bidder fails to submit a UDBE Bid Item Breakdown form, if applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to meet the requirements of the Special Provisions;

j. The Bidder fails to submit UDBE Trucking Credit Forms, if applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to meet the requirements of the Special Provisions; or

k. The Bid Proposal does not constitute a definite and unqualified offer to meet the material terms of the Bid invitation.
Section 1-03, Award and Execution of Contract
January 2, 2018

1-03.3 Execution of Contract
The first paragraph is revised to read:

Within 20 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, a satisfactory bond as required by law and Section 1-03.4, the Transfer of Coverage form for the Construction Stormwater General Permit with sections I, III, and VIII completed when provided, and shall be registered as a contractor in the state of Washington.

1-03.5 Failure to Execute Contract
The first sentence is revised to read:

Failure to return the insurance certification and bond with the signed Contract as required in Section 1-03.3, or failure to provide Disadvantaged, Minority or Women’s Business Enterprise information if required in the Contract, or failure or refusal to sign the Contract, or failure to register as a contractor in the state of Washington, or failure to return the completed Transfer of Coverage for the Construction Stormwater General Permit to the Contracting Agency when provided shall result in forfeiture of the proposal bond or deposit of this Bidder.

Section 1-05, Control of Work
August 6, 2018

1-05.5 Vacant
This section, including title, is revised to read:

1-05.5 Tolerances
Geometrical tolerances shall be measured from the points, lines, and surfaces defined in Contract documents.

A plus (+) tolerance increases the amount or dimension to which it applies, or raises a deviation from level. A minus (-) tolerance decreases the amount or dimension to which it applies, or lowers a deviation from level. Where only one signed tolerance is specified (+ or -), there is no specified tolerance in the opposing direction.

Tolerances shall not be cumulative. The most restrictive tolerance shall control.

Tolerances shall not extend the Work beyond the Right of Way or other legal boundaries identified in the Contract documents. If application of tolerances causes the extension of the Work beyond the Right of Way or legal boundaries, the tolerance shall be reduced for that specific instance.

Tolerances shall not violate other Contract requirements. If application of tolerances causes the Work to violate other Contract requirements, the tolerance shall be reduced for that specific instance. If application of tolerances causes conflicts with other
components or aspects of the Work, the tolerance shall be reduced for that specific instance.

1-05.9 Equipment
The following new paragraph is inserted before the first paragraph:

Prior to mobilizing equipment on site, the Contractor shall thoroughly remove all loose dirt and vegetative debris from drive mechanisms, wheels, tires, tracks, buckets and undercarriage. The Engineer will reject equipment from the site until it returns clean.

This section is supplemented with the following:

Upon completion of the Work, the Contractor shall completely remove all loose dirt and vegetative debris from equipment before removing it from the job site.

1-06.AP1
Section 1-06, Control of Material
January 7, 2019

1-06.1(3) Aggregate Source Approval (ASA) Database
This section is supplemented with the following:

Regardless of status of the source, whether listed or not listed in the ASA database the source owner may be asked to provide testing results for toxicity in accordance with Section 9-03.21(1).

1-06.2(2)D Quality Level Analysis
This section is supplemented with the following new subsection:

1-06.2(2)D5 Quality Level Calculation – HMA Compaction
The procedures for determining the quality level and pay factor for HMA compaction are as follows:

1. Determine the arithmetic mean, \( X_m \), for compaction of the lot:

\[
X_m = \frac{\sum x}{n}
\]

Where:
- \( x \) = individual compaction test values for each sublot in the lot.
- \( \sum x\) = summation of individual compaction test values
- \( n \) = total number test values

2. Compute the sample standard deviation, \( "S" \), for each constituent:

\[
S = \left[ \frac{n\sum x^2 - (\sum x)^2}{n(n-1)} \right]^{\frac{1}{2}}
\]

Where:
\[ \sum x^2 = \text{summation of the squares of individual compaction test values} \]
\[ (\sum x)^2 = \text{summation of the individual compaction test values squared} \]

3. Compute the lower quality index \(Q_L\):

\[ Q_L = \frac{X_m - LSL}{S} \]

Where:
\[ LSL = 92.0 \]

4. Determine \(P_L\) (the percent within the lower Specification limit which corresponds to a given \(Q_L\)) from Table 1. For negative values of \(Q_L\), \(P_L\) is equal to 100 minus the table \(P_L\). If the value of \(Q_L\) does not correspond exactly to a figure in the table, use the next higher value.

5. Determine the quality level (the total percent within Specification limits):

\[ \text{Quality Level} = P_L \]

6. Using the quality level from step 5, determine the composite pay factor (CPF) from Table 2.

7. If the CPF determined from step 6 is 1.00 or greater: use that CPF for the compaction lot; however, the maximum HMA compaction CPF using an \(LSL = 92.0\) shall be 1.05.

8. If the CPF from step 6 is not 1.00 or greater: repeat steps 3 through 6 using an \(LSL = 91.5\). The value thus determined shall be the HMA compaction CPF for that lot; however, the maximum HMA compaction CPF using an \(LSL = 91.5\) shall be 1.00.

1-06.2(2)D1 Quality Level Analysis

The following new sentence is inserted after the first sentence:

The quality level calculations for HMA compaction are completed using the formulas in Section 1-06.2(2)D5.

1-06.2(2)D4 Quality Level Calculation

The first paragraph (excluding the numbered list) is revised to read:

The procedures for determining the quality level and pay factors for a material, other than HMA compaction, are as follows:

1-06.6 Recycled Materials

The first three sentences of the second paragraph are revised to read:

The Contractor shall submit a Recycled Material Utilization Plan on WSDOT Form 350-075A within 30 calendar days after the Contract is executed. The plan shall provide the Contractor’s anticipated usage of recycled concrete aggregates for meeting the requirements of these Specifications. The quantity of recycled concrete aggregate will
be provided in tons and as a percentage of the Plan quantity for eligible material listed
in Section 9-03.21(1)E Table on Maximum Allowable percent (By Weight) of Recycled
Material.

The last paragraph is revised to read:

Within 30 calendar days after Physical Completion, the Contractor shall report the
quantity of recycled concrete aggregates that were utilized in the construction of the
project for each eligible item listed in Section 9-03.21(1)E. The Contractor’s report shall
be provided on WSDOT Form 350-075A, Recycled Materials Reporting.

1-06.6(1)A General
Item 1(a) in the second paragraph is revised to read:

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
documented price quote from the supplier with the lowest total cost for the Work.

1-07.AP1
Section 1-07, Legal Relations and Responsibilities to the Public
April 1, 2019

1-07.5 Environmental Regulations
This section is supplemented with the following new subsections:

1-07.5(5) U.S. Army Corps of Engineers
When temporary fills are permitted, the Contractor shall remove fills in their entirety and
the affected areas returned to pre-construction elevations.
If a U.S. Army Corps of Engineers permit is noted in Section 1-07.6 of the Special
Provisions, the Contractor shall retain a copy of the permit or the verification letter (in
the case of a Nationwide Permit) on the worksite for the life of the Contract. The
Contractor shall provide copies of the permit or verification letter to all subcontractors
involved with the authorized work prior to their commencement of any work in waters of
the U.S.

1-07.5(6) U.S. Fish/Wildlife Services and National Marine Fisheries Service
The Contracting Agency will provide fish exclusion and handling services if the Work
dictates. However, if the Contractor discovers any fish stranded by the project and a
Contracting Agency biologist is not available, they shall immediately release the fish into
a flowing stream or open water.

1-07.5(1) General
The first sentence is deleted and replaced with the following:

No Work shall occur within areas under the jurisdiction of resource agencies unless
authorized in the Contract.

The third paragraph is deleted.

1-07.5(2) State Department of Fish and Wildlife
This section is revised to read:
In doing the Work, the Contractor shall:

1. Not degrade water in a way that would harm fish, wildlife, or their habitat.
2. Not place materials below or remove them from the ordinary high water line except as may be specified in the Contract.
3. Not allow equipment to enter waters of the State except as specified in the Contract.
4. Revegetate in accordance with the Plans, unless the Special Provisions permit otherwise.
5. Prevent any fish-threatening silt buildup on the bed or bottom of any body of water.
7. Dispose of any project debris by removal, burning, or placement above high-water flows.
8. Immediately notify the Engineer and stop all work causing impacts, if at any time, as a result of project activities, fish are observed in distress or a fish kill occurs.

If the Work in (1) through (3) above differs little from what the Contract requires, the Contracting Agency will measure and pay for it at unit Contract prices. But if Contract items do not cover those areas, the Contracting Agency will pay pursuant to Section 1-09.4. Work in (4) through (8) above shall be incidental to Contract pay items.

1-07.5(3) State Department of Ecology

This section is revised to read:

In doing the Work, the Contractor shall:

2. Perform Work in such a manner that all materials and substances not specifically identified in the Contract documents to be placed in the water do not enter waters of the State, including wetlands. These include, but are not limited to, petroleum products, hydraulic fluid, fresh concrete, concrete wastewater, process wastewater, slurry materials and waste from shaft drilling, sediments, sediment-laden water, chemicals, paint, solvents, or other toxic or deleterious materials.
3. Use equipment that is free of external petroleum-based products.
4. Remove accumulations of soil and debris from drive mechanisms (wheels, tracks, tires) and undercarriage of equipment prior to using equipment below the ordinary high water line.
5. Clean loose dirt and debris from all materials placed below the ordinary high water line. No materials shall be placed below the ordinary high water line without the Engineer’s concurrence.

6. When a violation of the Construction Stormwater General Permit (CSWGP) occurs, immediately notify the Engineer and fill out WSDOT Form 422-011, Contractor ECAP Report, and submit the form to the Engineer within 48 hours of the violation.

7. Once Physical Completion has been given, prepare a Notice of Termination (Ecology Form ECY 020-87) and submit the Notice of Termination electronically to the Engineer in a PDF format a minimum of 7 calendar days prior to submitting the Notice of Termination to Ecology.

8. Transfer the CSWGP coverage to the Contracting Agency when Physical Completion has been given and the Engineer has determined that the project site is not stabilized from erosion.

9. Submit copies of all correspondence with Ecology electronically to the Engineer in a PDF format within four calendar days.

1-07.5(4)  Air Quality

This section is revised to read:

The Contractor shall comply with all regional clean air authority and/or State Department of Ecology rules and regulations.

The air quality permit process may include additional State Environment Policy Act (SEPA) requirements. Contractors shall contact the appropriate regional air pollution control authority well in advance of beginning Work.

When the Work includes demolition or renovation of any existing facility or structure that contains Asbestos Containing Material (ACM) and/or Presumed Asbestos-Containing Material (PACM), the Contractor shall comply with the National Emission Standards for Hazardous Air Pollutants (NESHAP).

Any requirements included in Federal and State regulations regarding air quality that applies to the “owner or operator” shall be the responsibility of the Contractor.

1-07.7(1)  General

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

When the Contractor moves equipment or materials on or over Structures, culverts or pipes, the Contractor may operate equipment with only the load-limit restrictions in Section 1-07.7(2).

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

Unit prices shall cover all costs for operating over Structures, culverts and pipes.

1-07.9(1)  General

The last sentence of the sixth paragraph is revised to read:
Generally, the Contractor initiates the request by preparing standard form 1444 Request for Authorization of Additional Classification and Rate, available at https://www.dol.gov/whd/recovery/dbsurvey/conformance.htm, and submitting it to the Engineer for further action.

1-07.9(2) Posting Notices
The second sentence of the first paragraph (up until the colon) is revised to read:

The Contractor shall ensure the most current edition of the following are posted:

The revision dates are deleted from all items in the numbered list.

The following new items are inserted after item number 1:

2. **Mandatory Supplement to EEOC P/E-1** published by US Department of Labor. Post for projects with federal-aid funding.

Item number 2 through 12 are renumbered to 4 through 14, respectively.

1-07.11(2) Contractual Requirements
In this section, “creed” is revised to read “religion”.

Item numbers 1 through 9 are revised to read 2 through 10, respectively.

After the preceding Amendment is applied, the following new item number 1 is inserted:

1. The Contractor shall maintain a Work site that is free of harassment, humiliation, fear, hostility and intimidation at all times. Behaviors that violate this requirement include but are not limited to:

   a. Persistent conduct that is offensive and unwelcome.
   b. Conduct that is considered to be hazing.
   c. Jokes about race, gender, or sexuality that are offensive.
   d. Unwelcome, unwanted, rude or offensive conduct or advances of a sexual nature which interferes with a person’s ability to perform their job or creates an intimidating, hostile, or offensive work environment.
   e. Language or conduct that is offensive, threatening, intimidating or hostile based on race, gender, or sexual orientation.
   f. Repeating rumors about individuals in the Work Site that are considered to be harassing or harmful to the individual’s reputation.

1-07.11(5) Sanctions
This section is supplemented with the following:
Immediately upon the Engineer’s request, the Contractor shall remove from the Work site any employee engaging in behaviors that promote harassment, humiliation, fear or intimidation including but not limited to those described in these specifications.

1-07.11(6) Incorporation of Provisions
The first sentence is revised to read:
The Contractor shall include the provisions of Section 1-07.11(2) Contractual Requirements (1) through (5) and the Section 1-07.11(5) Sanctions in every subcontract including procurement of materials and leases of equipment.

1-07.15(1) Spill Prevention, Control, and Countermeasures Plan
The last sentence of the first paragraph is revised to read:

1-07.16(2)A Wetland and Sensitive Area Protection
The first sentence of the first paragraph is revised to read:
Existing wetland and other sensitive areas, where shown in the Plans or designated by the Engineer, shall be saved and protected through the life of the Contract.

1-07.18 Public Liability and Property Damage Insurance
Item number 1 is supplemented with the following new sentence:
This policy shall be kept in force from the execution date of the Contract until the Physical Completion Date.

1-08.AP1

Section 1-08, Prosecution and Progress

1-08.1 Subcontracting
The first sentence of the seventh paragraph is revised to read:
All Work that is not performed by the Contractor will be considered as subcontracting except: (1) purchase of sand, gravel, crushed stone, crushed slag, batched concrete aggregates, ready-mix concrete, off-site fabricated structural steel, other off-site fabricated items, and any other materials supplied by established and recognized commercial plants; or (2) delivery of these materials to the Work site in vehicles owned or operated by such plants or by recognized independent or commercial hauling companies hired by those commercial plants.

The following new paragraph is inserted after the seventh paragraph:
The Contractor shall not use businesses (material suppliers, vendors, subcontractors, etc.) with federal purchasing exclusions. Businesses with exclusions are identified using the System for Award Management web page at www.SAM.gov.
1-08.5  Time for Completion
Item number 2 of the sixth paragraph is supplemented with the following:

f. A copy of the Notice of Termination sent to the Washington State Department of
Ecology (Ecology); the elapse of 30 calendar days from the date of receipt of the
Notice of Termination by Ecology; and no rejection of the Notice of Termination by
Ecology. This requirement will not apply if the Construction Stormwater General
Permit is transferred back to the Contracting Agency in accordance with Section 8-
01.3(16).

1-08.7  Maintenance During Suspension
The fifth paragraph is revised to read:

The Contractor shall protect and maintain all other Work in areas not used by traffic. All
costs associated with protecting and maintaining such Work shall be the responsibility
of the Contractor.

1-09.AP1  Section 1-09, Measurement and Payment
August 6, 2018

1-09.2(1)  General Requirements for Weighing Equipment
The last paragraph is supplemented with the following:

When requested by the Engineer, the Contractor’s representative shall collect the
tickets throughout the day and provide them to the Engineer’s designated receiver, not
later than the end of shift, for reconciliation. Tickets for loads not verified as delivered
will receive no pay.

1-09.2(2)  Specific Requirements for Batching Scales
The last sentence of the first paragraph is revised to read:

Batching scales used for concrete or hot mix asphalt shall not be used for batching
other materials.

1-09.10  Payment for Surplus Processed Materials
The following sentence is inserted after the first sentence of the second paragraph:

For Hot Mix Asphalt, the Plan quantity and quantity used will be adjusted for the quantity
of Asphalt and quantity of RAP or other materials incorporated into the mix.

2-01.AP2  Section 2-01, Clearing, Grubbing, and Roadside Cleanup
April 1, 2019

2-01.2(3)  Disposal Method No. 3 – Chipping
Item number 2 of the first paragraph is revised to read:

2. Chips shall be disposed outside of sensitive areas, and in areas that aren’t in
conflict with permanent Work.
2-02.AP2
Section 2-02, Removal of Structures and Obstructions
April 2, 2018

2-02.3(3) Removal of Pavement, Sidewalks, Curbs, and Gutters
In item number 3 of the first paragraph, the second sentence is revised to read:

For concrete pavement removal, a second vertical full depth relief saw cut offset 12 to 18 inches from and parallel to the initial saw cut is also required, unless the Engineer allows otherwise.

2-03.AP2
Section 2-03, Roadway Excavation and Embankment
April 1, 2019

2-03.3(14)F Displacement of Unsuitable Foundation Materials
This section, including title, is revised to read:

2-03.3(14)F Vacant

2-09.AP2
Section 2-09, Structure Excavation
April 1, 2019

2-09.2 Materials
In the first paragraph, the references to “Portland Cement” and “Aggregates for Portland Cement” are revised to read:

Cement 9-01
Fine Aggregate for Concrete 9-03.1(2)

2-09.3(3)B Excavation Using Open Pits – Extra Excavation
The last two paragraphs are deleted and replaced with the following:

The excavation height (Ht) shall be calculated within a vertical plane as the difference between the lowest elevation in the excavation and the highest elevation of the ground surface immediately adjacent to the excavation. Pavement thickness and other surface treatments existing at the time of the excavation shall be included in the height calculation.

Submittals and Design Requirements
Excavations 4-feet and less in height do not require design and submittals. The Contractor shall provide a safe work environment and shall execute the work in a manner that does not damage adjacent pavements, utilities, or structures. If the Engineer determines the Contractor’s work may potentially affect adjacent traffic, pavements, utilities, or structures, the Engineer may request a Type 1 Working Drawing from the Contractor. The Contractor shall explain in the Type 1 Working Drawing how the Engineer’s concerns will be addressed, why infrastructure will not be damaged by the work, and how worker safety will be preserved.
For excavations that have soil types and slope geometries defined in WAC 296-155 part N and are between 4-feet and 20-feet in height, the Contractor shall submit Type 2 Working Drawings. Required submittal elements include, at a minimum, the following:

1. A plan view showing the limits of the excavation and its relationship to traffic, structures, utilities and other pertinent project elements. If the stability of the excavation requires no-load zones or equipment setback distances, those shall be shown on the plan view.

2. A typical or controlling cross section showing the proposed excavation, original ground line, and locations of traffic, existing structures, utilities, site constraints, surcharge loads, or other conditions that could affect the stability of the slope. If the stability of the excavation requires no-load zones or equipment setback distances, those shall be shown in cross section.

3. A summary clearly describing subsurface conditions, soil type for WAC 296-155 part N, and groundwater conditions, sequencing considerations, and governing assumptions.

Where WAC 296-155 part N requires an engineer’s design, the Contractor shall submit Type 2E Working Drawings. Required submittal elements include, at a minimum, the three items above and the following additional items:

4. Supporting calculations for the design of the excavation, the soil and material properties selected for design, and the justification for the selection for those properties, in accordance with the WSDOT Geotechnical Design Manual M 46-03.

5. Safety factors, or load and resistance factors used, and justification for their selection, in accordance with the WSDOT Geotechnical Design Manual M 46-03, and referenced AASHTO design manuals.

6. A monitoring plan to evaluate the excavation performance throughout its design life.

7. Any supplemental subsurface explorations made by the Contractor to meet the requirements for geotechnical design of excavation slopes, in accordance with the WSDOT Geotechnical Design Manual M 46-03.

2-09.3(3)D Shoring and Cofferdams
The first sentence of the sixth paragraph is revised to read:

Structural shoring and cofferdams shall be designed for conditions stated in this Section using methods shown in Division I Section 5 of the AASHTO Standard Specifications for Highway Bridges Seventeenth Edition – 2002 for allowable stress design, or the AASHTO LRFD Bridge Design Specifications for load and resistance factor design.
Section 3-01, Production from Quarry and Pit Sites

April 2, 2018

3-01.1 Description

The first paragraph is revised to read:

This Work shall consist of manufacturing and producing crushed and screened aggregates including pit run aggregates of the kind, quality, and grading specified for use in the construction of concrete, hot mix asphalt, crushed surfacing, maintenance rock, ballast, gravel base, gravel backfill, gravel borrow, riprap, and bituminous surface treatments of all descriptions.

Section 4-04, Ballast and Crushed Surfacing

April 2, 2018

4-04.3(5) Shaping and Compaction

This section is supplemented with the following new paragraph:

When using 100% Recycled Concrete Aggregate, the Contractor may submit a written request to use a test point evaluation for compaction acceptance testing in lieu of compacting to 95% of the standard density as determined by the requirements of Section 2-03.3(14)D. The test point evaluation shall be performed in accordance with SOP 738.

Section 5-01, Cement Concrete Pavement Rehabilitation

January 7, 2019

5-01.2 Materials

The reference for Concrete Patching Material is revised to read:

Concrete Patching Material, Grout, and Mortar 9-20.1

5-01.3(1)A1 Concrete Patching Materials

In this section, each reference to “9-20” is revised to read “9-20.1”.

5-01.3(4) Replace Cement Concrete Panel

This section’s content is deleted and replaced with the following new subsections:

5-01.3(4)A General

Curing, cold weather work, concrete pavement construction in adjacent lines, and protection of pavement shall meet the requirements of Section 5-05.3(13) through Section 5-05.3(15). The Contractor, at no cost to the Contracting Agency, shall repair any damage to existing pavement caused by the Contractor’s operations.

5-01.3(4)B Sawing and Dimensional Requirements

Concrete slabs to be replaced as shown in the Plans or staked by the Engineer shall be at least 6.0 feet long and full width of an existing pavement panel. The portion of the panel to remain in place shall have a minimum dimension of 6 feet in length and full

AMENDMENTS TO THE 2018 STANDARD SPECIFICATIONS BOOK
Revised: 6/3/19
panel width; otherwise the entire panel shall be removed and replaced. There shall be no new joints closer than 3.0 feet to an existing transverse joint or crack. A vertical full depth saw cut is required along all longitudinal joints and at transverse locations and, unless the Engineer allows otherwise, an additional vertical full depth relief saw cut located 12 to 18 inches from and parallel to the initial longitudinal and transverse saw cut locations is also required. Removal of existing cement concrete pavement shall not cause damage to adjacent slabs that are to remain in place. In areas that will be ground, slab replacements shall be performed prior to pavement grinding.

Side forms shall meet the requirements of Section 5-05.3(7)B whenever a sawed full depth vertical face cannot be maintained.

5-01.3(4)C Dowel Bars and Tie Bars
For the half of a dowel bar or tie bar placed in fresh concrete, comply with the requirements of Section 5-05.

For the half of a dowel bar or tie bar placed in hardened concrete, comply with the Standard Plans and the following.

After drilling, secure dowel bars and tie bars into the existing pavement with either an epoxy bonding agent Type I or IV as specified in Section 9-26.1, or a grout Type 2 for non-shrink applications as specified in Section 9-20.3.

Dowel bars shall be placed at the mid depth of the concrete slab, centered over the transverse joint, and parallel to the centerline and to the roadway surface, within the tolerances in the table below. Dowel bars may be adjusted to avoid contact with existing dowel bars in the transverse joint at bridge approach slabs or existing panels provided the adjusted dowel bars meet the tolerances below.

Tie bars shall be placed at the mid depth of the concrete slab, centered over the joint, perpendicular to centerline, and parallel to the roadway surface, within the tolerances in the table below. The horizontal position of tie bars may be adjusted to avoid contact with existing tie bars in the longitudinal joint where panel replacement takes place, provided the adjusted tie bars meet the tolerances below.

<table>
<thead>
<tr>
<th>Placement Tolerances</th>
<th>Dowel Bars</th>
<th>Tie Bars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vertical: Center of Bar to Center of Slab Depth</td>
<td>± 1.00 inch max</td>
<td>± 1.00 inch max</td>
</tr>
<tr>
<td>Dowel Bar Centered Over the Transverse Joint</td>
<td>± 1.00 inch max</td>
<td>N/A</td>
</tr>
<tr>
<td>Tie Bar Centered Over the Longitudinal Joint</td>
<td>N/A</td>
<td>± 1.00 inch max</td>
</tr>
<tr>
<td>Parallel to Centerline Over the Length of the Dowel Bar</td>
<td>± 0.50 inch max</td>
<td>N/A</td>
</tr>
<tr>
<td>Perpendicular to Longitudinal Joint Over the Length of the Tie Bar</td>
<td>N/A</td>
<td>± 1.00 inch max</td>
</tr>
<tr>
<td>Parallel to Roadway Surface Over the Length of the Bar</td>
<td>± 0.50 inch max</td>
<td>± 1.00 inch max</td>
</tr>
</tbody>
</table>

Dowel bars and tie bars shall be placed according to the Standard Plan when multiple panels are placed. Panels shall be cast separately from the bridge approach slab.
Dowel bars to be drilled into existing concrete or at a new transverse contraction joint shall have a parting compound, such as curing compound, grease, or other Engineer accepted equal, applied to them prior to placement.

Clean the drilled holes in accordance with the epoxy or grout manufacturer’s instructions. Holes shall be clean and dry at the time of placing the epoxy, or grout and tie bars. Completely fill the void between the tie bar and the outer limits of the drilled hole with epoxy or grout. Use retention rings to prevent leakage of the epoxy or grout and support the tie bar to prevent movement until the epoxy or grout has cured the minimum time recommended by the manufacturer.

5-01.3(4)D Foundation Preparation

The Contractor shall smooth the surfacing below the removed panel and compact it to the satisfaction of the Engineer. Crushed surfacing base course, or hot mix asphalt may be needed to bring the surfacing to grade prior to placing the new concrete.

If the material under the removed panel is uncompactable and the Engineer requires it, the Contractor shall excavate the Subgrade 2 feet, place a soil stabilization construction geotextile meeting the requirements of Section 9-33, and backfill with crushed surfacing base course. This Work may include:

1. Furnishing and hauling crushed surfacing base course to the project site.
2. Excavating uncompactable material.
3. Furnishing and placing a soil stabilization construction geotextile.
4. Backfilling and compacting crushed surfacing base course.
5. Removing, hauling and restocking any unused crushed surfacing base course.

5-01.3(4)E Concrete Finishing

Grade control shall be the responsibility of the Contractor.

All panels shall be struck off level with the adjacent panels and floated to a smooth surface.

Final finish texturing shall meet the requirements of Section 5-05.3(11).

In areas where the Plans do not require grinding, the surface smoothness will be measured with a 10-foot straightedge by the Engineer in accordance with Section 5-05.3(12). If the replacement panel is located in an area that will be ground as part of concrete pavement grinding in accordance with Section 5-01.3(9), the surface smoothness shall be measured, by the Contractor, in conjunction with the smoothness measurement done in accordance with Section 5-01.3(10).

5-01.3(4)F Joints

All transverse and longitudinal joints shall be sawed and sealed in accordance with Section 5-05.3(8). The Contractor may use a hand pushed single blade saw for sawing joints.
5-01.3(4)G  Cracked Panels
Replacement panels that crack shall be repaired as specified in Section 5-05.3(22) at no cost to the Contracting Agency. When repairing replacement panels that have cracked, epoxy-coated dowel bars meeting the requirements of Section 9-07.5(1) may be substituted for the corrosion resistant dowel bars specified.

5-01.3(4)H  Opening to Traffic
Opening to traffic shall meet the requirements of Section 5-05.3(17).

5-01.3(5)  Partial Depth Spall Repair
The second sentence of the third paragraph is revised to read:

All sandblasting residue shall be removed.

5-01.3(7)  Sealing Existing Concrete Random Cracks
The second sentence of the second paragraph is revised to read:

Immediately prior to sealing, the cracks shall be clean.

5-01.3(8)  Sealing Existing Longitudinal and Transverse Joint
The first sentence of the fifth paragraph is revised to read:

Immediately prior to sealing, the cracks shall be clean.

5-01.3(10)  Pavement Smoothness
This section is revised to read:

Pavement surface smoothness for cement concrete pavement grinding on this project will include International Roughness Index (IRI) testing. Ride quality will be evaluated using the Mean Roughness Index (MRI) calculated by averaging the IRI data for the left and right wheel path within the section.

Smoothness Testing Equipment and Operator Certification
Use an inertial profiler and operator that meet the requirements of Section 5-05.3(3)E.

Surface Smoothness
Operate the inertial profiler in accordance with AASHTO R 57. Collect two longitudinal traces, one in each wheel path. Collect the control profile at locations designated in Table 2 prior to any pavement rehabilitation work on the areas to be tested. Collect an acceptance profile at locations designated in Table 2 after completion of all cement concrete pavement grinding on the project. Profiles shall be collected in a continuous pass including areas excluded from pay adjustments. Provide notice to the Engineer a minimum of seven calendar days prior to testing.

<table>
<thead>
<tr>
<th>Table 2: Locations Requiring MRI Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel lanes where cement concrete grinding is shown in the plans</td>
</tr>
<tr>
<td>Additional locations designated by the Engineer</td>
</tr>
<tr>
<td>Travel lanes with completed cement</td>
</tr>
</tbody>
</table>
Within 30 calendar days after the Contractor’s testing, the Engineer may perform verification testing. If the verification testing shows a difference in MRI greater than the 10 percent, the following resolution process will be followed:

1. The profiles, equipment and procedures will be evaluated to determine the cause of the difference.

2. If the cause of the discrepancy cannot be resolved the pavement shall be retested with both profilers at a mutually agreed time. The two profilers will test the section within 30 minutes of each other. If the retest shows a difference in MRI equal or greater than the percentages shown in Table 2 of AASHTO R 54 the Engineer’s test results will be used for pavement smoothness acceptance.

The Contractor shall evaluate profiles for acceptance or corrective action using the current version of ProVAL and provide the results including the profile data in unfiltered electronic Engineering Research Division (ERD) file format to the Engineer within 3 calendar days of completing each days profile testing. If the profile data files are created using an export option in the manufacturer’s software where filter settings can be specified, use the filter settings that were used to create data files for certification.

Analyze the entire profile. Exclude areas listed in Table 3.

<table>
<thead>
<tr>
<th>Location</th>
<th>Exclude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning and end of grinding</td>
<td>Pavement within 0.02 mile</td>
</tr>
<tr>
<td>Bridges and approach slabs</td>
<td>The bridge and approach slab and 0.02 mile from the ends of the bridge or approach slab</td>
</tr>
<tr>
<td>Defects in the existing roadway identified by the Contractor that adversely affect the MRI such as dips, depressions and wheel path longitudinal joints.¹</td>
<td>0.01-mile section containing the defect and the 0.01-mile section following the section with the defect.</td>
</tr>
</tbody>
</table>

¹The presence of defects is subject to verification by the Engineer

Report the MRI results in inches per mile for each 0.01-mile section and each 0.10-mile section. Do not truncate 0.10-mile sections for areas excluded from MRI acceptance requirements. MRI requirements will not apply to 0.10-mile sections with more than three 0.01 mile-sections excluded. MRI requirements for the individual 0.01-mile sections shall still apply. The Engineer will verify the analysis.

The MRI for each 0.10 mile of ground lane will comply with the following:
Control Profile MRI per 0.10 Mile | Maximum MRI of Acceptance Profile per 0.10 Mile
--- | ---
≤130 inches/mile | 78 inches/mile
>130 inches/mile | 0.6 x Control Profile MRI

The MRI for each 0.01 mile of the completed cement concrete grinding shall not exceed 160 inches/mile.

All Work is subject to parallel and transverse 10-foot straightedge requirements, corrective work and disincentive adjustments.

Surface smoothness of travel lanes including areas subject to MRI testing 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 smoothness perpendicular to the centerline will be measured with a 10-foot straightedge within the lanes. There shall be not vertical elevation difference of more than a ¼ inch between lanes.

Pavement that does not meet these requirements will be subject to corrective Work. All corrective Work shall be completed at no additional expense, including traffic control, to the Contracting Agency. Pavement shall be repaired by one or more of the following methods:

1. Diamond grinding.
2. By other method accepted by the Engineer.

Repair areas shall be re-profiled to ensure they no longer require corrective Work. With concurrence of the Engineer, a 10-foot straight edge may be used in place of the inertial profiler.

If correction of the roadway as listed above either will not or does not produce satisfactory results as to smoothness or serviceability the Engineer may accept the completed pavement and a credit will be calculated in accordance with Section 5-01.5. Under these circumstances, the decision whether to accept the completed pavement or to require corrective work as described above shall be vested entirely in the Engineer.

5-01.5 Payment

This section is supplemented with the following:

“Grinding Smoothness Compliance Adjustment”, by calculation.

Grinding Smoothness Compliance Adjustments will be based on the requirements in Section 5-01.3(10) and the following calculations:

A smoothness compliance adjustment will be calculated in the sum of minus $100 for each and every section of single traffic lane 0.01 mile in length and $1,000 for each and every section of single traffic lane 0.10 mile in length that does not meet the requirements in Section 5-01.3(10) after corrective Work.
5-02.AP5
Section 5-02, Bituminous Surface Treatment
April 1, 2019

5-02.3(5) Application of Aggregates

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

The Contractor shall use a pickup broom in all curbed areas, on all bridges, within city limits, within sensitive areas, and where shown in the Plans both before the application of emulsified asphalt and during the final brooming operation.

5-04.AP5
Section 5-04, Hot Mix Asphalt
April 1, 2019

5-04.1 Description
The last sentence of the first paragraph is revised to read:

The manufacture of HMA may include additives or processes that reduce the optimum mixing temperature (Warm Mix Asphalt) or serve as a compaction aid in accordance with these Specifications.

5-04.2 Materials
The reference to “Warm Mix Asphalt Additive” is revised to read “HMA Additive”.

5-04.2(1) How to Get an HMA Mix Design on the QPL
The last bullet in the first paragraph is revised to read:

• Do not include HMA additives that reduce the optimum mixing temperature or serve as a compaction aid when developing a mix design or submitting a mix design for QPL evaluation. The use of HMA 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.

In the table, “WSDOT Standard Practice QC-8” is revised to read “WSDOT Standard Practice QC-8 located in the WSDOT Materials Manual M 46-01”.

5-04.2(1)C Mix Design Resubmittal for QPL Approval
Item number 3 of the first paragraph is revised to read:

3. Changes in modifiers used in the asphalt binder.

5-04.2(2)B Using Warm Mix Asphalt Processes
This section, including title, is revised to read:

5-04.2(2)B Using HMA Additives
The Contractor may, at the Contractor’s discretion, elect to use additives that reduce the optimum mixing temperature or serve as a compaction aid for producing HMA. Additives include organic additives, chemical additives and foaming processes. The use of Additives is subject to the following:
Do not use additives that reduce the mixing temperature in accordance with Section 5-04.3(6) in the production of High RAP/Any RAS mixtures.

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

5-04.3(3)A Mixing Plant

Item number 5 of the first paragraph is revised to read:

5. Provide HMA sampling equipment that complies with FOP for AASHTO T 168:
   - Use a mechanical sampling device accepted by the Engineer, or
   - Platforms or devices to enable sampling from the truck transport without entering the truck transport for sampling HMA.

5-04.3(4) Preparation of Existing Paved Surfaces

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

Unless otherwise allowed by the Engineer, use cationic emulsified asphalt CSS-1, CSS-1h, or Performance Graded (PG) asphalt for tack coat.

5-04.3(6) Mixing

The first paragraph is revised to read:

The asphalt supplier shall introduce recycling agent and anti-stripping additive, in the amount designated on the QPL for the mix design, into the asphalt binder prior to shipment to the asphalt mixing plant.

The seventh paragraph is revised to read:

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

5-04.3(7) Spreading and Finishing

The last row of the table is revised to read:

<table>
<thead>
<tr>
<th>3⁄8 inch</th>
<th>0.25 feet</th>
<th>0.30 feet</th>
</tr>
</thead>
</table>

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

The following new paragraph is inserted after the first paragraph:

The Contracting Agency’s combined aggregate bulk specific gravity (Gsb) blend as shown on the HMA Mix Design will be used for VMA calculations until the Contractor submits a written request for a Gsb test. The new Gsb will be used in the VMA calculations for HMA from the date the Engineer receives the written request for a Gsb retest. The Contractor may request aggregate specific gravity (Gsb) testing be performed by the Contracting Agency twice per project. The Gsb blend of the combined
stockpiles will be used to calculate voids in mineral aggregate (VMA) of any HMA produced after the new Gsb is determined.

5-04.3(9)A1 Test Section – When Required, When to Stop

The following new row is inserted after the second row in Table 9:

<table>
<thead>
<tr>
<th>VMA</th>
<th>Minimum PF of 0.95 based on the criteria in Section 5-04.3(9)B4²</th>
<th>None³</th>
</tr>
</thead>
</table>

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

In Table 9a, the test property “Gradation, Asphalt Binder, and Vₐ” is revised to read “Gradation, Asphalt Binder, VMA, and Vₐ”.

In Table 9a, the first column of the third row is revised to read:

<table>
<thead>
<tr>
<th>Aggregates:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand Equivalent</td>
</tr>
<tr>
<td>Uncompacted Void Content</td>
</tr>
<tr>
<td>Fracture</td>
</tr>
</tbody>
</table>

5-04.3(9)B3 Mixture Statistical Evaluation – Acceptance Testing

In Table 11, “Vₐ” is revised to read “VMA and Vₐ”.

5-04.3(9)B5 Mixture Statistical Evaluation – Composite Pay Factors (CPF)

The following new row is inserted above the last row in Table 12:

<table>
<thead>
<tr>
<th>Voids in Mineral Aggregate</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>(VMA)</td>
<td></td>
</tr>
</tbody>
</table>

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

The second to last sentence is revised to read:

The sample will be tested for a complete gradation analysis, asphalt binder content, VMA and Vₐ, 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.

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

The last paragraph is revised to read:

On bridge decks and on roadway approaches within five feet of a bridge/back of pavement seat, rollers shall not be operated in a vibratory mode, defined as a mode in which the drum vibrates vertically. However, unless otherwise noted on the plans, rollers may be operated in an oscillatory mode, defined as a mode in which the drum vibrates in the horizontal direction only.

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

The bulleted item in the fourth paragraph is revised to read:

• For a compaction lot in progress with a compaction CPF less than 0.75 using an LSL = 91.5, 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.

5-04.3(10)C2 HMA Compaction Statistical Evaluation – Acceptance Testing
In the table, “WSDOT FOP for AASHTO T 355” is revised to read “FOP for AASHTO T 355”.

5-04.3(10)C3 HMA Statistical Compaction – Price Adjustments
In the first paragraph, “WSDOT FOP for AASHTO T 355” is revised to read “FOP for AASHTO T 355”.

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

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)D5 to determine the appropriate Composite Pay Factor (CPF).

The last two paragraphs are revised to read:

Determine the Compaction Price Adjustment (CPA) from the table below, selecting the equation for CPA that corresponds to the value of CPF determined above.

<table>
<thead>
<tr>
<th>Calculating HMA Compaction Price Adjustment (CPA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of CPF</td>
</tr>
<tr>
<td>When CPF &gt; 1.00</td>
</tr>
<tr>
<td>When CPF = 1.00</td>
</tr>
<tr>
<td>When CPF &lt; 1.0</td>
</tr>
</tbody>
</table>

Where
CPA = Compaction Price Adjustment for the compaction lot ($)
CPF = Composite Pay Factor for the compaction lot (maximum is 1.05)
Q = Quantity in the compaction lot (tons)
UP = Unit price of the HMA in the compaction lot ($/ton)

5-04.3(10)C4 HMA Statistical Compaction – Requests for Retesting
The first sentence is revised to read:

For a compaction sublot that has been tested with a nuclear density gauge that did not meet the minimum of 91.5 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.

5-04.3(13) Surface Smoothness
The second to last paragraph is revised to read:

When 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 concrete pavement. Prior to placing the concrete pavement, bring any
such irregularities to the required tolerance by grinding or other means allowed by the
Engineer.

5-04.5 Payment
The paragraph following the Bid item “Crack Sealing-LF”, per linear foot is revised to read:
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.

5-05.AP5
Section 5-05, Cement Concrete Pavement
April 1, 2019

5-05.1 Description
In the first paragraph, “portland cement concrete” is revised to read “cement concrete”.

5-05.2 Materials
In the first paragraph, the reference to “Portland Cement” is revised to read:
Cement 9-01
In the first paragraph, the section reference for Concrete Patching Material is revised to read
“9-20.1”.
The second paragraph is revised to read:
Cementitious materials are considered to be the following: portland cement, blended
hydraulic cement, fly ash, ground granulated blast furnace slag and microsilica fume.

5-05.3(1) Concrete Mix Design for Paving
The table title in item number 4 is revised to read Concrete Batch Weights.
In item 4a, “Portland Cement” is revised to read “Cement”.

5-05.3(3)E Smoothness Testing Equipment
This section is revised to read:
Inertial profilers shall meet all requirements of AASHTO M 328 and be certified in
accordance with AASHTO R 56 within the preceding 12 months.
The inertial profiler operator shall be certified as required by AASHTO R 56 within three
years preceding profile measurement.
Equipment or operator certification by other states or a profiler certification facility will be
accepted provided the certification meets the requirements of AASHTO R 56.
Documentation verifying certification by another state shall be submitted to the Engineer
a minimum of 14 calendar days prior to profile measurement. Equipment certification
documentation shall include the information required by part 8.5 and 8.6 of AASHTO R
56. Operator documentation shall include a statement from the certifying state that
indicates the operator is certified to operate the inertial profiler to be used on the project.
The decision whether another state’s certification meets the requirements of AASHTO R
56 shall be vested entirely in the Engineer.
5-05.3(4) Measuring and Batching Materials

Item number 2 is revised to read:

2. **Batching Materials** – On all projects requiring more than 2,500 cubic yards of concrete for paving, the batching plant shall be equipped to proportion aggregates and cement by weight by means of automatic and interlocked proportioning devices of accepted type.

5-05.3(4)A Acceptance of Portland Cement Concrete Pavement

This section’s title is revised to read:

**Acceptance of Portland Cement or Blended Hydraulic Cement Concrete Pavement**

The first sentence is revised to read:

Acceptance of portland cement or blended hydraulic cement concrete pavement shall be as provided under statistical or nonstatistical acceptance.

5-05.3(7) Placing, Spreading, and Compacting Concrete

This section’s content is deleted.

5-05.3(10) Tie Bars and Corrosion Resistant Dowel Bars

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

The tie bar holes shall be clean before grouting.

5-05.3(12) Surface Smoothness

This section is revised to read:

Pavement surface smoothness for this project will include International Roughness Index (IRI) testing. The Contractor shall perform IRI testing on each through lane, climbing lane, and passing lane, greater than 0.25 mile in length and these lanes will be subject to incentive/disincentive adjustments. Ride quality will be evaluated using the Mean Roughness Index (MRI) calculated by averaging the IRI data for the left and right wheel path within the section.

Ramps, shoulders and tapers will not be included in MRI testing for pavement smoothness and will not be subject to incentive adjustments. All Work is subject to parallel and transverse 10-foot straightedge requirements, corrective work and disincentive adjustments.

Operate the inertial profiler in accordance with AASHTO R 57. Collect two longitudinal traces, one in each wheel path. Collect profile data after completion of all concrete paving on the project in a continuous pass including areas excluded from pay adjustments. Provide notice to the Engineer a minimum of seven calendar days prior to testing.

Within 30 calendar days after the Contractor’s testing, the Engineer may perform verification testing. If the verification testing shows a difference in MRI greater than the percentages shown in Table 2 of AASHTO R 54 the following resolution process will be followed:
1. The profiles, equipment and procedures will be evaluated to determine the cause of the difference.

2. If the cause of the discrepancy cannot be resolved the pavement shall be retested with both profilers at a mutually agreed time. The two profilers will test the section within 30 minutes of each other. If the retest shows a difference in MRI equal or greater than the percentages shown in Table 2 of AASHTO R 54 the Engineer’s test results will be used to establish pay adjustments.

Surface smoothness of travel lanes not subject to MRI testing will be measured with a 10-foot straightedge no later than 5:00 p.m. of the day following the placing of the concrete. 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.

Smoothness perpendicular to the centerline will be measured with a 10-foot straightedge across all lanes with the same cross slope, including shoulders when composed of cement concrete pavement. The overlapping 10-foot straightedge measurement shall be discontinued at a point 6 inches from the most extreme outside edge of the finished cement concrete pavement. The completed surface of the wearing course shall not vary more than ¼ inch from the lower edge of a 10-foot straightedge placed on the surface perpendicular to the centerline. Any deviations in excess of the above tolerances shall be corrected.

The Contractor shall evaluate profiles for acceptance, incentive payments, disincentive payments, or corrective action using the current version of ProVAL and provide the results including the profile data in unfiltered electronic Engineering Research Division (ERD) file format to the Engineer within 2 calendar days of completing testing each section of pavement. If the profile data files are created using an export option in the manufacturer’s software where filter settings can be specified, use the filter settings that were used to create data files for certification. Analyze the entire profile. Exclude any areas specifically identified in the Contract. Exclude from the analysis the first 100 feet after the start of the paving operations and last 100 feet prior to the end of the paving operation, the first 100 feet on either side of bridge Structures and bridge approach slab. Report the MRI results in inches per mile for each 52.8-foot section and horizontal distance measurements in project stationing to the nearest foot. Include pay adjustments in the results. The Engineer will verify the analysis.

Corrective work for pavement smoothness may be taken by the Contractor prior to MRI testing. After completion of the MRI testing the Contractor shall measure the smoothness of each 52.8-foot section with an MRI greater than 125 inches per mile with a 10-foot straightedge within 14 calendar days or as allowed by the Engineer. The Contractor shall identify all locations that require corrective work and provide the straight edge measurements at each location that exceeds the allowable limit to the Engineer. If all measurements in a 52.8-foot section comply with smoothness requirements, the Contractor shall provide the maximum measurement to the Engineer and a statement that corrective work is not required. Unless allowed by the Engineer, corrective work shall be taken by the Contractor for pavement identified by the Contractor or Engineer that does not meet the following requirements:
1. The completed surface shall be of uniform texture, smooth, uniform as to
crown and grade, and free from defects of all kinds.

2. The completed surface shall not vary more than \(\frac{1}{8}\) inch from the lower edge of
a 10-foot straightedge placed on the surface parallel to the centerline.

3. The completed surface shall vary not more than \(\frac{1}{4}\) inch in 10 feet from the rate
of transverse slope shown in the Plans.

All corrective work shall be completed at no additional expense, including traffic control,
to the Contracting Agency. Corrective work shall not begin until the concrete has
reached its design strength unless allowed by the Engineer. Pavement shall be repaired
by one or more of the following methods:

1. Diamond grinding; repairs shall not reduce pavement thickness by more than
\(\frac{1}{4}\) inch less than the thickness shown in the Plans. When required by the
Engineer, the Contractor shall verify the thickness of the concrete pavement by
coring. Thickness reduction due to corrective work will not be included in
thickness measurements for calculating the Thickness Deficiency in Section 5-05.5(1A).

2. Removal and replacement of the cement concrete pavement.

3. By other method allowed by the Engineer.

For repairs following MRI testing the repaired area shall be checked by the Contractor
with a 10-foot straightedge to ensure it no longer requires corrective work. With
concurrence of the Engineer an inertial profiler may be used in place of the 10-foot
straight edge.

If correction of the roadway as listed above either will not or does not produce
satisfactory results as to smoothness or serviceability the Engineer may accept the
completed pavement and a credit will be calculated in accordance with Section 5-05.5.
The credit will be in addition to the price adjustment for MRI. Under these
circumstances, the decision whether to accept the completed pavement or to require
corrective work as described above shall be vested entirely in the Engineer.

5-05.3(22) Repair of Defective Pavement Slabs

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

All sandblasting residue shall be removed.

5-05.4 Measurement

Item number 3 of the second paragraph is revised to read:

3. The depth shall be determined in accordance with Section 5-05.5(1). The depth
utilized to calculate the volume shall not exceed the Plan depth plus 0.04 feet.

The third paragraph is revised to read:

The volume of cement concrete pavement in each thickness lot shall equal the
measured length \(\times\) width \(\times\) thickness measurement.
The last paragraph is revised to read:

The calculation for cement concrete compliance adjustment is the volume of concrete represented by the CPF and the Thickness deficiency adjustment.

5-05.5 Payment

The paragraph following the Bid item “Cement Conc. Pavement”, per cubic yard is supplemented with the following:

All costs associated with performing the magnetic pulse induction thickness testing shall be included in the unit Contract price per cubic yard for “Cement Conc. Pavement”.

The Bid item “Ride Smoothness Compliance Adjustment”, by calculation, and the paragraph following this bid item are revised to read:

“Ride Smoothness Compliance Adjustment”, by calculation.

Smoothness Compliance Adjustments will be based on the requirements in Section 5-05.3(12) and the following calculations:

1. Final MRI acceptance and incentive/disincentive payments for pavement smoothness will be calculated as the average of the ten 52.8-foot sections in each 528 feet in accordance with the price adjustment schedule.

   a. For sections of a lane that are a minimum of 52.8 feet and less than 528 feet, the price adjustment will be calculated using the average of the 52.8 foot MRI values and the price adjustment prorated for the length of the section.

   b. MRI values per 52.8-feet that were measured prior to corrective work will be included in the 528 foot price adjustment for sections with corrective work.

2. In addition to the price adjustment for MRI a smoothness compliance adjustment will be calculated in the sum of minus $1000.00 for each and every section of single traffic lane 52.8 feet in length in that does not meet the 10-foot straight edge requirements in Section 5-05.3(12) after corrective Work.

<table>
<thead>
<tr>
<th>Price Adjustment Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRI for each 528 ft. section</td>
</tr>
<tr>
<td>in. / mi.</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>&lt; 30</td>
</tr>
<tr>
<td>30</td>
</tr>
<tr>
<td>31</td>
</tr>
<tr>
<td>32</td>
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<td>85</td>
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<tr>
<td>86</td>
</tr>
<tr>
<td>87</td>
</tr>
</tbody>
</table>
The bid item “Portland Cement Concrete Compliance Adjustment”, by calculation, and the paragraph following this bid item are revised to read:

“Cement Concrete Compliance Adjustment”, by calculation.

Payment for “Cement Concrete Compliance Adjustment” will be calculated by multiplying the unit Contract price for the cement concrete pavement, times the volume for adjustment, times the percent of adjustment determined from the calculated CPF and the Deficiency Adjustment listed in Section 5-05.5(1)A.

5-05.5(1) Pavement Thickness

This section is revised to read:
Cement concrete pavement shall be constructed in accordance with the thickness requirements in the Plans and Specifications. Tolerances allowed for Subgrade construction and other provisions, which may affect thickness, shall not be construed to modify such thickness requirements.

Thickness measurements in each lane paved shall comply with the following:

<table>
<thead>
<tr>
<th>Thickness Testing of Cement Concrete Pavement</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness Lot Size</td>
<td>15 panels maximum</td>
</tr>
<tr>
<td>Thickness test location determined by</td>
<td>Engineer will select testing locations in accordance with WSDOT TM 716 method B.</td>
</tr>
<tr>
<td>Sample method</td>
<td>AASHTO T 359</td>
</tr>
<tr>
<td>Sample preparation performed by</td>
<td>Contractor provides, places, and secures disks in the presence of the Engineer¹</td>
</tr>
<tr>
<td>Measurement method</td>
<td>AASHTO T 359</td>
</tr>
<tr>
<td>Thickness measurement performed by</td>
<td>Contractor, in the presence of the Engineer²</td>
</tr>
</tbody>
</table>

¹Reflectors shall be located at within 0.5 feet of the center of the panel. The Contractor shall supply a sufficient number of 300 mm-diameter round reflectors meeting the requirements of AASHTO T 359 to accomplish the required testing.

²The Contractor shall provide all equipment and materials needed to perform the testing.

Thickness measurements shall be rounded to the nearest 0.01 foot.

Each thickness test location where the pavement thickness is deficient by more than 0.04 foot, shall be subject to price reduction or corrective action as shown in Table 2.

<table>
<thead>
<tr>
<th>Table 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness Deficiency</td>
</tr>
<tr>
<td>0.04’ &lt; Thickness Deficiency ≤ 0.06’</td>
</tr>
<tr>
<td>0.06’ &lt; Thickness deficiency ≤ 0.08’</td>
</tr>
<tr>
<td>Thickness deficiency &gt; 0.08’</td>
</tr>
</tbody>
</table>

The price reduction shall be computed by multiplying the percent price reduction in Table 2 by the unit Contract price by the volume of pavement represented by the thickness test lot.

Additional cores may be taken by the Contractor to determine the limits of an area that has a thickness deficiency greater than 0.04 feet. Cores shall be taken at the approximate center of the panel. Only the panels within the limits of the deficiency area as determined by the cores will be subject to a price reduction or corrective action. The cores shall be taken in the presence of the Engineer and delivered to the Engineer for measurement. All costs for the additional cores including filling the core holes with patching material meeting the requirements of Section 9-20 will be the responsibility of the Contractor.

5-05.5(1)A  Thickness Deficiency of 0.05 Foot or Less

This section, including title, is revised to read:
5-05.5(1)A Vacant

5-05.5(1)B Thickness Deficiency of More Than 0.05 Foot

This section, including title, is revised to read:

5-05.5(1)B Vacant

6-01.AP6

Section 6-01, General Requirements for Structures

January 7, 2019

This section is supplemented with the following new subsections:

6-01.16 Repair of Defective Work

6-01.16(1) General

When using repair procedures that are described elsewhere in the Contract Documents, the Working Drawing submittal requirements of this Section shall not apply to those repairs unless noted otherwise.

Repair procedures for defective Work shall be submitted as Type 2 Working Drawings. Type 2E Working Drawings shall be submitted when required by the Engineer. As an alternative to submitting Type 2 or 2E Working Drawings, defective Work within the limits of applicability of a pre-approved repair procedure may be repaired using that procedure. Repairs using a pre-approved repair procedure shall be submitted as a Type 1 Working Drawing.

Pre-approved repair procedures shall consist of the following:

- The procedures listed in Section 6-01.16(2)
- For precast concrete, repair procedures in the annual plant approval process documents that have been approved for use by the Contracting Agency.

All Working Drawings for repair procedures shall include:

- A description of the defective Work including location, extent and pictures
- Materials to be used in the repair. Repairs using manufactured products shall include written manufacturer recommendations for intended uses of the product, surface preparation, mixing, aggregate extension (if applicable), ambient and surface temperature limits, placement methods, finishing and curing.
- Construction procedures
- Plan details of the area to be repaired
- Calculations for Type 2E Working Drawings

Material manufacturer’s instructions and recommendations shall supersede any conflicting requirements in pre-approved repair procedures.
The Engineer shall be notified prior to performing any repair procedure and shall be given an opportunity to inspect the repair work being performed.

6-01.16(2) Pre-Approved Repair Procedures

6-01.16(2)A Concrete Spalls and Poor Consolidation (Rock Pockets, Honeycombs, Voids, etc.)

This repair shall be limited to the following areas:

- Areas that are not on top Roadway surfaces (with or without an overlay) including but not limited to concrete bridge decks, bridge approach slabs or cement concrete pavement
- Areas that are not underwater
- Areas that are not on precast barrier, except for the bottom 4 inches (but not to exceed 1 inch above blockouts)
- Areas that do not affect structural adequacy as determined by the Engineer.

The repair procedure is as follows:

1. Remove all loose and unsound concrete. Impact breakers shall not exceed 15 pounds in weight when removing concrete adjacent to reinforcement or other embedments and shall not exceed 30 pounds in weight otherwise. Operate impact breakers at angles less than 45 degrees as measured from the surface of the concrete to the tool and moving away from the edge of the defective Work. Concrete shall be completely removed from exposed surfaces of existing steel reinforcing bars. If half or more of the circumference of any steel reinforcing bar is exposed, if the reinforcing bar is loose or if the bond to existing concrete is poor then concrete shall be removed at least ¾ inch behind the reinforcing bar. Do not damage any existing reinforcement. Stop work and allow the Engineer to inspect the repair area after removing all loose and unsound concrete. Submit a modified repair procedure when required by the Engineer.

2. Square the edges of the repair area by cutting an edge perpendicular to the concrete surface around the repair area. The geometry of the repair perimeter shall minimize the edge length and shall be rectangular with perpendicular edges, avoiding reentrant corners. The depth of the cut shall be a minimum of ¾ inch, but shall be reduced if necessary to avoid damaging any reinforcement. For repairs on vertical surfaces, the top edge shall slope up toward the front at a 1-vertical-to-3-horizontal slope.

3. Remove concrete within the repair area to a depth at least matching the cut depth at the edges. Large variations in the depth of removal within short distances shall be avoided. Roughen the concrete surface. The concrete surface should be roughened to at least Concrete Surface Profile (CSP) 5 in accordance with ICRI Guideline.
No. 310.2R, unless a different CSP is recommended by the patching material manufacturer.

4. Inspect the concrete repair surface for delaminations, debonding, microcracking and voids using hammer tapping or a chain drag. Remove any additional loose or unsound concrete in accordance with steps 1 through 3.

5. Select a patching material in accordance with Section 9-20.2 that is appropriate for the repair location and thickness. The concrete patching material shall be pumpable or self-consolidating as required for the type of placement that suits the repair. The patching material shall have a minimum compressive strength at least equal to the specified compressive strength of the concrete.

6. Prepare the concrete surface and reinforcing steel in accordance with the patching material manufacturer’s recommendations. At a minimum, clean the concrete surfaces (including perimeter edges) and reinforcing steel using oil-free abrasive blasting or high-pressure (minimum 5,000 psi) water blasting. All dirt, dust, loose particles, rust, laitance, oil, film, microcracked/bruised concrete or foreign material of any sort shall be removed. Damage to the epoxy coating on steel reinforcing bars shall be repaired in accordance with Section 6-02.3(24)H.

7. Construct forms if necessary, such as for patching vertical or overhead surfaces or where patching extends to the edge or corner of a placement.

8. When recommended by the patching material manufacturer, saturate the concrete in the repair area and remove any free water at the concrete surface to obtain a saturated surface dry (SSD) substrate. When recommended by the patching material manufacturer, apply a primer, scrub coat or bonding agent to the existing surfaces. Epoxy bonding agents, if used, shall be Type II or Type V in accordance with Section 9-26.1.

9. Place and consolidate the patching material in accordance with the manufacturer’s recommendations. Work the material firmly into all surfaces of the repair area with sufficient pressure to achieve proper bond to the concrete.

10. The patching material shall be textured, cured and finished in accordance with the patching material manufacturer’s recommendations and/or the requirements for the repaired component. Protect the newly placed patch from vibration in accordance with Section 6-02.3(6)D.

11. When the completed repair does not match the existing concrete color and will be visible to the public, a sand and cement mixture that is color matched to the existing concrete shall be rubbed, brushed, or applied to the surface of the patching material and the concrete.
6-01.10 Utilities Supported by or Attached to Bridges
In the third paragraph, “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

6-01.12 Final Cleanup
The second sentence of the first paragraph is revised to read:
Structure decks shall be clean.
The second paragraph is deleted.

6-02.AP6
Section 6-02, Concrete Structures
April 1, 2019

6-02.1 Description
The first sentence is revised to read:
This Work consists of the construction of all Structures (and their parts) made of portland cement or blended hydraulic cement concrete with or without reinforcement, including bridge approach slabs.

6-02.2 Materials
In the first paragraph, the references to “Portland Cement” and “Aggregates for Portland Cement Concrete” are revised to read:
Cement 9-01
Aggregates for Concrete 9-03.1
The reference to metakaolin is deleted.

6-02.3(2) Proportioning Materials
The second paragraph is revised to read:
Unless otherwise specified, the Contractor shall use Type I or II portland cement or blended hydraulic cement in all concrete as defined in Section 9-01.2(1).
The last sentence of the fifth paragraph is revised to read:
With the Engineer’s written concurrence, microsilica fume may be used in all classifications of Class 4000, Class 3000, and commercial concrete and is limited to a maximum of 10 percent of the cementitious material.

6-02.3(2)A Contractor Mix Design
The last sentence of the last paragraph is revised to read:
For all other concrete, air content shall be a minimum of 4.5 percent and a maximum of 7.5 percent for all concrete placed above the finished ground line unless noted otherwise.
6-02.3(2)A1 Contractor Mix Design for Concrete Class 4000D

Item number 5 of the first paragraph is deleted.

Item number 6 of the first paragraph (after the preceding Amendment is applied) is renumbered to 5.

6-02.3(2)B Commercial Concrete

The second paragraph is revised to read:

Where concrete Class 3000 is specified for items such as, culvert headwalls, plugging culverts, concrete pipe collars, pipe anchors, monument cases, Type PPB, PS, I, FB and RM signal standards, pedestals, cabinet bases, guardrail anchors, fence post footings, sidewalks, concrete curbs, curbs and gutters, and gutters, the Contractor may use commercial concrete. If commercial concrete is used for sidewalks, concrete curbs, curbs and gutters, and gutters, it shall have a minimum cementitious material content of 564 pounds per cubic yard of concrete, shall be air entrained, and the tolerances of Section 6-02.3(5)C shall apply.

6-02.3(4) Ready-Mix Concrete

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

All concrete, except lean concrete, shall be batched in a prequalified manual, semi-automatic, or automatic plant as described in Section 6-02.3(4)A.

6-02.3(4)D Temperature and Time For Placement

The following is inserted after the first sentence of the first paragraph:

The upper temperature limit for placement for Class 4000D concrete may be increased to a maximum of 80°F if allowed by the Engineer.

6-02.3(5)C Conformance to Mix Design

Item number 1 of the second paragraph is revised to read:

1. Cement weight plus 5 percent or minus 1 percent of that specified in the mix design.

6-02.3(6)A1 Hot Weather Protection

The first paragraph 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, the mixing water is adjusted for the free water in the aggregate and the coarse aggregate is removed from at least 1 foot above the bottom of the pile. Sprinkling of fine aggregate piles with water is not allowed. Refrigerating mixing water or replacing all or part of the mixing water with crushed ice is permitted, provided the ice is completely melted by placing time.

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

These surfaces include forms, reinforcing steel, steel beam flanges, and any others that touch the concrete.
6-02.3(7) Vacant

This section, including title, is revised to read:

6-02.3(7) Tolerances

Unless noted otherwise, concrete construction tolerances shall be in accordance with this section. Tolerances in this section do not apply to cement concrete pavement.

Horizontal deviation of roadway crown points, cross-slope break points, and curb, barrier or railing edges from alignment or work line: ±1.0 inch

Deviation from plane: ±0.5 inch in 10 feet

Deviation from plane for roadway surfaces: ±0.25 inch in 10 feet

Deviation from plumb or specified batter: ±0.5 inch in 10 feet, but not to exceed a total of ±1.5 inches

Vertical deviation from profile grade for roadway surfaces: ±1 inch

Vertical deviation of top surfaces (except roadway surfaces): ±0.75 inch

Thickness of bridge decks and other structural slabs not at grade: ±0.25 inch

Length, width and thickness of elements such as columns, beams, crossbeams, diaphragms, corbels, piers, abutments and walls, including dimensions to construction joints in initial placements: +0.5 inch, -0.25 inch

Length, width and thickness of spread footing foundations: +2 inches, -0.5 inch

Horizontal location of the as-placed edge of spread footing foundations: The greater of ±2% of the horizontal dimension of the foundation perpendicular to the edge and ±0.5 inch. However, the tolerance shall not exceed ±2 inches.

Location of opening, insert or embedded item at concrete surface: ±0.5 inch

Cross-sectional dimensions of opening: ±0.5 inch

Bridge deck, bridge approach slab, and bridge traffic barrier expansion joint gaps with a specified temperature range, measured at a stable temperature: ±0.25 inch

Horizontal deviation of centerline of bearing pad, oak block or other bearing assembly: ±0.125 inch

Horizontal deviation of centerline of supported element from centerline of bearing pad, oak block or other bearing assembly ±0.25 inch

Vertical deviation of top of bearing pad, oak block or other bearing assembly: ±0.125 inch

6-02.3(10)C Finishing Equipment

The first paragraph is revised to read:
The finishing machine shall be self-propelled and be capable of forward and reverse movement under positive control. The finishing machine shall be equipped with augers and a rotating cylindrical single or double drum screed. The finishing machine shall have the necessary adjustments to produce the required cross section, line, and grade. The finishing machine shall be capable of raising the screeds, augers, and any other parts of the finishing mechanical operation to clear the screeded surface, and returning to the specified grade under positive control. Unless otherwise allowed by the Engineer, a finishing machine manufacturer technical representative shall be on site to assist the first use of the machine on the Contract.

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

For bridge deck widening of 20 feet or less, and for bridge approach slabs, or where jobsite conditions do not allow the use of the conventional configuration finishing machines, or modified conventional machines as described above; the Contractor may submit a Type 2 Working Drawing proposing the use of a hand-operated motorized power screed such as a “Texas” or “Bunyan” screed.

6-02.3(10)D4 Monitoring Bridge Deck Concrete Temperature After Placement

This section, including title, is revised to read:

6-02.3(10)D4 Vacant

6-02.3(10)D5 Bridge Deck Concrete Finishing and Texturing

In the third subparagraph of the first paragraph, the last sentence is revised to read:

The Contractor shall texture the bridge deck surface to within 3-inches minimum and 24-inches maximum of the edge of concrete at expansion joints, within 1-foot minimum and 2-feet maximum of the curb line, and within 3-inches minimum and 9-inches maximum of the perimeter of bridge drain assemblies.

6-02.3(10)F Bridge Approach Slab Orientation and Anchors

The second to last paragraph is revised to read:

The compression seal shall be a 2½ inch wide gland and shall conform to Section 9-04.1(4).

The last paragraph is deleted.

6-02.3(13)A Strip Seal Expansion Joint System

In item number 3 of the third paragraph, “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

6-02.3(13)B Compression Seal Expansion Joint System

The first paragraph is revised to read:

Compression seal glands shall conform to Section 9-04.1(4) and be sized as shown in the Plans.

6-02.3(14)C Pigmented Sealer for Concrete Surfaces

This section is supplemented with the following new paragraph:
Pigmented Sealer Materials shall be a product listed in the current WSDOT Qualified Products List (QPL). If the pigmented sealer material is not listed in the current WSDOT QPL, a sample shall be submitted to the State Materials Laboratory in Tumwater for evaluation and acceptance in accordance with Section 9-08.3.

6-02.3(20) Grout for Anchor Bolts and Bridge Bearings
The second, third and fourth paragraphs are revised to read:

Grout shall be a workable mix with a viscosity that is suitable for the intended application. Grout shall not be placed outside of the manufacturer recommended range of thickness. The Contractor shall receive concurrence from the Engineer before using the grout.

Field grout cubes and cylinders shall be fabricated and tested in accordance with Section 9-20.3 when requested by the Engineer, but not less than once per bridge pier or once per day.

Before placing grout, the substrate on which it is to be placed shall be prepared as recommended by the manufacturer to ensure proper bonding. The grout shall be cured as recommended by the manufacturer. The grout may be loaded when a minimum of 4,000 psi compressive strength is attained.

The fifth paragraph is deleted.

6-02.3(23) Opening to Traffic
This section is supplemented with the following new paragraph:

After curing bridge approach slabs in accordance with Section 6-02.3(11), the bridge approach slabs may be opened to traffic when a minimum compressive strength of 2,500 psi is achieved.

6-02.3(24)C Placing and Fastening
This section is revised to read:

The Contractor shall position reinforcing steel as the Plans require and shall ensure that the steel is set within specified tolerances. Adjustments to reinforcing details outside of specified tolerances to avoid interferences and for other purposes are acceptable when approved by the Engineer.

When spacing between bars is 1 foot or more, they shall be tied at all intersections. When spacing is less than 1 foot, every other intersection shall be tied. If the Plans require bundled bars, they shall be tied together with wires at least every 6 feet. All epoxy-coated bars in the top mat of the bridge deck shall be tied at all intersections, however they may be tied at alternate intersections when spacing is less than 1 foot in each direction and they are supported by continuous supports meeting all other requirements of supports for epoxy-coated bars. Other epoxy-coated bars shall also be tied at all intersections, but shall be tied at alternate intersections when spacing is less than 1 foot in each direction. Wire used for tying epoxy-coated reinforcing steel shall be plastic coated. **Tack welding is not permitted on reinforcing steel.**
Abrupt bends in the steel are permitted only when one steel member bends around another. Vertical stirrups shall pass around main reinforcement or be firmly attached to it.

For slip-formed concrete, the reinforcing steel bars shall be tied at all intersections and cross braced to keep the cage from moving during concrete placement. Cross bracing shall be with additional reinforcing steel. Cross bracing shall be placed both longitudinally and transversely.

After reinforcing steel bars are placed in a traffic or pedestrian barrier and prior to slip-form concrete placement, the Contractor shall check clearances and reinforcing steel bar placement. This check shall be accomplished by using a template or by operating the slip-form machine over the entire length of the traffic or pedestrian barrier. All clearance and reinforcing steel bar placement deficiencies shall be corrected by the Contractor before slip-form concrete placement.

Precast concrete supports (or other accepted devices) shall be used to maintain the concrete coverage required by the Plans. The precast concrete supports shall:

1. Have a bearing surface measuring not greater than 2 inches in either dimension, and
2. Have a compressive strength equal to or greater than that of the concrete in which they are embedded.

In slabs, each precast concrete support shall have either: (1) a grooved top that will hold the reinforcing bar in place, or (2) an embedded wire that protrudes and is tied to the reinforcing steel. If this wire is used around epoxy-coated bars, it shall be coated with plastic.

Precast concrete supports may be accepted based on a Manufacturer’s Certificate of Compliance.

In lieu of precast concrete supports, the Contractor may use metal or all-plastic supports to hold uncoated bars. Any surface of a metal support that will not be covered by at least 1/2 inch of concrete shall be one of the following:

1. Hot-dip galvanized after fabrication in keeping with AASHTO M232 Class D;
2. Coated with plastic firmly bonded to the metal. This plastic shall be at least 3/32 inch thick where it touches the form and shall not react chemically with the concrete when tested in the State Materials Laboratory. The plastic shall not shatter or crack at or above -5°F and shall not deform enough to expose the metal at or below 200°F; or
3. Stainless steel that meet the requirements of ASTM A493, Type 302. Stainless steel chair supports are not required to be galvanized or plastic coated.

In lieu of precast concrete supports, epoxy-coated reinforcing bars may be supported by one of the following:
1. Metal supports coated entirely with a dielectric material such as epoxy or plastic,
2. Other epoxy-coated reinforcing bars, or
3. All-plastic supports.

Damaged coatings on metal bar supports shall be repaired prior to placing concrete.

All-plastic supports shall be lightweight, non-porous, and chemically inert in concrete.
All-plastic supports shall have rounded seatings, shall not deform under load during normal temperatures, and shall not shatter or crack under impact loading in cold weather. All-plastic supports shall be placed at spacings greater than 1 foot along the bar and shall have at least 25 percent of their gross place area perforated to compensate for the difference in the coefficient of thermal expansion between plastic and concrete. The shape and configuration of all-plastic supports shall permit complete concrete consolidation in and around the support.

A “mat” is two adjacent and perpendicular layers of reinforcing steel. In bridge decks, top and bottom mats shall be supported adequately enough to hold both in their proper positions. If bar supports directly support, or are directly supported on No. 4 bars, they shall be spaced at not more than 3-foot intervals (or not more than 4-foot intervals for bars No. 5 and larger). Wire ties to girder stirrups shall not be considered as supports. To provide a rigid mat, the Contractor shall add other supports and tie wires to the top mat as needed.

Unless noted otherwise, the minimum concrete cover for main reinforcing bars shall be:

3 inches to a concrete surface deposited against earth without intervening forms.
2½ inches to the top surface of a concrete bridge deck or bridge approach slab.
2 inches to a concrete surface when not specified otherwise in this section or in the Contract documents.
1½ inches to a concrete barrier or curb surface.

Except for top cover in bridge decks and bridge approach slabs, minimum concrete cover to ties and stirrups may be reduced by ½ inch but shall not be less than 1 inch. Minimum concrete cover shall also be provided to the outermost part of mechanical splices and headed steel reinforcing bars.

Reinforcing steel bar location, concrete cover and clearance shall not vary more than the following tolerances from what is specified in the Contract documents:

Reinforcing bar location for members 12 inches or less in thickness: ±0.25 inch
Reinforcing bar location for members greater than 12 inches in thickness: ±0.375 inch
Reinforcing bar location for bars placed at equal spacing within a plane: the greater of either ±1 inch or ±1 bar diameter within the plane. The total number of bars shall not be fewer than that specified.

The clearance between reinforcement shall not be less than the greater of the bar diameter or 1 inch for unbundled bars. For bundled bars, the clearance between bundles shall not be less than the greater of 1 inch or a bar diameter derived from the equivalent total area of all bars in the bundle.

Longitudinal location of bends and ends of bars: ±1 inch

Embedded length of bars and length of bar lap splices:

- No. 3 through No. 11: -1 inch
- No. 14 through No. 18: -2 inches

Concrete cover measured perpendicular to concrete surface (except for the top surface of bridge decks, bridge approach slabs and other roadway surfaces): ±0.25 inch

Concrete cover measured perpendicular to concrete surface for the top surface of bridge decks, bridge approach slabs and other roadway surfaces: +0.25 inch, -0 inch

Before placing any concrete, the Contractor shall:

1. Clean all mortar from reinforcement, and
2. Obtain the Engineer’s permission to place concrete after the Engineer has inspected the placement of the reinforcing steel. (Any concrete placed without the Engineer’s permission shall be rejected and removed.)

6-02.3(25)H Finishing

The last paragraph is revised to read:

The Contractor may repair defects in prestressed concrete girders in accordance with Section 6-01.16.

6-02.3(25)I Fabrication Tolerances

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

12. Stirrup Projection from Top of Girder:

- Wide flange thin deck and slab girders: ± ½ inch
- All other girders: ± ¾ inch

6-02.3(27) Concrete for Precast Units

The last sentence of the first paragraph is revised to read:
Type III portland cement or blended hydraulic cement is permitted to be used in precast concrete units.

6-02.3(28)B Casting
In the second paragraph, the reference to Section 6-02.3(25)B is revised to read Section 6-02.3(25)C.

6-02.3(28)D Contractors Control Strength
In the first paragraph, “WSDOT FOP for AASHTO T 23” is revised to read “FOP for AASHTO T 23”.

6-02.3(28)E Finishing
This section is supplemented with the following:

The Contractor may repair defects in precast panels in accordance with Section 6-01.16.

6-03.AP6
Section 6-03, Steel Structures
January 7, 2019

6-03.2 Materials
In the first paragraph, the material reference for Paints is revised to read:

Paints and Related Materials 9-08

6-03.3(25)A3 Ultrasonic Inspection
The first paragraph (up until the colon) is revised to read:

Complete penetration groove welds on plates 5/16 inch and thicker in the following welded assemblies or Structures shall be 100 percent ultrasonically inspected:

6-03.3(33) Bolted Connections
The first paragraph is supplemented with the following:

After final tightening of the fastener components, the threads of the bolts shall at a minimum be flush with the end of the nut.

The following is inserted after the third sentence of the fourth paragraph:

When galvanized bolts are specified, tension-control galvanized bolts are not permitted.

6-05.AP6
Section 6-05, Piling
January 2, 2018

6-05.3(9)A Pile Driving Equipment Approval
The fourth sentence of the second paragraph is revised to read:
For prestressed concrete piles, the allowable driving stress in kips per square inch shall be
0.095 \cdot \sqrt{f'_c} plus prestress in tension, and 0.85f'_c minus prestress in compression,
where $f'_c$ is the concrete compressive strength in kips per square inch.

Section 6-07, Painting
January 7, 2019

6-07.1 Description
The first sentence is revised to read:
This work consists of containment, surface preparation, shielding adjacent areas from
work, testing and disposing of debris, furnishing and applying paint, and cleaning up
after painting is completed.

6-07.2 Materials
The material reference for Paint is revised to read:
Paint and Related Materials 9-08

6-07.3(1)A Work Force Qualifications for Shop Application of Paint
This section is supplemented with the following new sentence:
The work force may be accepted based on the approved facility.

6-07.3(1)B Work Force Qualifications for Field Application of Paint
The first two paragraphs are revised to read:
The Contractor preparing the surface and applying the paint shall be certified under
SSPC-QP 1 or NACE International Institute Contractor Accreditation Program (NIICAP)
AS 1.
The Contractor removing and otherwise disturbing existing paint containing lead and
other hazardous materials shall be certified under SSPC-QP 2, Category A or NIICAP
AS 2.
The third paragraph (up until the colon) is revised to read:
In lieu of the above SSPC or NIICAP certifications, the Contractor performing the
specified work shall complete both of the following actions:
Item number 2 of the third paragraph is revised to read:
2. The Contractor’s quality control inspector(s) for the project shall be NACE-certified
CIP Level 3 or SSPC Protective Coating Inspector (PCI) Level 3.

6-07.3(2) Submittals
The first paragraph is supplemented with the following:
Each component of the plan shall identify the specification section it represents.
6-07.3(2)B Contractor’s Quality Control Program Submittal Component

The numbered list in the first paragraph is revised to read:

1. Description of the inspection procedures, tools, techniques and the acceptance criteria for all phases of work.

2. Procedure for implementation of corrective action for non-conformance work.

3. The paint system manufacturer’s recommended methods of preventing defects.

4. The Contractor’s frequency of quality control inspection for each phase of work.

5. Example of each completed form(s) of the daily quality control report used to document the inspection work and tests performed by the Contractor’s quality control personnel.

6-07.3(2)C Paint System Manufacturer and Paint System Information Submittal Component

Item number 1 is revised to read:

1. Product data sheets and Safety Data Sheets (SDS) on the paint materials, paint preparation, and paint application, as specified by the paint manufacturer, including:

   a. All application instructions, including the mixing and thinning directions.

   b. Recommended spray nozzles and pressures.

   c. Minimum and maximum drying time between coats.

   d. Restrictions on temperature and humidity.

   e. Repair procedures for shop and field applied coatings.

   f. Maximum dry film thickness for each coat.

   g. Minimum wet film thickness for each coat to achieve the specified minimum dry film thickness.

6-07.3(2)D Hazardous Waste Containment, Collection, Testing, and Disposal Submittal Component

The first paragraph (up until the colon) is revised to read:

The hazardous waste containment, collection, testing, and disposal shall meet all Federal and State requirements, and the submittal component of the painting plan shall include the following:

6-07.3(2)E Cleaning and Surface Preparation Submittal Component

Item 1(b) of the first paragraph is revised to read:

b. Type, manufacturer, and brand of abrasive blast material and all associated additives, including Safety Data Sheets (SDS).
6-07.3(3)B Quality Control and Quality Assurance for Field Application of Paint

The last sentence of the first paragraph (excluding the numbered list) is revised to read:

The Contractor’s quality control operations shall include a minimum monitoring and documenting the following for each working day:

Item number 1 in the fourth paragraph is revised to read:

1. Environmental conditions for painting in accordance with ASTM E 337.

Item number 4 in the fourth paragraph is revised to read:

4. Pictorial of surface preparation guides in accordance with SSPC-VIS 1, 3, 4, and 5.

Item number 5 in the fourth paragraph is revised to read:

5. Surface profile by Keanne-Tator comparator in accordance with ASTM D 4417 and SSPC PA17.

6-07.3(4) Paint System Manufacturer's Technical Representative

This section is revised to read:

The paint system manufacturer’s representative shall be present at the jobsite for the pre-painting conference and for the first day of paint application, and shall be available to the Contractor and Contracting Agency for consultation for the full project duration.

6-07.3(5) Pre-Painting Conference

The second paragraph is revised to read:

If the Contractor’s key personnel change between any work operations, an additional conference shall be held if requested by the Engineer.

6-07.3(6)A Paint Containers

In item number 2 of the first paragraph, “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

6-07.3(6)B Paint Storage

Item number 2 of the second paragraph is revised to read:

2. The Contractor shall monitor and document daily the paint material storage facility with a high-low recording thermometer device.

6-07.3(7) Paint Sampling and Testing

The first two paragraphs are revised to read:

The Contractor shall provide the Engineer 1 quart of each paint representing each lot. Samples shall be accompanied with a Safety Data Sheet.

If the quantity of paint required for each component of the paint system for the entire project is 20 gallons or less, then the paint system components will be accepted as specified in Section 9-08.1(7).
6-07.3(8)A Paint Film Thickness Measurement Gages

The first paragraph is revised to read:

Paint dry film thickness measurements shall be performed with either a Type 1 pull-off gage or a Type 2 electronic gage as specified in SSPC Paint Application Specification No. 2, Procedure for Determining Conformance to Dry Coating Thickness Requirements.

6-07.3(9) Painting New Steel Structures

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

Welded shear connectors are not required to be painted.

The last paragraph is revised to read:

Temporary attachments or supports for scaffolding, containment or forms shall not damage the paint system.

6-07.3(9)A Paint System

The first paragraph is revised to read:

The paint system applied to new steel surfaces shall consist of the following:

Option 1 (component based paint system):

- Primer Coat – Inorganic Zinc Rich 9-08.1(2)C
- Intermediate Coat – Moisture Cured Polyurethane 9-08.1(2)G
- Intermediate Stripe Coat – Moisture Cured Polyurethane 9-08.1(2)G
- Top Coat – Moisture Cured Polyurethane 9-08.1(2)H

Option 2 (performance based paint system):

- Primer Coat – Inorganic Zinc Rich 9-08.1(2)M
- Intermediate Coat – Epoxy 9-08.1(2)M
- Intermediate Stripe Coat – Epoxy 9-08.1(2)M
- Top Coat – Polyurethane 9-08.1(2)M

The following new paragraph is inserted after the first paragraph:

Paints and related materials shall be products listed in the current WSDOT Qualified Products List (QPL). Component based paint systems shall be listed on the QPL in the applicable sections of Section 9-08. Performance based systems shall be listed on the current Northeast Protective Coatings Committee (NEPCOAT) Qualified Products List “A” as listed on the WSDOT QPL in Section 9-08.1(2)M. If the paint and related materials for the component based system is not listed in the current WSDOT QPL, a sample shall be submitted to the State Materials Laboratory in Tumwater for evaluation and acceptance in accordance with Section 9-08.

6-07.3(9)C Mixing and Thinning Paint

This section is revised to read:
The Contractor shall thoroughly mix paint in accordance with the manufacturer’s written recommendations and by mechanical means to ensure a uniform and lump free composition. Paint shall not be mixed by means of air stream bubbling or boxing. Paint shall be mixed in the original containers and mixing shall continue until all pigment or metallic powder is in suspension. Care shall be taken to ensure that the solid material that has settled to the bottom of the container is thoroughly dispersed. After mixing, the Contractor shall inspect the paint for uniformity and to ensure that no unmixed pigment or lumps are present.

Catalysts, curing agents, hardeners, initiators, or dry metallic powders that are packaged separately may be added to the base paint in accordance with the paint manufacturer’s written recommendations and only after the paint is thoroughly mixed to achieve a uniform mixture with all particles wetted. The Contractor shall then add the proper volume of curing agent to the correct volume of base and mix thoroughly. The mixture shall be used within the pot life specified by the manufacturer. Unused portions shall be discarded at the end of each work day. Accelerants are not permitted except as allowed by the Engineer.

The Contractor shall not add additional thinner at the application site except as allowed by the Engineer. The amount and type of thinner, if allowed, shall conform to the manufacturer’s specifications. If recommended by the manufacturer and allowed by the Engineer, a measuring cup shall be used for the addition of thinner to any paint with graduations in ounces. No un-measured addition of thinner to paint will be allowed. Any paint found to be thinned by unacceptable methods will be rejected.

When recommended by the manufacturer, the Contractor shall constantly agitate paint during application by use of paint pots equipped with mechanical agitators.

The Contractor shall strain all paint after mixing to remove undesirable matter, but without removing the pigment or metallic powder.

Paint shall be stored and mixed in a secure, contained location to eliminate the potential for spills into State waters and onto the ground and highway surfaces.

6-07.3(9)D Coating Thickness

This section is revised to read:

Dry film thickness shall be measured in accordance with SSPC Paint Application Specification No. 2, *Procedure for Determining Conformance to Dry Coating Thickness Requirements*.

The minimum dry film thickness of the primer coat shall not be less than 2.5 mils.

The minimum dry film thickness of each coat (combination of intermediate and intermediate stripe, and top) shall not be less than 3.0 mils.

The dry film thickness of each coat shall not be thicker than the paint manufacturer’s recommended maximum thickness.

The minimum wet film thickness of each coat shall be specified by the paint manufacturer to achieve the minimum dry film thickness.
Film thickness, wet and dry, will be measured by gages conforming to Section 6-07.3(8)A.

Wet measurements will be taken immediately after the paint is applied in accordance with ASTM D4414. Dry measurements will be taken after the coating is dry and hard in accordance with SSPC Paint Application Specification No. 2.

Each painter shall be equipped with wet film thickness gages and shall be responsible for performing frequent checks of the paint film thickness throughout application.

Coating thickness measurements may be made by the Engineer after the application of each coat and before the application of the succeeding coat. In addition, the Engineer may inspect for uniform and complete coverage and appearance. One hundred percent of all thickness measurements shall meet or exceed the minimum wet film thickness. In areas where wet film thickness measurements are impractical, dry film thickness measurements may be made. If a question arises about an individual coat’s thickness or coverage, it may be verified by the use of a Tooke gage in accordance with ASTM D4138.

If the specified number of coats does not produce a combined dry film thickness of at least the sum of the thicknesses required per coat, if an individual coat does not meet the minimum thickness, or if visual inspection shows incomplete coverage, the coating system will be rejected and the Contractor shall discontinue painting and surface preparation operations and shall submit a Type 2 Working Drawing of the repair proposal. The repair proposal shall include documentation demonstrating the cause of the less-than-minimum thickness, along with physical test results, as necessary, and modifications to Work methods to prevent similar results. The Contractor shall not resume painting or surface preparation operations until receiving the Engineer’s acceptance of the completed repair.

6-07.3(9)E Surface Temperature Requirements Prior to Application of Paint

This section, including title, is revised to read:

6-07.3(9)E Environmental Condition Requirements Prior to Application of Paint

Paint shall be applied only during periods when:

1. Air and steel temperatures are in accordance with the paint manufacturer’s recommendations but in no case less than 35°F nor greater than 115°F.

2. Steel surface temperature is a minimum of 5°F above the dew point.

3. Steel surface is not wet.

4. Relative humidity is within the manufacturer’s recommended range.

5. The anticipated ambient temperature will remain above 35°F or the manufacturer’s minimum temperature, whichever is greater, during the paint drying and curing period.

Application will not be allowed if conditions are not favorable for proper application and performance of the paint.
Paint shall not be applied when weather conditions are unfavorable to proper curing. If a paint system manufacturer’s recommendations allow for application of a paint under environmental conditions other than those specified, the Contractor shall submit a Type 2 Working Drawing consisting of a letter from the paint manufacturer specifying the environmental conditions under which the paint can be applied. Application of paint under environmental conditions other than those specified in this section will not be allowed without the Engineer’s concurrence.

6-07.3(9)F Shop Surface Cleaning and Preparation

The last sentence is revised to read:

The entire steel surface to be painted, including surfaces specified in Section 6-07.3(9)G to receive a mist coat of primer, shall be cleaned to a near white condition in accordance with SSPC-SP 10, *Near-white Metal Blast Cleaning*, and shall be in this condition immediately prior to paint application.

6-07.3(9)G Application of Shop Primer Coat

The first paragraph is supplemented with the following:

Repairs of the shop primer coat shall be prepared in accordance with the painting plan. Shop primer coat repair paint shall be selected from the approved component based or performance based paint system in accordance with Section 6-07.3(10)H.

6-07.3(9)H Containment for Field Coating

This section is revised to read:

The Contractor shall use a containment system in accordance with Section 6-07.3(10)A for surface preparation and prime coating of all uncoated areas remaining, including bolts, nuts, washers, and splice plates.

During painting operations of the intermediate, stripe and top coats the Contractor shall furnish, install, and maintain drip tarps below the areas to be painted to contain all spilled paint, buckets, brushes, and other deleterious material, and prevent such materials from reaching the environment below or adjacent to the structure being painted. Drip tarps shall be absorbent material and hung to minimize puddling. The Contractor shall evaluate the project-specific conditions to determine the specific type and extent of containment needed to control the paint emissions and shall submit a containment plan in accordance with Section 6-07.3(2).

6-07.3(9)I Application of Field Coatings

This section is revised to read:

An on-site supervisor shall be present for each work shift at the bridge site.

Upon completion of erection Work, all uncoated or damaged areas remaining, including bolts, nuts, washers, and splice plates, shall be prepared in accordance with Section 6-07.3(9)F, followed by a field primer coat of a zinc-rich primer and final coats of paint selected from the approved component or performance based paint system in accordance with Section 6-07.3(10)H. The intermediate, intermediate stripe, and top coats shall be applied in accordance with the manufacturer’s written recommendations.
Upon completion of erection Work, welds for steel column jackets may be prepared in accordance with SSPC-SP 15, Commercial Grade Power Tool Cleaning.

The minimum drying time between coats shall be as shown in the product data sheets, but not less than 12 hours. The Contractor shall determine whether the paint has cured sufficiently for proper application of succeeding coats.

The maximum time between intermediate and top coats shall be in accordance with the manufacturer's written recommendations. If the maximum time between coats is exceeded, all newly coated surfaces shall be prepared to SSPC-SP 7, Brush-off Blast Cleaning, and shall be repainted with the same paint that was cleaned, at no additional cost to the Contracting Agency.

Each coat shall be applied in a uniform layer, completely covering the preceding coat. The Contractor shall correct runs, sags, skips, or other deficiencies before application of succeeding coats. Such corrective work may require re-cleaning, application of additional paint, or other means as determined by the Engineer, at no additional cost to the Contracting Agency.

Dry film thickness measurements will be made in accordance with Section 6-07.3(9)D.

All paint damage that occurs shall be repaired in accordance with the manufacturer's written recommendations. On bare areas or areas of insufficient primer thickness, the repair shall include field-applied zinc-rich primer and the final coats of paint selected from the approved component or performance-based paint system in accordance with Section 6-07.3(10)H. On areas where the primer is at least equal to the minimum required dry film thickness, the repair shall include the application of the final two coats of the paint system. All paint repair operations shall be performed by the Contractor at no additional cost or time to the Contracting Agency.

6-07.3(10)A Containment
The first sentence of the third paragraph is revised to read:

Emissions shall be assessed by Visible Emission Observations (Method A) in SSPC Technology Update No. 7, Conducting Ambient Air, Soil, and Water Sampling of Surface Preparation and Paint Disturbance Activities, Section 6.2 and shall be limited to the Level A Acceptance Criteria Option Level 0 Emissions standard.

6-07.3(10)D Surface Preparation Prior to Overcoat Painting
The first paragraph is revised to read:

The Contractor shall remove any visible oil, grease, and road tar in accordance with SSPC-SP 1, Solvent Cleaning.

The second paragraph is revised to read:

Following any preparation by SSPC-SP1, all steel surfaces to be painted shall be prepared in accordance with SSPC-SP 7, Brush-off Blast Cleaning. Surfaces inaccessible to brush-off blast shall be prepared in accordance with SSPC-SP 3, Power Tool Cleaning, as allowed by the Engineer.
Following brush-off blast cleaning, the Contractor shall perform spot abrasive blast
cleaning in accordance with SSPC-SP 6, *Commercial Blast Cleaning*.

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

For small areas, as allowed by the Engineer, the Contractor may substitute cleaning in
accordance with SSPC-SP 15, *Commercial Grade Power Tool Cleaning*.

### 6-07.3(10)G Treatment of Pack and Rust Gaps

The second paragraph is revised to read:

Pack rust forming a gap between steel surfaces of $\frac{1}{8}$ to $\frac{1}{4}$ inch shall be cleaned to a
depth of at least one half of the gap width. The gaps shall be cleaned and prepared in
accordance with SSPC-SP6. The cleaned gap shall be treated with rust penetrating
sealer, prime coated, and then caulked to form a watertight seal along the top edge and
the two sides of the steel pieces involved, using the rust penetrating sealer and caulk as
accepted by the Engineer. The bottom edge or lowest edge of the steel pieces involved
shall not be caulked.

The third paragraph is supplemented with the following:

Caulk shall be a single-component urethane sealant conforming to Section 9-08.7.

The fifth paragraph is revised to read:

At locations where gaps between steel surfaces exceed $\frac{1}{4}$ inch, the Contractor shall
clean and prepare the gap in accordance SSPC-SP6, apply the rust penetrating sealer,
apply the prime coat, and then fill the gap with foam backer rod material as accepted by
the Engineer. The foam backer rod material shall be of sufficient diameter to fill the
crevise or gap. The Contractor shall apply caulk over the foam backer rod material to
form a watertight seal.

This section is supplemented with the following new paragraph:

Caulk and backer rod, if needed, shall be placed prior to applying the top coat. The
Contractor, with the concurrence of the Engineer, may apply the rust penetrating sealer
after application of the prime coat provided the primer is removed in the areas to be
sealed. The areas to be sealed shall be re-cleaned and re-prepared in accordance with
SSPC-SP6.

### 6-07.3(10)H Paint System

The first paragraph is revised to read:

The paint system applied to existing steel surfaces shall consist of the following five-coat system:

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Option 1 (component based system):

Primer Coat – Zinc-filled Moisture Cured Polyurethane  9-08.1(2)F
Primer Stripe Coat - Moisture Cured Polyurethane  9-08.1(2)F
Intermediate Coat - Moisture Cured Polyurethane  9-08.1(2)G
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Intermediate Stripe Coat - Moisture Cured Polyurethane 9-08.1(2)G
Top Coat - Moisture Cured Polyurethane 9-08.1(2)H

Option 2 (performance based system):

Primer Coat – Zinc-rich Epoxy 9-08.1(2)N
Primer Stripe Coat – Epoxy 9-08.1(2)N
Intermediate Coat – Epoxy 9-08.1(2)N
Intermediate Stripe Coat – Epoxy 9-08.1(2)N
Top Coat – Polyurethane 9-08.1(2)N

The following new paragraph is inserted after the first paragraph:

Paints and related materials shall be a product listed in the current WSDOT Qualified Products List (QPL). Component based paint systems shall be listed on the QPL in the applicable sections of Section 9-08. Performance based systems shall be listed on the current Northeast Protective Coatings Committee (NEPCOAT) Qualified Products List “B” as listed on the WSDOT QPL in Section 9-08.1(2)N. If the paint and related material for the component based system is not listed in the current WSDOT QPL, a sample shall be submitted to the State Materials Laboratory in Tumwater for evaluation and acceptance in accordance with Section 9-08.

6-07.3(10)J Mixing and Thinning Paint
This section is revised to read:

Mixing and thinning paint shall be in accordance with Section 6-07.3(9)C.

6-07.3(10)K Coating Thickness
This section is revised to read:

Coating thickness shall be in accordance with Section 6-07.3(9)D except the minimum dry film thickness of each coat (combination of primer and primer stripe, combination of intermediate and intermediate stripe, and top) shall not be less than 3.0 mils.

6-07.3(10)L Environmental Condition Requirements Prior to Application of Paint
This section is revised to read:

Environmental conditions shall be in accordance with Section 6-07.3(9)E.

6-07.3(10)M Steel Surface Condition Requirements Prior to Application of Paint
The third paragraph is revised to read:

Edges of existing paint shall be feathered in accordance with SSPC-PA 1, Shop, Field, and Maintenance Coating of Metals, Note 15.20.

6-07.3(10)N Field Coating Application Methods
The third sentence is revised to read:

The Contractor may apply stripe coat paint using spray or brush but shall follow spray application using a brush to ensure complete coverage around structural geometric
irregularities and to push the paint into gaps between existing steel surfaces and around rivets and bolts.

6-07.3(10)O Applying Field Coatings
The second to last paragraph is revised to read:

Each application of primer, primer stripe, intermediate, intermediate stripe, and top coat shall be considered as separately applied coats. The Contractor shall not use a preceding or subsequent coat to remedy a deficiency in another coat. The Contractor shall apply the top coat to at least the minimum specified top coat thickness, to provide a uniform appearance and consistent finish coverage.

6-07.3(10)P Field Coating Repair
The second sentence is revised to read:

Repair areas shall be cleaned of all damaged paint and the system reapplied using all coats typical to the paint system and shall meet the minimum coating thickness.

6-07.3(11)A Painting of Galvanized Surfaces
This section is revised to read:

All galvanized surfaces receiving paint shall be prepared for painting in accordance with the ASTM D 6386. The method of preparation shall be brush-off in accordance with SSPC-SP16 Brush-Off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals or as otherwise allowed by the Engineer. The Contractor shall not begin painting until receiving the Engineer’s acceptance of the prepared galvanized surface. For galvanized bolts used for replacement of deteriorated existing rivets, the Contractor, with the concurrence of the Engineer and after successful demonstration testing, may prepare galvanized surfaces in accordance with SSPC-SP1 followed by SSPC-SP2, Hand Tool Cleaning or SSPC-SP3, Power Tool Cleaning. The demonstration testing shall include adhesion testing of the first coat of paint over galvanized bolts, nuts, and washers or a representative galvanized surface. Adhesion testing shall be performed in accordance with ASTM D 4541 for 600 psi minimum adhesion. A minimum of 3 successful tests shall be performed on the galvanized surface prepared and painted using the same methods and materials to be used on the galvanized bolts, nuts and washers in the field.

6-07.3(11)A2 Paint Coat Materials
This section is revised to read:

The Contractor shall paint the dry surface as follows:

1. The first coat over a galvanized surface shall be an epoxy polyamide conforming to Section 9-08.1(2)E. In the case of galvanized bolts used for replacement of deteriorated existing rivets and for small surface areas less than or equal to one square foot, an intermediate moisture cured polyurethane conforming to Section 9-08.1(2)G may be used as a first coat. In both cases the first coat shall be compatible with galvanizing and as recommended by the top coat manufacturer.

2. The second coat shall be a top coat moisture cured aliphatic polyurethane conforming to Section 9-08.1(2)H or a top coat polyurethane conforming to
Section 6-07.3(10)H Option 2 NEPCOAT performance based paint specification compatible with the first coat as recommended by the manufacturer.

Each coat shall be dry before the next coat is applied. All coats applied in the shop shall be dried hard before shipment.

6-07.3(11)B Powder Coating of Galvanized Surfaces
This section is revised to read:

Powder coating of galvanized surfaces shall consist of the following coats:

1. The first coat shall be an epoxy powder primer coat conforming to Section 9-08.2.

2. The second coat shall be a polyester finish coat conforming to Section 9-08.2.

6-07.3(11)B3 Galvanized Surface Cleaning and Preparation
The first three paragraphs are revised to read:

Galvanized surfaces receiving the powder coating shall be cleaned and prepared for coating in accordance with ASTM D 7803, and the project-specific powder coating plan.

Assemblies conforming to the ASTM D 7803 definition for newly galvanized steel shall receive surface smoothing and surface cleaning in accordance with ASTM D 7803, Section 5, and surface preparation in accordance with ASTM D 7803, Section 5.1.3.

Assemblies conforming to the ASTM D 7803 definition for partially weathered galvanized steel shall be checked and prepared in accordance with ASTM D 7803, Section 6, before then receiving surface smoothing and surface cleaning in accordance with ASTM D 7803, Section 5, and surface preparation in accordance with ASTM D 7803, Section 5.1.3.

The fourth paragraph (up until the colon) is revised to read:

Assemblies conforming to the ASTM D 7803 definition for weathered galvanized steel shall be prepared in accordance with ASTM D 7803, Section 7 before then receiving surface smoothing and surface cleaning in accordance with ASTM D 7803, Section 5, and surface preparation in accordance with ASTM D 7803, Section 5.3 except as follows:

6-07.3(11)B5 Testing
Item number 4 in the first paragraph is revised to read:

4. Adhesion testing in accordance with ASTM D 4541 for 600 psi minimum adhesion for the complete two-component system.

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

Rejected assemblies shall be repaired or recoated by the Contractor, at no additional expense to the Contracting Agency, in accordance with the powder coating
manufacturer’s recommendation as detailed in the project-specific powder coating plan, until the assemblies satisfy the acceptance testing requirements.

6-07.3(12) Painting Ferry Terminal Structures
This section is revised to read:

Painting of ferry terminal Structures shall be in accordance with Section 6-07.3 as supplemented below.

This section is supplemented with the following new subsections:

6-07.3(12)A Painting New Steel Ferry Terminal Structures
Painting of new steel Structures shall be in accordance with Section 6-07.3(9) except that all coatings (primer, intermediate, intermediate stripe, and top) shall be applied in the shop with the following exceptions:

1. Steel surfaces to be field welded.
2. Steel surfaces to be greased.
3. The length of piles designated in the Plans not requiring painting.

The minimum drying time between coats shall be as shown in the product data sheets, but not less than 12 hours. The Contractor shall determine whether the paint has cured sufficiently for proper application of succeeding coats.

6-07.3(12)A1 Paint Systems
Paint systems for Structural Steel, which includes vehicle transfer spans and towers, pedestrian overhead loading structures and towers, upland structural steel and other elements as designated in the Special Provisions shall be as specified in Section 6-07.3(9)A.

Paint systems for Piling, Landing Aids and Life Ladders shall be as specified in the Special Provisions.

6-07.3(12)A2 Paint Color
Paint colors shall be as specified in the Special Provisions.

6-07.3(12)A3 Coating Thickness
Coating thicknesses shall be as specified in the Special Provisions.

6-07.3(12)A4 Application of Field Coatings
An on-site supervisor shall be present for each work shift at the project site.

Upon completion of erection Work, all uncoated or damaged areas remaining, including bolts, nuts, washers, splice plates, and field welds shall be prepared in accordance with SSPC-SP 1, Solvent Cleaning, followed by SSPC-SP 11, Power Tool Cleaning to Bare Metal. Surface preparation shall be measured according to SSPC-VIS 3. SSPC-SP 11 shall be performed for a minimum distance of 1 inch from the uncoated or damaged area. In addition, intact shop-applied coating surrounding the area shall be abraded or sanded for a distance of 6 inches out from the properly prepared clean/bare metal areas to provide adequate roughness for
application of field coatings. All sanding dust and contamination shall be removed prior to application of field coatings.

Field applied paint for Structural Steel shall conform to Section 6-07.3(10)H, as applicable. Field applied paint for Piling, Landing Aides and Life Ladders shall be as specified in the Special Provisions.

For areas above the tidal zone, the minimum drying time between coats shall be as shown in the product data sheets, but not less than 12 hours. For areas within the tidal zone, the minimum drying time between coats shall be as recommended by the paint system manufacturer. The Contractor shall determine whether the paint has cured sufficiently for proper application of succeeding coats.

The maximum time between intermediate and top coats shall be in accordance with the manufacturer’s written recommendations. If the maximum time between coats is exceeded, all newly coated surfaces shall be prepared to SSPC-SP 3, Power Tool Cleaning, and shall be repainted with the same paint that was cleaned, at no additional cost to the Contracting Agency.

Each coat shall be applied in a uniform layer, completely covering the preceding coat. The Contractor shall correct runs, sags, skips, or other deficiencies before application of succeeding coats. Such corrective work may require re-cleaning, application of additional paint, or other means as determined by the Engineer, at no additional cost to the Contracting Agency.

Surface preparation for underwater locations shall consist of removing all dirt, oil, grease, loose paint, loose rust, and marine growth from the area that is to be repaired. The sound paint surrounding the damaged area shall be roughened to meet the requirements of the manufacturer. Paint for underwater applications shall be as specified in the Special Provisions and shall be applied in accordance with the manufacturer’s recommendations.

**6-07.3(12)B Painting Existing Steel Ferry Terminal Structures**

Painting of existing steel structures shall be in accordance with Section 6-07.3(10) as supplemented by the following.

**6-07.3(12)B1 Containment**

Containment for full removal shall be in accordance with Section 6-07.3(10)A. Containment for overcoat systems shall be in accordance with all applicable Permits as required in the Special Provisions.

Prior to cleaning the Contractor shall enclose all exposed electrical and mechanical equipment to seal out dust, water, and paint. Non-metallic surfaces shall not be abrasive blasted or painted. Unless otherwise specified, the following metallic surfaces shall not be painted and shall be protected from abrasive blasting and painting:

1. Galvanized and stainless steel surfaces not previously painted,
2. Non-skid surfaces,
3. Unpainted intentionally greased surfaces,
4. Equipment labels, identification plates, tags, etc.,

5. Fire and emergency containers or boxes,

6. Mechanical hardware such as hoist sheaves, hydraulic cylinders, gear boxes, wire rope, etc.

The Contractor shall submit a Type 2 Working Drawing consisting of materials and equipment used to shield components specified to not be cleaned and painted.

The Contractor shall shut off the power prior to working around electrical equipment. The Contractor shall follow the lock-out/tag-out safety provisions of the WAC 296-803 and all other applicable safety standards.

6-07.3(12)B2 Surface Preparation

For applications above high water and within the tidal zone, surface preparation for overcoat painting shall be in accordance with SSPC-SP 1, Solvent Cleaning, followed by SSPC-SP 3, Power Tool Cleaning. Use of wire brushes is not allowed. After SP 3 cleaning has been completed all surfaces exhibiting coating failure down to the steel substrate, and those exhibiting visible corrosion, shall be prepared down to clean bare steel in accordance with SSPC-SP 15, Commercial Grade Power Tool Cleaning. Surface preparation shall be measured according to SSPC-VIS 3. SSPC-SP 15 shall be performed for a minimum distance of 1 inch from the area exhibiting failure or visible corrosion. In addition, intact shop-applied coating surrounding the repair area shall be abraded or sanded for a distance of 6 inches out from the properly prepared clean/bare metal areas to provide adequate roughness for application of repair coatings. All sanding dust and contamination shall be removed prior to application of repair coatings. Surface preparation for full paint removal shall be in accordance with Section 6-07.3(10)E except SSPC-SP 11 will be permitted as detailed in the Contractor’s painting plan and as allowed by the Engineer.

Surface preparation for underwater locations shall consist of removing all dirt, oil, grease, loose paint, loose rust, and marine growth from the area that is to be repaired. The sound paint surrounding the damaged area shall be roughened as required by the coating manufacturer.

Removed marine growth may be released to state waters provided the marine growth is not mixed with contaminants (paint, oil, rust, etc.) and it shall not accumulate on the sea bed. All marine growth containing contaminants shall be collected for proper disposal.

Surface preparation for the underside of bridge decks (consisting of either a steel grid system of main bars or tees and a light gauge metal form, infilled with concrete or a corrugated light gauge metal form, infilled with concrete) shall be in accordance with SSPC-SP 2, Hand Tool Cleaning or SSPC-SP 3, Power Tool Cleaning with the intent of not causing further damage to the light gauge metal form. Following removal of any pack rust and corroded sections from the underside of the bridge deck, cleaning and flushing to remove salts and prior to applying the primer coat, the Contractor shall seal the entire underside of the deck system with rust-penetrating sealer. Damage to galvanized metal forms and/or grids shall be
repaired in accordance with ASTM A 780, with the preferred method of repair using paints containing zinc dust.

6-07.3(12)B3 Paint Systems
Paints systems for Structural Steel, which includes vehicle transfer spans and towers, pedestrian overhead loading structures and towers, upland structural steel and other elements as designated in the Special Provisions shall be as specified in Section 6-07.3(10)H.

Paint systems for Piling, Landing Aids, Life Ladders, underside of vehicle transfer span bridge decks, non-skid surface treated areas, and anti-graffiti coatings shall be as specified in the Special Provisions.

6-07.3(12)B4 Paint Color
Paint colors shall be as specified in the Special Provisions.

6-07.3(12)B5 Coating Thickness
Coating thicknesses shall be as specified in the Special Provisions.

6-07.3(12)B6 Application of Field Coatings
Application of field coatings shall be in accordance with Section 6-07.3(10)O and Section 6-07.3(12)A2 except for the following:

1. All coatings applied in the field shall be applied using a brush or roller. Spray application methods may be used if allowed by the Engineer.

2. Applied coatings shall not be immersed until the coating has been cured as required by the coating manufacturer.

3. Non-skid surface treatment products shall be applied in accordance with the manufacturer’s recommendations.

4. Anti-graffiti coatings shall be applied in one coat following application of the top coat, where specified in the Plans.

6-07.3(14)B Reference Standards
The second standard reference (to SSPC CS 23.00), and its accompanying title, is revised to read:

SSPC CS 23.00 Specification for the Application of Thermal Spray Coatings (Metallizing) of Aluminum, Zinc, and Their Alloys and Composites for the Corrosion Protection of Steel

6-08.AP6
Section 6-08, Bituminous Surfacing on Structure Decks
January 7, 2019

6-08.3(7)A Concrete Deck Preparation
The first sentence of the first paragraph is revised to read:

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

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

Prior to applying the primer or sheet membrane, all dust and loose material shall be removed from the Structure Deck.

6-09.AP6

Section 6-09, Modified Concrete Overlays
January 7, 2019

6-09.3  Construction Requirements

This section is supplemented with the following new subsection:

6-09.3(15)  Sealing and Texturing Concrete Overlay

After the requirements for checking for bond have been met, all joints and visible cracks shall be filled and sealed with a high molecular weight methacrylate resin (HMWM). Cracks 1/16 inch and greater in width shall receive two applications of HMWM. Immediately following the application of HMWM, the wetted surface shall be coated with sand for abrasive finish.

After all cracks have been filled and sealed and the HMWM resin has cured, the concrete overlay surface shall receive a longitudinally sawn texture in accordance with Section 6-02.3(10)D5.

Traffic shall not be permitted on the finished concrete until it has reached a minimum compressive strength of 3,000 psi as verified by rebound number determined in accordance with ASTM C805 and the longitudinally sawn texture is completed.

6-09.3(1)B  Rotary Milling Machines

This section is revised to read:

Rotary milling machines used to remove an upper layer of existing concrete overlay, when present, shall have a maximum operating weight of 50,000 pounds and conform to Section 6-08.3(5)B.

6-09.3(1)C  Hydro-Demolition Machines

The first sentence of this section is revised to read:

Hydro-demolition machines shall consist of filtering and pumping units operating in conjunction with a remote-controlled robotic device, using high-velocity water jets to remove sound concrete to the nominal scarification depth shown in the Plans with a single pass of the machine, and with the simultaneous removal of deteriorated concrete.

6-09.3(1)D  Shot Blasting Machines

This section, including title, is revised to read:

6-09.3(1)D  Vacant

6-09.3(1)E  Air Compressor

This section is revised to read:
Air compressors shall be equipped with oil traps to eliminate oil from being blown onto the bridge deck.

### 6-09.3(1)J Finishing Machine

This section is revised to read:

The finishing machine shall meet the requirements of Section 6-02.3(10) and the following requirements:

The finishing machine shall be equipped with augers, followed by an oscillating, vibrating screed, vibrating roller tamper, or a vibrating pan, followed by a rotating cylindrical double drum screed. The vibrating screed, roller tamper or pan shall be of sufficient length and width to properly consolidate the mixture. The vibrating frequency of the vibrating screed, roller tamper or pan shall be variable with positive control.

### 6-09.3(2) Submittals

Item number 1 and 2 are revised to read:

1. A Type 1 Working Drawing consisting of catalog cuts and operating parameters of the hydro-demolition machine selected by the Contractor for use in this project to scarify concrete surfaces.

2. A Type 1 Working Drawing consisting of catalog cuts, operating parameters, axle loads, and axle spacing of the rotary milling machine (if used to remove an upper layer of existing concrete overlay when present).

The first sentence of item number 3 is revised to read:

A Type 2 Working Drawing of the Runoff Water Disposal Plan.

### 6-09.3(5)A General

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

All areas of the deck that are inaccessible to the selected scarifying machine shall be scarified to remove the concrete surface matrix to a maximum nominal scarification depth shown in the Plans by a method acceptable to the Engineer.

This section is supplemented with the following:

Concrete process water generated by scarifying concrete surface and removing existing concrete overlay operations shall be contained, collected, and disposed of in accordance with Section 5-01.3(11) and Section 6-09.3(5)C, and the Section 6-09.3(2) Runoff Water Disposal Plan.

### 6-09.3(5)B Testing of Hydro-Demolition and Shot Blasting Machines

This section’s title is revised to read:

**Testing of Hydro-Demolition Machines**

The second paragraph is revised to read:
In the “sound” area of concrete, the equipment shall be programmed to remove concrete to the nominal scarification depth shown in the Plans with a single pass of the machine.

6-09.3(5)D Shot Blasting
This section, including title, is revised to read:

6-09.3(5)D Vacant

6-09.3(5)E Rotomilling
This section, including title, is revised to read:

6-09.3(5)E Removing Existing Concrete Overlay Layer by Rotomilling
When the Contractor elects to remove the upper layer of existing concrete overlay, when present, by rotomilling prior to final scarifying, the entire concrete surface of the bridge deck shall be milled to remove the surface matrix to the depth specified in the Plans with a tolerance as specified in Section 6-08.3(5)B. The operating parameters of the rotary milling machine shall be monitored in order to prevent the unnecessary removal of concrete below the specified removal depth.

6-09.3(6) Further Deck Preparation
The first paragraph is revised to read:

Once the lane or strip being overlaid has been cleaned of debris from scarifying, the Contractor, with the Engineer, shall perform a visual inspection of the scarified surface. The Contractor shall mark those areas of the existing bridge deck that are authorized by the Engineer for further deck preparation by the Contractor.

Item number 4 of the second paragraph is deleted.

The first sentence of the third paragraph is deleted.

6-09.3(6)A Equipment for Further Deck Preparation
This section is revised to read:

Further deck preparation shall be performed using either power driven hand tools conforming to Section 6-09.3(1)A, or hydro-demolition machines conforming to Section 6-09.3(1)C.

6-09.3(6)B Deck Repair Preparation
The second paragraph is deleted.

The last sentence of the second paragraph (after the preceding Amendment is applied) is revised to read:

In no case shall the depth of a sawn vertical cut exceed ¾ inch or to the top of the top steel reinforcing bars, whichever is less.

The first sentence of the third to last paragraph is revised to read:
Where existing steel reinforcing bars inside deck repair areas show deterioration greater than 20-percent section loss, the Contractor shall furnish and place steel reinforcing bars alongside the deteriorated bars in accordance with the details shown in the Standard Plans.

The last paragraph is deleted.

6-09.3(7) Surface Preparation for Concrete Overlay

The first seven paragraphs are deleted and replaced with the following:

Following the completion of any required further deck preparation the entire lane or strip being overlaid shall be cleaned to be free from oil and grease, rust and other foreign material that may still be present. These materials shall be removed by detergent-cleaning or other method accepted by the Engineer followed by sandblasting.

After detergent cleaning and sandblasting is completed, the entire lane or strip being overlaid shall be cleaned in final preparation for placing concrete.

Hand tool chipping, sandblasting and cleaning in areas adjacent to a lane or strip being cleaned in final preparation for placing concrete shall be discontinued when final preparation is begun. Scarifying and hand tool chipping shall remain suspended until the concrete has been placed and the requirement for curing time has been satisfied. Sandblasting and cleaning shall remain suspended for the first 24 hours of curing time after the completion of concrete placing.

Scarification, and removal of the upper layer of concrete overlay when present, may proceed during the final cleaning and overlay placement phases of the Work on adjacent portions of the Structure so long as the scarification and concrete overlay removal operations are confined to areas which are a minimum of 100 feet away from the defined limits of the final cleaning or overlay placement in progress. If the scarification and concrete overlay removal impedes or interferes in any way with the final cleaning or overlay placement as determined by the Engineer, the scarification and concrete overlay removal Work shall be terminated immediately and the scarification and concrete overlay removal equipment removed sufficiently away from the area being prepared or overlaid to eliminate the conflict. If the grade is such that water and contaminants from the scarification and concrete overlay removal operation will flow into the area being prepared or overlaid, the scarification and concrete overlay removal operation shall be terminated and shall remain suspended for the first 24 hours of curing time after the completion of concrete placement.

6-09.3(11) Placing Concrete Overlay

The first sentence of item number 3 in the fourth paragraph is revised to read:

Concrete shall not be placed when the temperature of the concrete surface is less than 45°F or greater than 75°F, and wind velocity at the construction site is in excess of 10 mph.

6-09.3(12) Finishing Concrete Overlay

The third paragraph is deleted.

The last paragraph is deleted.
6-09.3(13) Curing Concrete Overlay
The first sentence of the first paragraph is revised to read:
As the finishing operation progresses, the concrete shall be immediately covered with a
single layer of clean, new or used, wet burlap.
The last sentence of the second paragraph is deleted.
The following two new paragraphs are inserted after the second paragraph:
As an alternative to the application of burlap and fog spraying described above, the
Contractor may propose a curing system using proprietary curing blankets specifically
manufactured for bridge deck curing. The Contractor shall submit a Type 2 Working
Drawing consisting of details of the proprietary curing blanket system, including product
literature and details of how the system is to be installed and maintained.
The wet curing regimen as described shall remain in place for a minimum of 42-hours.
The last paragraph is deleted.

6-09.3(14) Checking for Bond
The first sentence of the first paragraph is revised to read:
After the requirements for curing have been met, the entire overlaid surface shall be
sounded by the Contractor, in a manner accepted by and in the presence of the
Engineer, to ensure total bond of the concrete to the bridge deck.
The last sentence of the first paragraph is deleted.
The second paragraph is deleted.

6-10.AP6
Section 6-10, Concrete Barrier
August 6, 2018

6-10.2 Materials
In the first paragraph, the reference to “Portland Cement” is revised to read:
Cement  9-01

6-10.3(6) Placing Concrete Barrier
The first two sentences of the first paragraph are revised to read:
Precast concrete barriers Type 2, Type 4, Type F, precast single slope barrier, and
transitions shall rest on a paved foundation shaped to a uniform grade and section. The
foundation surface for precast concrete barriers Type 2, Type 4, Type F, precast single
slope barrier, and transitions shall meet this test for uniformity: When a 10-foot
straightedge is placed on the surface parallel to the centerline for the barrier, the
surface shall not vary more than ¼ inch from the lower edge of the straightedge.
Section 6-11, Reinforced Concrete Walls
April 2, 2018

6-11.2 Materials
In the first paragraph, the reference to “Aggregates for Portland Cement Concrete” is revised to read:

Aggregates for Concrete 9-03.1

Section 6-12, Noise Barrier Walls
August 6, 2018

6-12.2 Materials
In the first paragraph, the reference to “Aggregates for Portland Cement Concrete” is revised to read:

Aggregates for Concrete 9-03.1

The first paragraph is supplemented with the following new material reference:

Noise Barrier Wall Access Door 9-06.17

6-12.3(9) Access Doors and Concrete Landing Pads
The second paragraph is deleted and replaced with the following:

All frame and door surfaces, except stainless steel surfaces, shall be painted in accordance with Section 6-07.3(9). Primer shall be applied to all non-stainless steel surfaces. All primer coated exposed metal surfaces shall be field painted with the remaining Section 6-07.3(9)A paint system coats. The top coat, when dry, shall match the color specified in the Plans or Special Provisions.

This section is supplemented with the following:

Access door deadbolt locks shall be capable of accepting a Best CX series core. The Contractor shall furnish and install a spring-loaded construction core lock with each lock. The Engineer will furnish the permanent Best CX series core for the Contractor to install at the conclusion of the project.

Section 6-13, Structural Earth Walls
August 6, 2018

6-13.2 Materials
In the first paragraph, the reference to “Aggregates for Portland Cement Concrete” is revised to read:

Aggregates for Concrete 9-03.1
6-13.3(4) Precast Concrete Facing Panel and Concrete Block Fabrication

Item number 1 of the sixth paragraph is revised to read:

1. Vertical dimensions shall be ± \( \frac{1}{16} \) inch of the Plan dimension, and the rear height shall not exceed the front height.

Item number 3 of the sixth paragraph is revised to read:

3. All other dimensions shall be ± \( \frac{1}{4} \) inch of the Plan dimension.

6-14.AP6

Section 6-14, Geosynthetic Retaining Walls
April 2, 2018

6-14.2 Materials
In the first paragraph, the references to “Portland Cement” and “Aggregates for Portland Cement Concrete” are revised to read:

- Cement 9-01
- Aggregates for Concrete 9-03.1

6-15.AP6

Section 6-15, Soil Nail Walls
January 7, 2019

6-15.3(7) Shotcrete Facing
The last paragraph is supplemented with the following:

After final tightening of the nut, the threads of the soil nail shall at a minimum be flush with the end of the nut.

6-16.AP6

Section 6-16, Soldier Pile and Soldier Pile Tieback Walls
April 2, 2018

6-16.2 Materials
In the first paragraph, the reference to “Aggregates for Portland Cement Concrete” is revised to read:

Aggregates for Concrete 9-03.1

6-18.AP6

Section 6-18, Shotcrete Facing
April 1, 2019

6-18.2 Materials
The reference to metakaolin is deleted.

6-18.3(3) Testing
In the last sentence of the first paragraph, “AASHTO T 24” is revised to read “ASTM C1604”.

AMENDMENTS TO THE 2018 STANDARD SPECIFICATIONS BOOK
Revised: 6/3/19
6-18.3(3)B Production Testing
In the last sentence, “AASHTO T 24” is revised to read “ASTM C1604”.

6-18.3(4) Qualifications of Contractor’s Personnel
In the last sentence of the second paragraph, “AASHTO T 24” is revised to read “ASTM C1604”.

6-19.2 Materials
In the first paragraph, the references to “Portland Cement” and “Aggregates for Portland Cement Concrete” are revised to read:

Cement 9-01
Aggregates for Concrete 9-03.1

6-19.3(1)A Shaft Construction Tolerances
The last paragraph is supplemented with the following:

The elevation of the top of the reinforcing cage for drilled shafts shall be within +6 inches and -3 inches from the elevation shown in the Plans.

6-19.3(2)D Nondestructive QA Testing Organization and Personnel
Item number 4 in the first paragraph is revised to read:

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

6-19.3(3)C Conduct of Shaft Casing Installation and Removal and Shaft Excavation Operations
The first paragraph is supplemented with the following:

In no case shall shaft excavation and casing placement extend below the bottom of shaft excavation as shown in the Plans.

6-19.3(6)E Thermal Wire and Thermal Access Point (TAPS)
The third sentence of the third paragraph is revised to read:

The thermal wire shall extend from the bottom of the reinforcement cage to the top of the shaft, with a minimum of 5-feet of slack wire provided above the top of shaft.

The following new sentence is inserted after the third sentence of the third paragraph:

All thermal wires in a shaft shall be equal lengths.

6-19.3(9)D Nondestructive QA Testing Results Submittal
The last sentence of the first paragraph is revised to read:
Results shall be a Type 2E Working Drawing presented in a written report.

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Section 7-02, Culverts
April 2, 2018

7-02.2 Materials
In the first paragraph, the references to “Portland Cement” and “Aggregates for Portland Cement Concrete” are revised to read:

Cement 9-01
Aggregates for Concrete 9-03.1

7-02.3(6)A4 Excavation and Bedding Preparation
The first sentence of the third paragraph is revised to read:

The 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.

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Section 7-05, Manholes, Inlets, Catch Basins, and Drywells
August 6, 2018

7-05.3 Construction Requirements
The fourth sentence of the third paragraph is deleted.

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Section 7-08, General Pipe Installation Requirements
April 2, 2018

7-08.3(3) Backfilling
The fifth sentence of the fourth paragraph is revised to read:

All compaction shall be in accordance with the Compaction Control Test of Section 2-03.3(14)D except in the case that 100% Recycled Concrete Aggregate is used.

The following new sentences are inserted after the fifth sentence of the fourth paragraph:

When 100% Recycled Concrete Aggregate is used, the Contractor may submit a written request to use a test point evaluation for compaction acceptance. Test Point evaluation shall be performed in accordance with SOP 738.

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Section 8-01, Erosion Control and Water Pollution Control
April 1, 2019

8-01.1 Description
This section is revised to read:
This Work consists of furnishing, installing, maintaining, removing and disposing of best management practices (BMPs), as defined in the Washington Administrative Code (WAC) 173-201A, to manage erosion and water quality in accordance with these Specifications and as shown in the Plans or as designated by the Engineer.

The Contracting Agency may have a National Pollution Discharge Elimination System Construction Stormwater General Permit (CSWGP) as identified in the Contract Special Provisions. The Contracting Agency may or may not transfer coverage of the CSWGP to the Contractor when a CSWGP has been obtained. The Contracting Agency may not have a CSWGP for the project but may have another water quality related permit as identified in the Contract Special Provisions or the Contracting Agency may not have water quality related permits but the project is subject to applicable laws for the Work. Section 8-01 covers all of these conditions.

This section is supplemented with the following new subsection:

### 8-01.1(1) Definitions

1. **pH Affected Stormwater**
   
a. Stormwater contacting green concrete (concrete that has set/stiffen but is still curing), recycled concrete, or engineered soils (as defined in the Construction Stormwater General Permit (CSWGP)) as a natural process

b. pH monitoring shall be performed in accordance with the CSWGP, or Water Quality Standards (WQS in accordance with WAC 173-201A (surface) or 173-200C (ground)) when the CSWGP does not apply

c. May be neutralized and discharged to surface waters or infiltrated

2. **pH Affected Non-Stormwater**
   
a. Conditionally authorized in accordance with CSWGP Special Condition S.1.C., uncontaminated water contacting green concrete, recycled concrete, or engineered soils (as defined in the CSWGP)

b. Shall not be categorized as cementitious wastewater/concrete wastewater, as defined below

c. Shall be managed and treated in accordance with the CSWGP, or WQS when the CSWGP does not apply

d. pH adjustment and dechlorination may be necessary, as specified in the CSWGP or in accordance with WQS when the CSWGP does not apply

e. May be neutralized, treated, and discharged to surface waters in accordance with the CSWGP, with the exception of water-only shaft drilling slurry. Water-only shaft drilling slurry may be treated, neutralized, and infiltrated but not discharged to surface waters (Refer to Special Conditions S1.C. Authorized Discharges and S1.d Prohibited Discharges of the CSWGP)

3. **Cementitious Wastewater/Concrete Wastewater**
a. Any water that comes into contact with fine cementitious particles or slurry; any water used in the production, placement and/or clean-up of cementitious products; any water used to cut, grind, wash, or otherwise modify cementitious products

b. When any water, including stormwater, commingles with cementitious wastewater/concrete wastewater, the resulting water is considered cementitious wastewater/concrete wastewater and shall be managed to prevent discharge to waters of the State, including ground water

c. CSWGP Examples include: water used for or resulting from concrete truck/mixer/pumper/tool/chute rinsing or washing, concrete saw cutting and surfacing (sawing, coring, grinding, roughening, hydro-demolition, bridge and road surfacing)

d. Cannot be neutralized and discharged or infiltrated

8-01.2 Materials
The first paragraph is revised to read:

Material shall meet the requirements of the following sections:

<table>
<thead>
<tr>
<th>Description</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrugated Polyethylene Drain Pipe</td>
<td>9-05.1(6)</td>
</tr>
<tr>
<td>Quarry Spalls and Permeable Ballast</td>
<td>9-13</td>
</tr>
<tr>
<td>Erosion Control and Roadside Planting</td>
<td>9-14</td>
</tr>
<tr>
<td>Construction Geotextile</td>
<td>9-33</td>
</tr>
</tbody>
</table>

The second paragraph is deleted.

8-01.3(1) General
This section is revised to read:

Adaptive management shall be employed throughout the duration of the project for the implementation of erosion and water pollution control permit requirements for the current condition of the project site. The adaptive management includes the selection and utilization of BMPs, scheduling of activities, prohibiting unacceptable practices, implementing maintenance procedures, and other managerial practices that when used singularly or in combination, prevent or reduce the release of pollutants to waters of the State. The adaptive management shall use the means and methods identified in this section and means and methods identified in the Washington State Department of Transportation’s Temporary Erosion and Sediment Control Manual or the Washington State Department of Ecology’s Stormwater Management Manuals for construction stormwater.

The Contractor shall install a high visibility fence along the lines shown in the Plans or as instructed by the Engineer.

Throughout the life of the project, the Contractor shall preserve and protect the delineated preservation area, acting immediately to repair or restore any high visibility fencing damaged or removed.
All discharges to surface waters shall comply with surface water quality standards as defined in Washington Administrative Code (WAC) Chapter 173-201A. All discharges to groundwater shall comply with groundwater quality standards WAC Chapter 173-200.

The Contractor shall comply with the CSWGP when the project is covered by the CSWGP.

Work, at a minimum, shall include the implementation of:

1. Sediment control measures prior to ground disturbing activities to ensure all discharges from construction areas receive treatment prior to discharging from the site.

2. Flow control measures to prevent erosive flows from developing.

3. Water management strategies and pollution prevention measures to prevent contamination of waters that will be discharged to surface waters or the ground.

4. Erosion control measures to stabilize erodible earth not being worked.

5. Maintenance of BMPs to ensure continued compliant performance.

6. Immediate corrective action if evidence suggests construction activity is not in compliance. Evidence includes sampling data, olfactory or visual evidence such as the presence of suspended sediment, turbidity, discoloration, or oil sheen in discharges.

To the degree possible, the Contractor shall coordinate this Work with permanent drainage and roadside restoration Work the Contract requires.

Clearing, grubbing, excavation, borrow, or fill within the Right of Way shall never expose more erodible earth than as listed below:

<table>
<thead>
<tr>
<th>Western Washington (West of the Cascade Mountain Crest)</th>
<th>Eastern Washington (East of the Cascade Mountain Crest)</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 1 through September 30</td>
<td>April 1 through October 31</td>
</tr>
<tr>
<td>17 Acres</td>
<td>17 Acres</td>
</tr>
<tr>
<td>October 1 through April 30</td>
<td>November 1 through March 31</td>
</tr>
<tr>
<td>5 Acres</td>
<td>5 Acres</td>
</tr>
</tbody>
</table>

The Engineer may increase or decrease the limits based on project conditions.

Erodible earth is defined as any surface where soils, grindings, or other materials may be capable of being displaced and transported by rain, wind, or surface water runoff.

Erodible earth not being worked, whether at final grade or not, shall be covered within the specified time period (see the table below), using BMPs for erosion control.
When applicable, the Contractor shall be responsible for all Work required for compliance with the CSWGP including annual permit fees.

If the Engineer, under Section 1-08.6, orders the Work suspended, the Contractor shall continue to comply with this division during the suspension.

8-01.3(1)A Submittals

This section’s content is deleted.

This section is supplemented with the following new subsection:

8-01.3(1)A1 Temporary Erosion and Sediment Control Plan

Temporary Erosion and Sediment Control (TESC) Plans consist of a narrative section and plan sheets that meet the Washington State Department of Ecology’s Stormwater Pollution Prevention Plan (SWPPP) requirement in the CSWGP. For projects that do not require a CSWGP but have the potential to discharge to surface waters of the state, an abbreviated TESC plan shall be used, which may consist of a narrative and/or plan sheets and shall demonstrate compliance with applicable codes, ordinances and regulations, including the water quality standards for surface waters; Chapter 173-201A of the Washington Administrative Code (WAC) and water quality standards for groundwaters in accordance with Chapter 173-200 WAC.

The Contractor shall either adopt the TESC Plan in the Contract or develop a new TESC Plan. If the Contractor adopts the TESC Plan in scenarios in which the CSWGP is transferred to the Contractor, the Contractor shall modify the TESC Plan to match the Contractor’s schedule, method of construction, and to include all areas that will be used to directly support construction activity such as equipment staging yards, material storage areas, or borrow areas. TESC Plans shall include all high visibility fence shown in the Plans. All TESC Plans shall meet the requirements of the current edition of the WSDOT Temporary Erosion and Sediment Control Manual M 3109 and be adaptively managed throughout construction based on site inspections and required sampling to maintain compliance with the CSWGP, or WQS when no CSWGP applies. The Contractor shall develop a schedule for implementation of the TESC work and incorporate it into the Contractor’s progress schedule.

The Contractor shall submit their TESC Plan (either the adopted plan or new plan) as Type 2 Working Drawings. At the request of the Engineer, updated TESC Plans shall be submitted as Type 1 Working Drawings.

8-01.3(1)B Erosion and Sediment Control (ESC) Lead

This section is revised to read:

The Contractor shall identify the ESC Lead at the preconstruction discussions and in the TESC Plan. The ESC Lead shall have, for the life of the Contract, a current Certificate
of Training in Construction Site Erosion and Sediment Control from a course approved by the Washington State Department of Ecology. The ESC Lead must be onsite or on call at all times throughout construction. The ESC Lead shall be listed on the Emergency Contact List required under Section 1-05.13(1).

The ESC Lead shall implement the TESC Plan. Implementation shall include, but is not limited to:

1. Installing, adaptively managing, and maintaining temporary erosion and sediment control BMPs to assure continued performance of their intended function. Damaged or inadequate BMPs shall be corrected immediately.

2. Updating the TESC Plan to reflect current field conditions.

3. Discharge sampling and submitting Discharge Monitoring Reports (DMRs) to the Washington State Department of Ecology in accordance with the CSWGP.

4. Develop and maintain the Site Log Book as defined in the CSWGP. When the Site Log Book or portion thereof is electronically developed, the electronic documentation must be accessible onsite. As a part of the Site Log Book, the Contractor shall develop and maintain a tracking table to show that identified TESC compliance issues are fully resolved within 10 calendar days. The table shall include the date an issue was identified, a description of how it was resolved, and the date the issue was fully resolved.

The ESC Lead shall also inspect all areas disturbed by construction activities, all on-site erosion and sediment control BMPs, and all stormwater discharge points at least once every calendar week and within 24-hours of runoff events in which stormwater discharges from the site. Inspections of temporarily stabilized, inactive sites may be reduced to once every calendar month. The Washington State Department of Ecology’s Erosion and Sediment Control Site Inspection Form, located at https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Construction-stormwater-permit, shall be completed for each inspection and a copy shall be submitted to the Engineer no later than the end of the next working day following the inspection.

8-01.3(1)C Water Management

This section is supplemented with the following new subsections:

8-01.3(1)C5 Water Management for In-Water Work Below Ordinary High Water Mark (OHWM)

Work over surface waters of the state (defined in WAC 173-201A-010) or below the OHWM (defined in RCW 90.58.030) shall comply with water quality standards for surface waters of the State of Washington.

8-01.3(1)C6 Environmentally Acceptable Hydraulic Fluid

All equipment containing hydraulic fluid that extends from a bridge deck over surface waters of the state or below the OHWM, shall be equipped with a biodegradable hydraulic fluid. The fluid shall achieve either a Pw1 Environmental Persistence Classification stated in ASTM D6046 (≥60% biodegradation in 28 days) or equivalent standard. Alternatively, hydraulic fluid that meets International Organization for
Standardization (ISO 15380), the European Union Ecolabel, or equivalent certification will also be accepted.

The Contractor shall submit a Type 1 Working Drawing consisting of a manufacturer catalog cut of the hydraulic fluid used.

The designation of biodegradable hydraulic fluid does not mean fluid spills are acceptable. The Contractor shall respond to spills to land or water in accordance with the Contract, the associated SPCC Plan, and all applicable local, state, and federal regulations.

8-01.3(1)C7 Turbidity Curtain
All Work for the turbidity curtain shall be in accordance with the manufacturer’s recommendations for the site conditions. Removal procedures shall be developed and used to minimize silt release and disturbance of silt. The Contractor shall submit a Type 2 Working Drawing, detailing product information, installation and removal procedures, equipment and workforce needs, maintenance plans, and emergency repair/replacement plans.

Turbidity curtain materials, installation, and maintenance shall be sufficient to comply with water quality standards.

The Contractor shall notify the Engineer 10 days in advance of removing the turbidity curtain. All components of the turbidity curtain shall be removed from the project.

8-01.3(1)C1 Disposal of Dewatering Water
This section is revised to read:

When uncontaminated groundwater is encountered in an excavation on a project it may be infiltrated within vegetated areas of the right of way not designated as Sensitive Areas or incorporated into an existing stormwater conveyance system at a rate that will not cause erosion or flooding in any receiving surface water.

Alternatively, the Contractor may pursue independent disposal and treatment alternatives that do not use the stormwater conveyance system provided it is in compliance with the applicable WACs and permits.

8-01.3(1)C2 Process Wastewater
This section is revised to read:

Wastewater generated on-site as a byproduct of a construction process shall not be discharged to surface waters of the State. Some sources of process wastewater may be infiltrated in accordance with the CSWGP. Some sources of process wastewater may be disposed via independent disposal and treatment alternatives in compliance with the applicable WACs and permits.

8-01.3(1)C3 Shaft Drilling Slurry Wastewater
This section is revised to read:

Wastewater generated on-site during shaft drilling activity shall be managed and disposed of in accordance with the requirements below. No shaft drilling slurry wastewater shall be discharged to surface waters of the State. Neither the sediment nor
liquid portions of the shaft drilling slurry wastewater shall be contaminated, as
detectable by visible or olfactory indication (e.g., chemical sheen or smell).

1. Water-only shaft drilling slurry or water slurry with accepted flocculants may be
infiltrated on-site. Flocculants used shall meet the requirements of Section 9-
14.5(1) or shall be chitosan products listed as General Use Level Designation
(GULD) on the Washington State Department of Ecology’s stormwater
treatment technologies webpage for construction treatment. Infiltration is
permitted if the following requirements are met:

a. Wastewater shall have a pH of 6.5 – 8.5 prior to discharge.

b. The amount of flocculant added to the slurry shall be kept to the minimum
needed to adequately settle out solids. The flocculant shall be thoroughly
mixed into the slurry.

c. The slurry removed from the shaft shall be contained in a leak proof cell or
tank for a minimum of 3 hours.

d. The infiltration rate shall be reduced if needed to prevent wastewater from
leaving the infiltration location. The infiltration site shall be monitored
regularly during infiltration activity. All wastewater discharged to the
ground shall fully infiltrate and discharges shall stop before the end of
each work day.

e. Drilling spoils and settled sediments remaining in the containment cell or
tank shall be disposed of in accordance with Section 6-19.3(4)F.

f. Infiltration locations shall be in upland areas at least 150 feet away from
surface waters, wells, on-site sewage systems, aquifer sensitive recharge
areas, sole source aquifers, well head protection areas, and shall be
marked on the plan sheets before the infiltration activity begins.

g. Prior to infiltration, the Contractor shall submit a Shaft Drilling Slurry
Wastewater Management and Infiltration Plan as a Type 2 Working
Drawing. This Plan shall be kept on-site, adapted if needed to meet the
construction requirements, and updated to reflect what is being done in
the field. The Working Drawing shall include, at a minimum, the following
information:

i. Plan sheet showing the proposed infiltration location and all surface
waters, wells, on-site sewage systems, aquifer-sensitive recharge
areas, sole source aquifers, and well-head protection areas within
150 feet.

ii. The proposed elevation of soil surface receiving the wastewater for
infiltration and the anticipated phreatic surface (i.e., saturated soil).

iii. The source of the water used to produce the slurry.

iv. The estimated total volume of wastewater to be infiltrated.
v. The accepted flocculant to be used (if any).

vi. The controls or methods used to prevent surface wastewater runoff from leaving the infiltration location.

vii. The strategy for removing slurry wastewater from the shaft and containing the slurry wastewater once it has been removed from the shaft.

viii. The strategy for monitoring infiltration activity and adapting methods to ensure compliance.

ix. A contingency plan that can be implemented immediately if it becomes evident that the controls in place or methods being used are not adequate.

x. The strategy for cleaning up the infiltration location after the infiltration activity is done. Cleanup shall include stabilizing any loose sediment on the surface within the infiltration area generated as a byproduct of suspended solids in the infiltrated wastewater or soil disturbance associated with BMP placement and removal.

2. Shaft drilling mineral slurry, synthetic slurry, or slurry with polymer additives not allowed for infiltration shall be contained and disposed of by the Contractor at an accepted disposal facility in accordance with Section 2-03.3(7)C. Spoils that have come into contact with mineral slurry shall be disposed of in accordance with Section 6-19.3(4)F.

8-01.3(1)C4 Management of Off-Site Water

This section is revised to read:

Prior to clearing and grubbing, the Contractor shall intercept all sources of off-site surface water and overland flow that will run-on to the project. Off-site surface water run-on shall be diverted through or around the project in a way that does not introduce construction related pollution. It shall be diverted to its preconstruction discharge location in a manner that does not increase preconstruction flow rate and velocity and protects contiguous properties and waterways from erosion. The Contractor shall submit a Type 2 Working Drawing consisting of the method for performing this Work.

8-01.3(1)E Detention/Retention Pond Construction

This section is revised to read:

Permanent or temporary ponds shall be constructed before beginning other grading and excavation Work in the area that drains into that pond. Detention/retention ponds may be constructed concurrently with grading and excavation when allowed by the Engineer. Temporary conveyances shall be installed concurrently with grading in accordance with the TESC Plan so that newly graded areas drain to the pond as they are exposed.

8-01.3(2) Seeding, Fertilizing, and Mulching

This section’s title is revised to read:
8-01.3(2) Temporary Seeding and Mulching

8-01.3(2)A Preparation for Application
This section is revised to read:

A cleated roller, crawler tractor, or similar equipment, which forms longitudinal depressions at least 2 inches deep shall be used for compaction and preparation of the surface to be seeded. The entire area shall be uniformly covered with longitudinal depressions formed perpendicular to the natural flow of water on the slope. The soil shall be conditioned with sufficient water so the longitudinal depressions remain in the soil surface until completion of the seeding.

8-01.3(2)A1 Seeding
This section is deleted in its entirety.

8-01.3(2)A2 Temporary Seeding
This section is deleted in its entirety.

8-01.3(2)B Seeding and Fertilizing
This section, including title, is revised to read:

8-01.3(2)B Temporary Seeding
Temporary grass seed shall be a commercially prepared mix, made up of low growing grass species that will grow without irrigation at the project location, and accepted by the Engineer. The application rate shall be two pounds per 1000 square feet.

The Contractor shall notify the Engineer not less than 24 hours in advance of any seeding operation and shall not begin the Work until areas prepared or designated for seeding have been accepted. Following the Engineer’s acceptance, seeding of the accepted slopes shall begin immediately.

Temporary seeding may be sown at any time allowed by the Engineer. Temporary seeding shall be sown by one of the following methods:

1. A hydro seeder that utilizes water as the carrying agent, and maintains continuous agitation through paddle blades. It shall have an operating capacity sufficient to agitate, suspend, and mix into a homogeneous slurry the specified amount of seed and water or other material. Distribution and discharge lines shall be large enough to prevent stoppage and shall be equipped with a set of hydraulic discharge spray nozzles that will provide a uniform distribution of the slurry.

2. Blower equipment with an adjustable disseminating device capable of maintaining a constant, measured rate of material discharge that will ensure an even distribution of seed at the rates specified.

3. Power-drawn drills or seeders.

4. Areas in which the above methods are impractical may be seeded by hand methods.
When seeding by hand, the seed shall be incorporated into the top ¼ inch of soil by hand raking or other method that is allowed by the Engineer.

Seed applied using a hydroseeder shall have a tracer added to visibly aid uniform application. This tracer shall not be harmful to plant, aquatic, or animal life. If Short-Term Mulch is used as a tracer, the application rate shall not exceed 250 pounds per acre.

Seed and fertilizer may be applied in one application provided that the fertilizer is placed in the hydroseeder tank no more than 1 hour prior to application.

8-01.3(2)D Mulching

This section, including title, is revised to read:

8-01.3(2)D Temporary Mulching

Temporary mulch shall be straw, wood strand, or HECP mulch and shall be used for the purpose of erosion control by protecting bare soil surface from particle displacement. Mulch shall not be applied below the anticipated water level of ditch slopes, pond bottoms, and stream banks. HECP mulch shall not be used within the Ordinary High Water Mark. Non-HECP mulches applied below the anticipated water level shall be removed or anchored down so that it cannot move or float, at no additional expense to the Contracting Agency.

Straw or wood strand mulch shall be applied at a rate to achieve at least 95 percent visual blockage of the soil surface.

Short Term Mulch shall be hydraulically applied at the rate of 2500 pounds per acre and may be applied in one lift.

Moderate Term Mulch and Long Term Mulch shall be hydraulically applied at the rate of 3500 pounds per acre with no more than 2000 pounds applied in any single lift.

Mulch sprayed on signs or sign Structures shall be removed the same day.

Areas not accessible by mulching equipment shall be mulched by accepted hand methods.

8-01.3(2)F Dates for Application of Final Seed, Fertilizer, and Mulch

This section is deleted in its entirety.

8-01.3(2)G Protection and Care of Seeded Areas

This section is deleted in its entirety.

8-01.3(2)H Inspection

This section is deleted in its entirety.

8-01.3(2)I Mowing

This section is deleted in its entirety.

8-01.3(3) Placing Biodegradable Erosion Control Blanket

This section’s title is revised to read:
8-01.3(3) Placing Erosion Control Blanket

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

Erosion Control Blankets are used as an erosion prevention device and to enhance the establishment of vegetation.

The second paragraph is revised to read:

When used to enhance the establishment of seeded areas, seeding and fertilizing shall be done prior to blanket installation.

8-01.3(4) Placing Compost Blanket

This section is revised to read:

Compost blankets are used for erosion control. Compost blanket shall be only be placed on ground surfaces that are steeper than 3-foot horizontal and 1-foot vertical though steeper slopes shall be broken by wattles or compost socks placed according to the Standard Plans. Compost shall be placed to a depth of 3 inches over bare soil. An organic tackifier shall be placed over the entire composted area when dry or windy conditions are present or expected. The tackifier shall be applied immediately after the application of compost to prevent compost from leaving the composted area.

Medium compost shall be used for the compost blanket. Compost may serve the purpose of soil amendment as specified in Section 8-02.3(6).

8-01.3(5) Plastic Covering

The first paragraph is revised to read:

Erosion Control – Plastic coverings used to temporarily cover stockpiled materials, slopes or bare soils shall be installed and maintained in a way that prevents water from intruding under the plastic and prevents the plastic cover from being damaged by wind. Plastic coverings shall be placed with at least a 12-inch overlap of all seams and be a minimum of 6 mils thick. Use soil stabilization and energy dissipation BMPs to minimize the erosive energy flows coming off sloped areas of plastic (e.g., toe of slope). When feasible, prevent the clean runoff from plastic from hitting bare soil. Direct flows from plastic to stabilized outlet areas.

8-01.3(7) Stabilized Construction Entrance

The first paragraph is revised to read:

Temporary stabilized construction entrance shall be constructed in accordance with the Standard Plans, prior to construction vehicles entering the roadway from locations that generate sediment track out on the roadway. 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 pickup street sweepers shall be used to remove and collect dirt and other debris from the Roadway. 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.

When allowed by the Engineer, power broom sweepers may be used in non-sensitive areas. The broom sweeper shall sweep dirt and other debris from the roadway into the work area. The swept material shall be prevented from entering or washing into waters of the State.

Street washing with water will require the concurrence of the Engineer.

8-01.3(12) Compost Socks

The first two sentences of the first paragraph are revised to read:

Compost socks are used to disperse flow and sediment. Compost socks shall be installed as soon as construction will allow but before flow conditions create erosive flows or discharges from the site. Compost socks shall be installed prior to any mulching or compost placement.

8-01.3(13) Temporary Curb

The last two sentences of the second paragraph are revised to read:

Temporary curbs shall be a minimum of 4 inches in height. Temporary curb shall be installed so that ponding does not occur in the adjacent roadway.

8-01.3(14) Temporary Pipe Slope Drain

The third and fourth paragraphs are revised to read:

The pipe fittings shall be water tight and the pipe secured to the slope with metal posts, wood stakes, or sand bags.

The water shall be discharged to a stabilized conveyance, sediment trap, stormwater pond, rock splash pad, or vegetated strip, in a manner to prevent erosion and maintain water quality compliance.

The last paragraph is deleted.

8-01.3(15) Maintenance

This section is revised to read:

Erosion and sediment control BMPs shall be maintained or adaptively managed as required by the CSWGP until the Engineer determines they are no longer needed. When deficiencies in functional performance are identified, the deficiencies shall be rectified immediately.

The BMPs shall be inspected on the schedule outlined in Section 8-01.3(1)B for damage and sediment deposits. Damage to or undercutting of BMPs shall be repaired immediately.

In areas where the Contractor’s activities have compromised the erosion control functions of the existing grasses, the Contractor shall overseed at no additional cost to the Contracting Agency.
The quarry spalls of construction entrances shall be refreshed, replaced, or screened to maintain voids between the spalls for collecting mud and dirt.

Unless otherwise specified, when the depth of accumulated sediment and debris reaches approximately ⅓ the height of the BMP the deposits shall be removed. Debris or contaminated sediment shall be disposed of in accordance with Section 2-03.3(7)C. Clean sediments may be stabilized on-site using BMPs as allowed by the Engineer.

8-01.3(16) Removal
This section is revised to read:

The Contractor shall remove all temporary BMPs, all associated hardware and associated accumulated sediment deposition from the project limits prior to Physical Completion unless otherwise allowed by the Engineer. When the temporary BMP materials are made of natural plant fibers unaltered by synthetic materials the Engineer may allow leaving the BMP in place.

The Contractor shall remove BMPs and associated hardware in a way that minimizes soil disturbance. The Contractor shall permanently stabilize all bare and disturbed soil after removal of BMPs. If the installation and use of the erosion control BMPs have compacted or otherwise rendered the soil inhospitable to plant growth, such as construction entrances, the Contractor shall take measures to rehabilitate the soil to facilitate plant growth. This may include, but is not limited to, ripping the soil, incorporating soil amendments, or seeding with the specified seed.

At the request of the Contractor and at the sole discretion of the Engineer the CSWGP may be transferred back to the Contracting Agency. Approval of the Transfer of Coverage request will require the following:

1. All other Work required for Contract Completion has been completed.
2. All Work required for compliance with the CSWGP has been completed to the maximum extent possible. This includes removal of BMPs that are no longer needed and the site has undergone all Stabilization identified for meeting the requirements of Final Stabilization in the CSWGP.
3. An Equitable Adjustment change order for the cost of Work that has not been completed by the Contractor.

If the Engineer approves the transfer of coverage back to the Contracting Agency, the requirement in Section 1-07.5(3) for the Contractor’s submittal of the Notice of Termination form to the Washington State Department of Ecology will not apply.

8-01.4 Measurement
This section’s content is deleted and replaced with the following new subsections:
8-01.4(1) Lump Sum Bid for Project (No Unit Items)
When the Bid Proposal contains the item “Erosion Control and Water Pollution Prevention” there will be no measurement of unit or force account items for Work defined in Section 8-01 except as described in Sections 8-01.4(3) and 8-01.4(4). Also, except as described in Section 8-01.4(3), all of Sections 8-01.4(2) and 8-01.5(2) are deleted.

8-01.4(2) Item Bids
When the Proposal does not contain the items “Erosion Control and Water Pollution Prevention”, Section 8-01.4(1) and 8-01.5(1) are deleted and the Bid Proposal will contain some or all of the following items measured as noted.

ESC lead will be measured per day for each day that an inspection is made and a report is filed.

Erosion control blanket and plastic covering will be measured by the square yard along the ground slope line of surface area covered and accepted.

Turbidity curtains will be measured by the linear foot along the ground line of the installed curtain.

Check dams will be measured per linear foot one time only along the ground line of the completed check dam. No additional measurement will be made for check dams that are required to be rehabilitated or replaced due to wear.

Stabilized construction entrances will be measured by the square yard by ground slope measurement for each entrance constructed.

Tire wash facilities will be measured per each for each tire wash installed.

Street cleaning will be measured by the hour for the actual time spent cleaning pavement, refilling with water, dumping and transport to and from cleaning locations within the project limits, as authorized by the Engineer. Time to mobilize the equipment to or from the project limits on which street cleaning is required will not be measured.

Inlet protections will be measured per each for each initial installation at a drainage structure.

Silt fence, gravel filter, compost berms, and wood chip berms will be measured by the linear foot along the ground line of the completed barrier.

Wattles and compost socks will be measured by the linear foot.

Temporary curbs will be measured by the linear foot along the ground line of the completed installation.

Temporary pipe slope drains will be measured by the linear foot along the flow line of the pipe.

Coir logs will be measured by the linear foot along the ground line of the completed installation.
Outlet protections will be measured per each initial installation at an outlet location.

Temporary seeding, temporary mulching, and tackifiers will be measured by the acre by ground slope measurement.

Compost blanket will be measured by the square yard by ground slope surface area covered and accepted.

8-01.4(3) Reinstating Unit Items with Lump Sum Erosion Control and Water Pollution Prevention

The Contract Provisions may establish the project as lump sum, in accordance with Section 8-01.4(1) and also include one or more of the items included above in Section 8-01.4(2). When that occurs, the corresponding measurement provision in Section 8-01.4(2) is not deleted and the Work under that item will be measured as specified.

8-01.4(4) Items not included with Lump Sum Erosion Control and Water Pollution Prevention

Compost blanket will be measured by the square yard by ground slope surface area covered and accepted.

Temporary mulch will be measured by the acre by ground slope surface area covered and accepted.

High visibility fence will be measured by the linear foot along the ground line of the completed fence.

8-01.5 Payment

This section’s content is deleted and replaced with the following new subsections:

8-01.5(1) Lump Sum Bid for Project (No Unit Items)

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

“Erosion Control and Water Pollution Prevention”, lump sum.

The lump sum Contract price for “Erosion Control and Water Pollution Prevention” shall be full pay to perform the Work as described in Section 8-01 except for costs compensated by Bid Proposal items inserted through Contract Provisions as described in Section 8-01.4(2). Progress payments for the lump sum item “Erosion Control and Water Pollution Prevention” will be made as follows:

1. The Contracting Agency will pay 15 percent of the bid amount for the initial set up for the item. Initial set up includes the following:
   a. Acceptance of the TESC Plan provided by the Contracting Agency or submittal of a new TESC Plan,
   b. Submittal of a schedule for the installation of the BMPs, and
   c. Identifying water quality sampling locations.
2. 70 percent of the bid amount will be paid in accordance with Section 1-09.9.

3. Once the project is physically complete and copies of the all reports submitted to the Washington State Department of Ecology have been submitted to the Engineer, and, if applicable, transference of the CSWGP back to the Contracting Agency is complete, the remaining 15 percent of the bid amount shall be paid in accordance with Section 1-09.9.

8-01.5(2) Item Bids

"ESC Lead", per day.

"Turbidity Curtain", per linear foot.

"Erosion Control Blanket", per square yard.

"Plastic Covering", per square yard.

"Check Dam", per linear foot.

"Inlet Protection", per each.

"Gravel Filter Berm", per linear foot.

"Stabilized Construction Entrance", per square yard.

"Street Cleaning", per hour.

"Silt Fence", per linear foot.

"Wood Chip Berm", per linear foot.

"Compost Berm", per linear foot.

"Wattle", per linear foot.

"Compost Sock", per linear foot.

"Coir Log", per linear foot.

"Temporary Curb", per linear foot.

"Temporary Pipe Slope Drain", per linear foot.

"Temporary Seeding", per acre.

"Temporary Mulching", per acre.

"Compost Blanket", per square yard.

"Outlet Protection", per each.
“Tackifier”, per acre.

“Erosion/Water Pollution Control”, by force account as provided in Section 1-09.6.

Maintenance and removal of erosion and water pollution control devices including removal and disposal of sediment, stabilization and rehabilitation of soil disturbed by these activities, and any additional Work deemed necessary by the Engineer to control erosion and water pollution will be paid by force account in accordance with Section 1-09.6.

To provide a common Proposal for all Bidders, the Contracting Agency has entered an amount in the Proposal to become a part of the Contractor’s total Bid.

8-01.5(3) Reinstating Unit Items with Lump Sum Erosion Control and Water Pollution Prevention

The Contract may establish the project as lump sum, in accordance with Section 8-01.4(1) and also reinstate the measurement of one or more of the items described in Section 8-01.4(2), except for Erosion/Water Pollution Control, by force account. When that occurs, the corresponding payment provision in Section 8-01.5(2) is not deleted and the Work under that item will be paid as specified.

8-01.5(4) Items not included with Lump Sum Erosion Control and Water Pollution Prevention

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

“High Visibility Fence”, per linear foot.

8-02.AP8

Section 8-02, Roadside Restoration

April 1, 2019

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

8-02.1 Description

This Work consists of preserving, maintaining, establishing and augmenting vegetation on the roadsides and within mitigation or sundry site areas. It includes vegetation preservation, weed and pest control, furnishing and placing topsoil, compost, and soil amendments, and furnishing and planting seed, sod and plants of all forms and container types. It includes performing plant establishment activities and soil bioengineering. Work shall be performed in accordance with these Specifications and as shown in the Plans or as designated by the Engineer.

Trees, whips, shrubs, ground covers, cuttings, live stakes, live poles, live branches, rhizomes, tubers, rootstock, and seedlings will hereinafter be referred to collectively as “plants” or “plant material”. Grass, wildflowers, and other plant materials installed in seed form will hereinafter be referred to collectively as “seed”.

8-02.2 Materials

Materials shall meet the requirements of the following sections:

Erosion Control and Roadside Planting 9-14
Water 9-25.2
Botanical identification and nomenclature of plant materials shall be based on descriptions by Hitchcock and Cronquist in “Flora of the Pacific Northwest”. Botanical identification and nomenclature of plant material not found in "Flora" shall be based on Bailey in “Hortus Third” or superseding editions and amendments or as referenced in the Plans.

8-02.3 Construction Requirements

8-02.3(1) Responsibility During Construction
The Contractor shall prepare, install, and ensure adequate and proper care of all roadside seeded, planted, and lawn areas on the project until all plant establishment periods required by the Contract are complete or until Physical Completion of the project, whichever is last.

Adequate and proper care shall include, but is not limited to, keeping all plant material in a healthy, growing condition by watering, pruning, and other actions deemed necessary for plant health. This Work shall include keeping the project area free from insect infestation, weeds or unwanted vegetation, litter, and other debris along with retaining the finished grades and mulch in a neat uniform condition.

Existing desirable vegetation shall be saved and protected unless removal is required by the Contract or allowed by the Engineer.

The Contractor shall have sole responsibility for the maintenance and appearance of the roadside restoration.

8-02.3(2) Work Plans
Three Work Plan submittals exist under this Section:

1. Roadside Work Plan: This plan is required when Work will disturb the roadside beyond 20 feet from the pavement or where trees or native vegetation will be removed, the Contractor shall submit a Type 2 Working Drawing.

2. Weed and Pest Control Plan: This plan is required when the proposal contains the item "Weed and Pest Control," and prior to application of any chemicals or weed control activities, the Contractor shall submit a Type 2 Working Drawing.

3. Plant Establishment Plan: This plan is required when the proposal contains the item "PSIPE__", and prior to completion of Initial Planting, the Contractor shall submit a Type 2 Working Drawing.

8-02.3(2)A Roadside Work Plan
The Roadside Work Plan shall define the expected impacts to the roadside and restoration resulting from Work necessary to meet all Contract requirements. The Contractor shall define how the roadside restoration Work included in the Contract will be phased and coordinated with project Work such as earthwork, staging, access, erosion and water pollution control, irrigation, etc. The Roadside Work Plan shall include the following:
1. **Limiting impacts to roadsides:**

   a. Limits of Work including locations of staging or parking.

   b. Means and methods for vegetation protection (in accordance with Section 1-07.16(2)).

   c. Locations outside of clearing limits where vegetation shall be removed to provide access routes or other needs to accomplish the Work.

   d. Plans for removal, preservation and stockpile of topsoil or other native materials, if outside of clearing and grubbing limits and within the project limits.

2. **Roadside Restoration:**

   a. Plan for propagation and procurement of plants, ground preparation for planting, and installation of plants.

   b. Means and methods to limit soil compaction where seeding and planting are to occur, such as steel plates, hog fuel access roads, wood mats for sensitive areas (including removal) and decompaction for unavoidable impacts.

   c. Plan and timing to incorporate or remove erosion control items.

3. **Lawn Installation:**

   a. Schedule for lawn installation work.

   b. Establishment and maintenance of lawns.

**8-02.3(2)B Weed and Pest Control Plan**

The Weed and Pest Control Plan shall describe all weed and pest control needs for the project.

The plan shall be prepared and signed by a licensed Commercial Pest Control Operator or Consultant. The plan for control of weeds and pests on the Contract in accordance with Section 8-02.3(3) shall include the following:

1. Names of plan preparer and pesticide operators, including contact information. The Contractor shall furnish the Engineer evidence that all operators are licensed with appropriate endorsements, and that the pesticide used is registered for use by the Washington State Department of Agriculture.

2. Means and methods of weed control, including mechanical and/or chemical.

3. Schedule for weed control including re-entry times for pesticide application by pesticide type.
4. Proposed pesticide use in accordance with Section 8-02.3(3)A: name, application rate, and Safety Data Sheets of all proposed pesticides. Include a copy of the current product label for each pesticide to be used.

5. Plan to ensure worker safety until pesticide re-entry periods are met.

8-02.3(2)C Plant Establishment Plan
The Plant Establishment Plan shall describe activities necessary to ensure continued health and vigor of planted and seeded areas in accordance with the requirements of Sections 8-02.3(12) and 8-02.3(13). Should the plan become unworkable at any time during the first-year plant establishment, the Contractor shall submit a revised plan prior to proceeding with further Work. The Plant Establishment Plan shall include:

1. Proposed scheduling of joint inspection meetings, activities, materials, equipment to be utilized for the first-year plant establishment.

2. Proposed adaptive management activities to ensure successful establishment of seeded, sodded, and planted areas.

3. A contact person.

4. Management of the irrigation system, when applicable.

8-02.3(3) Weed and Pest Control
The Contractor shall control weed and pest species within the project limits using integrated pest management principles consisting of mechanical, biological, and chemical controls that are outlined in the Weed and Pest Control Plan or as designated by the Engineer. Controlling weeds consists of killing and removing weeds by chemical, mechanical, and hand methods.

8-02.3(3)A Chemical Pesticides
Chemical pesticides include, but are not restricted to, any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any pest, including but not limited to, insecticides, herbicides, fungicides, adjuvants, and additives, including plant regulators, defoliants and desiccants. The Contractor shall apply chemical pesticides in accordance with the label recommendations, the Washington State Department of Ecology, local sensitive area ordinances, and Washington State Department of Agriculture laws and regulations. Only those pesticides listed in the table Herbicides Approved for Use on WSDOT Rights of Way and accepted as part of the Weed and Pest Control Plan or by written authorization from the Engineer may be used (www.wsdot.wa.gov/maintenance/roadside/herbicide_use.htm).

The applicator shall be licensed by the State of Washington as a Commercial Applicator or Commercial Operator, with additional endorsements as required by the Special Provisions or the proposed weed control plan. All chemical pesticides shall be delivered to the job site in the original containers, or if pre-mixed off-site, a certification of the components and formulation from the
supplier is required. The licensed applicator or operator shall complete
WSDOT Form 540-509, Commercial Pesticide Application Record, each day
the pesticide is applied and furnish a copy to the Engineer by the following
business day.

The Contractor shall ensure confinement of the chemicals within the
designated areas. The use of spray chemical pesticides shall require the use
of anti-drift and activating agents and a spray pattern indicator unless
otherwise allowed by the Engineer.

The Contractor shall assume all responsibility for rendering any area
unsatisfactory for planting by reason of chemical application. Damage to
adjacent areas, either on or off the Highway Right of Way, shall be repaired to
the satisfaction of the Engineer or the property owner at no additional cost to
the Contracting Agency.

8-02.3(3)B Planting and Lawn Area Weed Control
Planting and lawn area weed control consists of controlling weeds and pests in
planted and lawn areas shown in the Plans. This Work is included in the bid
items for planting and lawn installation.

All planting and lawn areas shall be prepared so that they are weed and debris
free at the time of planting and until completion of the project. The planting
areas shall include the entire ground surface, regardless of cover, areas
around plants, and those areas shown in the Plans.

Within planting or lawn areas, all species that are not shown in the Plans are
unwanted and shall be controlled unless specifically allowed by the Engineer
to remain.

Grass growing within the mulch ring of a plant, including grass applied in
accordance with Sections 8-01.3(2)A1, 8-02.3(9) or 8-02.3(10), shall be
considered a weed and shall be controlled on the project in accordance with
the weed and pest control plan.

All applications of post-emergent herbicides shall be made while green and
growing tissue is present. Residual herbicides shall not be used where
rhizomatous species or perennial species are indicated.

Should unwanted vegetation reach the flowering and seed stage in violation of
these Specifications, the Contractor shall physically remove and bag the seed
heads prior to seed dispersion. All physically removed vegetation and seed
heads shall be disposed of off-site at no cost to the Contracting Agency.

8-02.3(3)C Project Area Weed and Pest Control
The Contractor shall control weeds not otherwise covered in accordance with
Section 8-02.3(3)B, in all areas within the project limits, including erosion
control seeding areas and vegetation preservation areas, as designated by the
Engineer.

When the Bid Item “Project Area Weed and Pest Control” is included in the
Contract, the Contractor shall also control all weeds specified as noxious by
the Washington State Department of Agriculture, the local Weed District, or the County Noxious Weed Control Board outside of planting areas within the project limits.

8-02.3(4) Topsoil
Topsoil shall not be worked or placed when the ground or topsoil is frozen, or excessively wet.

The Contractor shall protect topsoil stockpiled for project use to prevent erosion and weed growth. Weed growth on topsoil stockpile sites shall be immediately eliminated in accordance with the accepted Weed and Pest Control Plan and Section 8-02.3(3)C.

The subsoil where topsoil is to be placed shall be tilled to a depth of 1 foot or as specified in the Special Provisions or the Plans. Topsoil of the type specified shall be evenly spread over the specified areas to the depth shown in the Plans or as otherwise ordered by the Engineer. Topsoil depths greater than 6 inches shall be placed in lifts no more than 6 inches in depth. The first lift of topsoil shall be incorporated with sub-soil to a depth of 8 inches and subsequent lifts placed and lightly tamped between lifts. After the topsoil has been spread, all large clods, hard lumps, and rocks 2 inches in diameter and larger, and litter shall be raked up, removed, and disposed.

8-02.3(4)A Topsoil Type A
Topsoil Type A shall be as specified in the Special Provisions. The Contractor shall submit a certification by the supplier that the contents of the Topsoil meet the requirements in the Special Provisions.

8-02.3(4)B Topsoil Type B
Topsoil Type B shall be naturally occurring topsoil taken from within the project limits and shall meet the requirements of Section 9-14.1(2). Topsoil Type B shall be taken from areas shown in the Plans to the designated depth and stockpiled at locations that will not interfere with the construction of the project, and outside of sensitive areas, as allowed by the Engineer. A minimum of two weeks prior to excavation of Topsoil Type B, the Contractor shall pre-treat the vegetation on the designated Topsoil Type B areas according to the Weed and Pest Control Plan. Areas beyond the slope stakes shall be disturbed as little as possible in the above operations and under no circumstances shall Topsoil Type B be stockpiled within 10 feet of any existing tree or vegetation area designated to be saved and protected. The Contractor shall protect topsoil stockpile from weed infestation.

The Contractor shall set aside sufficient material to satisfy the needs of the project.

Upon completion of topsoil placement, the Contractor shall dispose of remaining stockpiled Topsoil Type B not required for use on the project at no additional expense to the Contracting Agency in accordance with Section 2-03.3(7)C.
Should a shortage of Topsoil Type B occur, and the Contractor has wasted or otherwise disposed of topsoil material, the Contractor shall furnish Topsoil Type A or C at no additional expense to the Contracting Agency.

8-02.3(4)C Topsoil Type C
Topsoil Type C shall be naturally occurring topsoil obtained from a source provided by the Contractor outside of the Contracting Agency-owned Right of Way. Topsoil Type C shall meet the requirements of Sections 8-02.3(4)B and 9-14.1(3). The Contractor shall not begin removal of Topsoil Type C from the proposed source until the material has been allowed for use by the Engineer.

8-02.3(5) Roadside Seeding, Lawn and Planting Area Preparation
This Work includes preparing worked areas for the installation of all types of permanent erosion control planting. Work shall be conducted so the flow lines in drainage channels are maintained. Material displaced by the Contractor’s operations that interferes with drainage shall be removed from the channel and disposed of as allowed by the Engineer.

8-02.3(5)A Seeding Area Preparation
The Contractor shall prepare roadside seeding areas as follows:

1. Remove all excess material, debris, stumps, and rocks greater than 3 inches in diameter from areas to be seeded. Dispose of removed materials offsite.
2. Prepare roadside seeding area to a weed free and bare condition.
3. Bring area to uniform grade and install topsoil, soil amendments, or compost as specified. Any slopes 3(H) to 1(V) or steeper shall not be tilled unless otherwise specified.
4. Compact to provide a reasonably firm but friable seedbed; tractor walk to uniformly cover the surface with longitudinal depressions at least 2 inches deep formed perpendicular to the natural flow of water on the slope. Condition the soil with sufficient water so the longitudinal depressions remain in the soil surface until completion of the seeding.
5. Seed and mulch within 2 days of preparation.

8-02.3(5)B Lawn Area Preparation
The Contractor shall prepare lawn areas as follows:

1. Prepare lawn area to a weed free and bare condition in accordance with Section 8-02.3(3)B.
2. Remove excess material, stumps, wood or rocks over 3 inches in diameter and remove from site.
3. Bring area to uniform grade and install topsoil or soil amendments in accordance with Section 8-02.3(4) and 8-02.3(6).
4. Till to an 8-inch depth, rake to a smooth even grade without low areas that trap water, and compact with a 50-pound roller. The finished grade of the soil shall be 1 inch below the top of all curbs, junction and valve boxes, walks, driveways, and other Structures.

5. Seed or sod the area within two days of preparation.

**8-02.3(5)C Planting Area Preparation**

The Contractor shall prepare planting areas as follows:

1. Prepare planting area to a weed free and bare condition in accordance with Section 8-02.3(3)B.

2. Decompact soil to a depth of 18 inches where construction activities have taken place or where native soils are compacted.

3. Return soil to uniform grade even with surrounding areas, leaving no holes or mounds over 3 inches in depth or height.

4. Remove excess material, stumps, wood or rocks over 3 inches in diameter and remove from site.

5. Apply compost or other amendments as indicated in the plans and in accordance with Section 8-02.3(6).

6. Cultivate amendments to a depth of 12 inches to provide a reasonably firm but friable planting area. Do not till any slopes 3(H) to 1(V) or steeper.

7. Return soil to a uniform finished grade, 1 inch, or the specified depth of mulch plus 1 inch, below walks, curbs, junction and valve boxes, catch basins, and driveways, unless otherwise specified.

8. Begin planting and mulching the area within two days of final preparation.

**8-02.3(6) Soil Amendments**

The Contractor shall place soil amendments of the type, quality, and quantities specified where shown in the Plans or as specified in the Special Provisions. Areas receiving soil amendments shall be bare soil or vegetation free prior to application. All soil amendments shall be installed as shown in the Plans within 30 calendar days after delivery to the project site.

**8-02.3(6)A Compost**

Compost used for soil amendments shall be Fine Compost unless otherwise designated in the Plans. When compost blanket is used for temporary erosion control, the compost blanket may be incorporated into the soil immediately prior to planting when used as compost soil amendment. The area shall be prepared in accordance with Section 8-02.3(5) prior to placing compost.
8-02.3(6)B  Fertilizers
The Contractor shall apply fertilizer in the form, mixture, and rate specified in
the Special Provisions or as directed by the Engineer. Application procedures
shall be in accordance with the manufacturer’s recommendations unless
otherwise specified in the Special Provisions.

The Contractor shall submit a guaranteed fertilizer analysis label for the
selected product a minimum of one week prior to application for acceptance.
Following the Engineer’s acceptance, fertilizing of the accepted ground or
vegetated surfaces shall begin immediately.

In seeding and lawn areas to be fertilized, the fertilizer shall be applied
concurrently with the seed. When fertilizer is hydraulically applied, the fertilizer
shall be suitable for application with seeding as specified in Section 8-
02.3(9)C. If hydroseeding, the fertilizer shall be placed in the hydroseeder tank
no more than 1 hour prior to application.

Fertilizers for planting areas shall be applied concurrently with compost and
applied prior to incorporation, unless tablet form fertilizer is specified. Where
tablet form fertilizer is specified, fertilizer shall be applied concurrently with
plant installation.

Fertilizer sprayed on signs or sign structures shall be removed the same day.

Areas not accessible by fertilizing equipment shall be fertilized by allowed
hand methods.

Second Application: A second application of fertilizer shall be applied as
specified in the Special Provisions at the locations designated in the Plans.
The fertilizer shall be applied during the months of March, April, or May of the
following year after the initial seeding, planting, or lawn installation. The
fertilizer shall be dry granular pellets or pearls and applied in accordance with
the manufacturer’s recommendations or as specified in the Special Provisions.

8-02.3(7)  Layout of Planting, Lawn and Seeding Areas
The Contractor shall lay out and prepare planting and lawn areas and receive the
Engineer’s acceptance of layout and preparation prior to any installation activities.
The Contractor shall stake the location of all trees larger than 1-inch caliper and the
perimeter of all planting areas for acceptance by the Engineer prior to any
installation activities.

The Contractor shall locate all trees to be planted in mowable grass areas a
minimum of 10 feet from the edge of planting areas, other trees, fence lines, and
bottom of ditches unless otherwise specified.

Tree locations shown in the Plans shall be considered approximate unless shown
with stationing and offset distance. In irrigated areas, trees shall be located so their
trunk is a minimum of \( \frac{1}{2} \) of the spray radius away from the nearest sprinkler head.

Unless otherwise shown, planting areas located adjacent to Roadways shall begin
6 feet from the edge of shoulder on roadway fills and begin 5 feet up on the back
slope from the bottom on roadway cut sections. Plants within planting areas shall
be located such that mature branching pattern will not block sight distance, signs, or other traffic-related devices. No trees shall be placed where the mature canopy will grow to within 10 feet of existing power lines. Where roadside ditches are present, planting areas shall begin 5 feet from the centerline of the ditch unless shown otherwise in the Plans.

**8-02.3(8) Planting**

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

No plant material shall be planted until it has been inspected and accepted for planting by the Engineer. Rejected material shall be removed from the project site immediately. All plants for the project or a sufficient quantity to plant 1-acre of the site, whichever is less, shall be received on site prior to the Engineer beginning inspection of the plants.

Under no circumstances will planting be permitted during unsuitable soil or weather conditions as determined by the Engineer. Unsuitable conditions may include frozen soil, freezing weather, saturated soil, standing water, high winds, heavy rains, and high water levels. The ground shall be moist at the time of planting. All planting shall be accomplished during the following periods:

1. **Non-Irrigated Plant Material**
   Western Washington (West of the Cascade Mountain Crest) – October 1 to March 1.
   Eastern Washington (East of the Cascade Mountain Crest) – October 1 to November 15.

2. **Irrigated Plant Material**

   In irrigated areas, plant material shall not be installed until the irrigation system is fully operational and accepted by the Engineer. Trees and shrubs may be planted in irrigated areas during the non-irrigated planting window before the irrigation system is functional with the written concurrence of the Engineer only if the irrigation system is guaranteed to be operational prior to the end of the non-irrigated planting window.

**8-02.3(8)B Plant Installation**

The Contractor shall handle plant material in the following manner:

1. Root systems shall be kept covered and damp at all times. Plant material shall be kept in containers until the time of planting.

2. Roots shall not be bunched, curled, twisted, or unreasonably bent when placed in the planting hole. Bare root plant material shall be dormant at the time of harvesting and planting. The root systems of all bare root plant material shall be dipped in a slurry immediately prior to planting.

3. Plant material supplied in wrapped balls shall not be removed from the wrapping until the time of planting at the planting location. The root system of balled plant material shall be moist at the time of planting. Root balls shall be loosened prior to planting. All burlap,
baskets, string, wire and other such materials shall be removed from the hole when planting balled plants.

4. Plant cutting material shall be dormant at the time of cutting and planting. All cuttings shall be installed immediately if buds begin to swell.

5. Plants shall be placed with the crown at the finished grade. In their final position, plants shall have their top true root (not adventitious root) no more than 1 inch below the soil surface, no matter where that root was located in the original root ball or container. The backfill material, including container and root ball soil, shall be thoroughly watered on the same day that planting occurs regardless of season.

When installing plants, the Contractor shall dig planting holes three times the diameter of the container or root ball size. Any glazed surface of the planting hole shall be roughened prior to planting.

8-02.3(8)C Pruning, Staking, Guying, and Wrapping
Plants shall be pruned at the time of planting, only to remove minor broken or damaged twigs, branches or roots. Pruning shall be performed with a sharp tool and shall be done in such a manner as to retain or to encourage natural growth characteristics of the plants. All other pruning shall be performed only after the plants have been in the ground at least 1 year and when plants are dormant.

Trees shall only be staked when so noted in the Plans. Each tree shall be staked or guyed before completion of the backfilling in accordance with the details shown in the Plans.

Trees shall be wrapped when so noted in the Plans.

8-02.3(9) Seeding, Fertilizing, and Mulching
For all seed, the Contractor shall furnish the following documentation to the Engineer:

1. The state or provincial seed dealer license and endorsements.

2. Copies of Washington State Department of Agriculture (WSDA) test results on each lot of seed. Test results shall be within six months prior to the date of application.

8-02.3(9)A Dates for Application of Seed
Unless otherwise allowed by the Engineer, the Contractor shall apply seed for permanent erosion control during the following periods:

<table>
<thead>
<tr>
<th>Western Washington¹ (West of the Cascade Mountain Crest)</th>
<th>Eastern Washington (East of the Cascade Mountain Crest)</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 1 through May 15</td>
<td>October 1 through November 15</td>
</tr>
<tr>
<td>September 1 through October 1</td>
<td></td>
</tr>
</tbody>
</table>

¹Seeding may be allowed outside these dates when allowed by the
All roadway excavation and embankment ground surfaces that are completed to final grades shall be prepared and seeded during the first available seeding window. When environmental conditions are not conducive to satisfactory results, the Engineer may suspend the seeding Work until such time that the desired results are likely to be obtained. If seeding is suspended, temporary erosion control methods according to Section 8-01 shall be used to protect the bare soil until seeding conditions improve.

**8-02.3(9)B Seeding and Fertilizing**

The Contractor shall prepare the seeding area in accordance with Section 8-02.3(5)A and apply seed at the rate and mix specified in the Special Provisions. The Contractor shall notify the Engineer within 5 days in advance of any seeding operation and shall not begin the Work until areas prepared or designated for seeding have been accepted. Following the Engineer’s acceptance, seeding of the accepted ground surfaces shall begin immediately.

Seeding shall not be done during windy weather or when the ground is frozen, or excessively wet.

When seeding by hand, the seed shall be incorporated into the top ¼ inch of soil by hand raking or other method that is allowed by the Engineer.

Seed applied as a separate operation using a hydroseeder shall have a tracer added to visibly aid uniform application. The tracer shall be HECP Short-Term Mulch applied at a rate of 200 to 250 pounds per acre and the tracer shall carry the measured specified seeding rate.

**8-02.3(9)C Seeding with Fertilizers and Mulches**

When the Proposal includes any variation of seeding, fertilizing, and without mulching, the seed and fertilizer shall be applied in one application followed by mulching. West of the Cascade Mountains, seed, fertilizer, and mulch may be completely applied in one application. East of the Cascades, seeding, fertilizing, and mulching shall not be applied as a single application unless allowed by the Engineer in writing prior to application. The fertilizing and mulching shall meet the requirements of Sections 8-02.3(6) and 8-02.3(11).

**8-02.3(9)D Inspection**

Seeded areas will be inspected upon completion of seeding, fertilizing, and mulching. The Work in any area will not be measured for payment until a uniform distribution of the materials is accomplished at the specified rate. Areas that have not received a uniform application of seed, fertilizer, and mulch at the specified rate, as determined by the Engineer, shall be re-seeded, re-fertilized, or re-mulched prior to payment for seeding within a designated area.

**8-02.3(9)E Protection and Care of Seeded Areas**

The Contractor shall install and establish a stable and weed free stand of grass as specified within all designated permanent seeding areas. A stable stand of grass shall meet the following requirements:
1. A dense and uniform canopy cover, 70% for Western Washington and 50% for Eastern Washington, of specified species covers all seeded areas after 3 months of active growth following germination during the growing season. Canopy cover is defined as the cover of living and vigorous grass blades, leaves, and shoots of specified species. Volunteer species, weeds, woody plants, or other undesirable vegetation shall not factor into the canopy cover. Growth and establishment may require supplemental irrigation to meet cover requirements.

2. Stand health is evident by vigorously growing planted species having a uniform rich-green appearance and with no dead patches or major gaps of growth. A stand of grass that displays rusting, wilting, stunted growth, disease, yellowing or browning of leaves, or bare patches does not meet the stand health requirement.

3. The Contractor shall establish a stable stand of grass free of all weeds, non-specified grasses, and other undesirable vegetation. Weed control shall be in accordance with the Weed and Pest Control Plan and occur on a monthly basis during the establishment period and through the life of the Contract.

4. Remove all trash, rocks, construction debris, and other obstructions that may be detrimental to the continued establishment of future seeding.

In addition to the requirements of Section 1-07.13(1), restoration of eroded areas including clean up, removal, and proper disposal of eroded material, filling and raking of eroded areas with Topsoil Type A or fine compost, and re-application of the specified seed, fertilizer, and mulch shall occur at no additional cost to the Contracting Agency.

8-02.3(10) Lawn Installation

8-02.3(10)A Dates and Conditions for Lawn Installation

In irrigated areas, lawn installation shall not begin until the irrigation system is fully operational.

Unless otherwise allowed by the Engineer, seeded lawn installation shall be performed during the following time periods at the location shown:

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<thead>
<tr>
<th>Western Washington (West of the Cascade Mountain Crest)</th>
<th>Eastern Washington (East of the Cascade Mountain Crest)</th>
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<tbody>
<tr>
<td>March 1 through May 15</td>
<td>October 1 through November 15</td>
</tr>
<tr>
<td>September 1 through October 1</td>
<td>When irrigation system is operational</td>
</tr>
<tr>
<td>When irrigation system is operational</td>
<td>March 1 through November 1</td>
</tr>
</tbody>
</table>

8-02.3(10)B Lawn Seeding and Sodding

The Contractor shall prepare the lawn area in accordance with Section 8-02.3(5) and apply seed at the mix and rate of application as specified in the Special Provisions.
The Contractor shall have the option of sodding in lieu of seeding for lawn installation at no additional expense to the Contracting Agency. Seeding in lieu of sodding will not be allowed.

Seed placed by hand shall be raked into the soil. Following raking, the seeded soil shall be rolled with a smooth 50-pound roller. Sod strips shall be placed within 48 hours of being cut. Placement shall be without voids and have the end joints staggered. Following placement, the sod shall be rolled with a smooth roller to establish contact with the soil.

Barriers shall be erected, with warning signs where necessary, to preclude pedestrian traffic access to the newly placed lawn during the establishment period.

8-02.3(10)C Lawn Establishment

Lawn establishment shall consist of caring for all new lawn areas within the limits of the project.

The lawn establishment period shall begin immediately after the lawn seeding or sodding has been accepted by the Engineer and shall extend to the end of four mowings or 20 working days whichever is longer. The mowings shall be done in accordance with Section 8-02.3(10)D.

During the lawn establishment period, the Contractor shall ensure the continuing healthy growth of the turf. This care shall include keeping the project in a presentable condition including, but not limited to, removal of litter, mowing, trimming, removal of grass clippings, edging, fertilization, insecticide and fungicide applications, weed control, watering, repairing the irrigation system, and repair and reseeding all damaged areas.

Temporary barriers shall be removed only when directed by the Engineer.

All Work performed under lawn establishment shall comply with established turf management practices.

Acceptance of lawn planting as specified will be based on a uniform stand of grass and a uniform grade at the time of final inspection. The Contractor shall recultivate, re-grade, reseed, and refertilize areas that are bare or have a poor stand of grass or not having a uniform grade through any cause before final inspection at no additional cost to the Contracting Agency.

8-02.3(10)D Lawn Mowing

Lawn mowing shall begin immediately after the lawn establishment period has been accepted by the Engineer and shall extend to the end of the Contract or the first-year plant establishment, whichever is last.

The Contractor shall accomplish the following minimum requirements:

1. Mow, trim, and edge as often as conditions dictate, at a minimum, once per week between April and September. Maximum height of lawn shall not exceed 3 inches. The cutting height shall be 2 inches.
Cuttings, trimmings, and edgings shall be disposed of off the project site. When the Engineer allows the use of a mulching mower, trimmings may be left in place.

2. Water as often as conditions dictate depending on weather and soil conditions.

3. Provide fertilizer, weed control, water, and other measures as necessary to establish and maintain a healthy stand of grass.

8-02.3(11) Mulch
Mulches associated with seeding and planting shall be of the type specified in the Special Provisions or as indicated in the Plans. The Contractor shall evenly apply mulch at the rates indicated in the Plans. Mulches shall not be placed below the anticipated water level of ditch slopes, pond bank slopes, and stream banks, or in areas of standing or flowing water.

8-02.3(11)A Mulch for Seeding Areas
The Contractor shall furnish and evenly apply Hydraulically Applied Erosion Control Product (HECP) Long Term Mulch at the rates indicated and in accordance with the Manufacturer’s specifications unless otherwise specified.

HECP Long Term Mulch shall be hydraulically applied at the rate of 3500 pounds per acre with no more than 2000 pounds applied in any single lift. HECP mulch shall not be used within the Ordinary High Water Mark.

Mulch sprayed on signs or sign Structures shall be removed the same day.

Areas not accessible by mulching equipment shall be mulched by accepted hand methods.

HECP Long Term Mulch may be applied with seed and fertilizer west of the summit of the Cascade Range. East of the summit of the Cascade Range, seed and fertilizer shall be applied in a single application followed by the application of mulch.

8-02.3(11)B Bark or Woodchip Mulch
The Contractor shall apply bark or wood chip mulch of the type and depth specified where shown in the Plans or as specified in the Special Provisions.

The Contractor shall complete final grading and placement/incorporation of soil amendments within the planting area prior to placement of mulch. Areas receiving bark mulch shall be bare soil or vegetation free before application, except where trees and other plants are specifically identified in the Plans or designated by the Engineer to be saved and protected.

Bark or wood chip mulch shall be placed to a uniform non-compacted depth of 3 inches over all planting areas unless otherwise specified. Mulch shall be feathered to the base of the plant and 1 inch below the top of junction and valve boxes, curbs, and pavement edges.
Any contamination of the mulch due to the Contractor's operations shall be corrected to its former condition at no additional cost to the Contracting Agency. Mulch placed to a thickness greater than specified shall be at no additional cost to the Contracting Agency.

The Contractor shall keep plant material crowns, runners, and branches free of mulch at all times.

8-02.3(11)C Bark or Woodchip Mulch Rings
The Contractor shall apply mulch rings around plants installed within existing vegetation areas or within seeded areas as shown in the Plans. Bark or wood chip mulch rings shall be applied to the surface of vegetation free amended soil in the isolated plant locations where shown in the Plans or as specified in the Special Provisions. Bark or wood chip mulch shall be placed to a uniform non-compacted depth of 3 inches to a radius of 2 feet around all plants within interplanted plant locations.

8-02.3(12) Completion of Initial Planting
Upon completion of the initial planting within a designated area, the Engineer will make an inspection of all planting areas. The Engineer will notify the Contractor, in writing, of any replacements or corrective action necessary to meet the plant installation requirements. The Contractor shall replace all plants and associated materials rejected or missing and correct unsatisfactory conditions.

Completion of the initial planting within a designated area includes the following conditions:

1. 100 percent of each of the plant material categories are installed as shown in the Plans.
2. Planting Area is cleaned up.
3. Repairs are completed, including but not limited to, full operation of the irrigation system.
4. Mulch coverage is complete.
5. All weeds are controlled.

8-02.3(13) Plant Establishment
Plant establishment consists of caring for all plants and planting areas within the project limits. The provisions of Sections 1-07.13(2) and 1-07.13(3) do not apply to this Section.

When the Proposal includes the bid item PSIPE_____ (Plant Selection Including Plant Establishment), that bid item includes one year of plant establishment Work. The first year of plant establishment shall begin immediately upon written notification from the Engineer of the completion of initial planting for the project. The first-year plant establishment period shall be a minimum of one calendar year. The one calendar year shall be extended an amount equal to any periods where the Contractor does not comply with the plant establishment requirements and plan.
During the first-year plant establishment period, the Contractor shall perform all
Work necessary to ensure the resumption and continued growth of the transplanted
material. This Work shall include, but is not limited to, applying water, removing
foreign, dead, or rejected plant material, maintaining all planting areas in a weed-
free condition, and replacing all unsatisfactory plant material planted under the
Contract. If plants are stolen or damaged by the acts of others, the Contracting
Agency will pay invoice cost only for the replacement plants with no mark-up and
the Contractor will be responsible for the labor to install the replacement plants.
Other weed control within the project limits but outside of planting, lawn, or seeding
areas shall be as specified in Section 8-02.3(3C).

During the first year of plant establishment, the Contractor shall meet monthly or at
an agreed upon schedule with the Engineer for the purpose of joint inspection of
the planting material. The Contractor shall correct all unsatisfactory conditions
identified by the Engineer within a 10-day period immediately following the
inspection. If plant replacement is required, the Contractor shall, within the 10-day
period, submit a plan and schedule for the plant procurement and replacement to
occur during the planting period as designated in Section 8-02.3(8). At the end of
the plant establishment period, plants that do not show normal growth shall be
replaced and all staking and guying that remain on the project shall be removed
unless otherwise allowed by the Engineer.

All automatic irrigation systems shall be operated fully automatic during the plant
establishment period and until final acceptance of the Contract. Payment for water
used to water in plants, or hand watering of plant material or lawn areas unless
otherwise specified, is the responsibility of the Contractor during the first-year plant
establishment period.

Subsequent year plant establishment periods shall begin immediately at the
completion of the preceding year’s plant establishment period. Each subsequent
plant establishment period shall be one full calendar year in duration.

During the plant establishment period(s) after the first year plant establishment, the
Work necessary for the continued healthy and vigorous growth of all plants material
shall be performed as directed by the Engineer.

Payment for water used to water plants during the subsequent year(s) of plant
establishment will be paid under the plant establishment item.

8-02.3(14) Plant Replacement
The Contractor shall be responsible for growing or arrange to provide sufficient
plants for replacement of all plant material rejected through first-year plant
establishment. All replacement plant material shall be inspected and accepted by
the Engineer prior to installation. All rejected plant material shall be replaced with
acceptable plants meeting the specifications and installed according to the
requirements of this Section at dates allowed by the Engineer.

All replacement plants shall be of the same species as the plants they replace and
meet the requirements of Section 9-14.8 unless otherwise allowed by the Engineer.
Plants may vary in size reflecting one season of growth should the Contractor elect
to hold plant material under nursery conditions for an additional year to serve as
replacement plants. Replacement plant material larger than specified in the Plans shall meet the applicable section requirements of the ASNS for container class, ball size, spread, and branching characteristics.

8-02.3(15) Bioengineering
Bioengineering consists of using plant materials for the purpose of streambank or earthen slope construction and surface stabilization. This Work may include installing woody plant cuttings in various forms as well as part of streambank or earthen slope construction.

8-02.3(15)A Fascines
Live fascines shall be constructed of live and dead cuttings bundled together with a diameter of 8 to 18 inches. Live cuttings shall be the species shown in the Plans. Dead branches may be cuttings from any woody, non-invasive plant native to the project area. Dead branches may be placed within the live fascine and on the side exposed to the air. Live branches shall be placed in contact with the soil along their entire length. Each live fascine must contain a minimum of eight live branches. Dead branches shall constitute no more than 40 percent of the total fascine content.

The total length of each live fascine shall be a minimum of 5 feet. Branches shall be bundled into log-like forms and bound with biodegradable twine spaced at 1-foot intervals along the entire length of the live fascine. Live fascines shall be installed horizontally in a trench whose depth shall be ½ the diameter of the live fascine. Secure the live fascine with live stakes 3 feet in length and ¾ inch in diameter placed at 18-inch intervals. A minimum of three live stakes shall be used per fascine. The live stakes shall be driven through the live fascine vertically into the slope. The ends of live fascines shall be woven together so that no gap remains between the two sections of the live fascine.

Prior to being covered with soil, the fascine shall be thoroughly watered. Once the fascine is covered with 6 inches of soil, the soil covering the fascine shall be thoroughly watered.

When used to remedy erosion areas, live fascines shall extend a minimum of two feet beyond the visible area of erosion and soil disturbance. The locations for live fascines and live stake rows shall be identified in the field for review and acceptance by the Engineer. The Engineer may require adjustment of fascine locations prior to installation in order to best accomplish the intended functions.

Plant replacement during plant establishment for “PSIPE Live Fascine” will be required for any section void of live shoots for a length of 3 feet or more. Replacement shall consist of installing live stakes, spaced 1 foot apart above the fascine within the area void of live shoots. Live stakes shall be of the same species as the live fascine and shall have a minimum length of 3 feet and a minimum diameter of ¾ inch. The requirements of Section 8-02.3(8) apply to PSIPE Live Fascine.
8-02.3(15)B Brush Mattress

Live brush mattress shall be constructed of live branch cuttings, live poles, jute rope and topsoil. The live cuttings and live poles shall be from the plant species designated in the Plans. Live branch cuttings shall be placed with the cut ends oriented down slope as shown in the Plans. Cuttings shall overlap from side to side and from top to bottom as each layer is constructed. The live branches in each succeeding upper layer shall overlap the adjacent lower layer by a minimum of 6 inches. A maximum of 20 percent of the branches may be dead branches, but the live branches shall be distributed evenly to provide even rooting and growth over the entire area of the brush mattress.

The Contractor shall anchor the live brush mattress to the slope using stakes and jute rope as shown in the Plans. Initially, the stakes shall be installed to protrude above the live brush mattress. The Contractor shall attach the jute rope to the stakes and tighten the rope by tamping the stakes further into the bank, pulling the live brush mattress tight against the soil surface. The Contractor shall cover the live brush mattress with sufficient stockpiled topsoil to ensure good soil contact with the live plant material.

Plant replacement during plant establishment for “PSIPE Live Brush Mattress” will be required for any section void of live shoots for an area of 25 square feet or more. Replacement shall consist of installing live stakes, spaced 3 feet apart in a triangular pattern within the area void of live shoots. Live stakes shall be of the same species as the live brush mattress and shall have a minimum length of 3 feet and a minimum diameter of ¾ inch. The requirements of Section 8-02.3(8) apply to PSIPE Brush Mattress.

8-02.3(15)C Brush Layer

Brush layers shall be constructed of live branch cuttings, randomly mixed, from the plant species listed under the brush layer heading in the Plans. The number of branches required will vary depending on the average branch diameter and layer thickness.

Brush layers shall be placed in a trench dug at a 45 degree incline into the slope or stream bank. Two-thirds to three-fourths of the length of the live branches shall be buried. Soil shall be firmly tamped in place. Succeeding layers shall be spaced as detailed in the Plans. Brush layer placed in stream banks shall be angled downstream.

Brush layers may include plant establishment when designated as PSIPE Brush Layer. Plant replacement for PSIPE Brush Layer will be required for each section void of live shoots for a continuous distance of 3 feet or more. The requirements of Section 8-02.3(8) apply to PSIPE Brush Layer.

8-02.3(16) Roadside Maintenance Under Construction

When the Contract includes the item, Roadside Maintenance Under Construction, this Work includes roadside mowing and ditch maintenance, and noxious weed control outside of planting areas according to Section 8-02.3(3)C.
8-02.3(16)A Roadside Mowing
The Contractor shall mow designated roadside grass areas to the limits designated by the Engineer. Roadside mowing is limited to slopes not steeper than 3(H) to 1(V).

The Contractor shall mow according to the following requirements:

1. Trim around traffic equipment, structures, planting areas, or other features extending above ground preceding or simultaneously with each mowing.

2. Maintain grass between 4 and 12 inches in height.

3. Operate mowing equipment with suitable guards to prevent throwing rocks or debris onto the traveled way or off of the Contracting Agency property. Power driven equipment shall not cause ruts, deformation, and compaction of the vegetated soil.

4. Removing clippings is required on the traveled way, shoulders, walkways, or Structures.

5. Restore soil rutting to a smooth and even grade at the direction of the Engineer.

8-02.3(16)B Ditch Maintenance
The Contractor shall maintain drainage for the duration of the Contract according to the following requirements:

1. Maintain flow lines in drainage channels and roadside ditches.

2. Cutting or trimming vegetation within drainage channels to maintain positive flow.

3. Remove dirt and debris from inside of culverts or any drainage area where runoff has allowed accumulations and re-seed for erosion control.

4. Restore channels to previous operational condition.

8-02.4 Measurement
Topsoil, bark or woodchip mulch and soil amendments will be measured by the acre or the square yard along the grade and slope of the area covered immediately after placement. Weed control pre-treatment of topsoil areas, excavation, and stockpiling are included in the bid item “Topsoil Type ___.

Bark or woodchip mulch rings will be measured per each.

Compost will be measured by the acre or the square yard along the grade and slope of the area covered immediately after application.

Seeding, fertilizing, and mulching will be measured by the acre or the square yard by ground slope measurement or through the use of design data.
Seeding and fertilizing by hand will be measured by the square yard. No adjustment in area size will be made for the vegetation free zone around each plant.

Seeded lawn, sod installation, and lawn mowing will be measured along the ground slope and computed in square yards of actual lawn completed, established, and accepted.

Plant selection will be measured per each.

PSIPE __ (Plant Selection Including Plant Establishment) will be measured per each.

Live Pole will be measured per each.

Live Stake Row will be measured by the linear foot along the ground slope line.

The pay quantities for plant materials will be determined by count of the number of satisfactory plants in each category accepted by the Engineer.

Fascine and PSIPE live fascine will be measured by the linear foot along the ground slope line.

Brush mattress and PSIPE live brush mattress will be measured by the surface square yard along the ground slope line.

Brush layer and PSIPE brush layer will be measured by the linear foot along the ground slope line.

Water will be measured in accordance with Section 2-07.4. Measurement will be made of only that water hauled in tank trucks or similar equipment.

8-02.5 Payment

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

“Project Area Weed and Pest Control” will be paid in accordance with Section 1-09.6. For the purpose of providing a common Proposal for all Bidders, the Contracting Agency entered an amount for “Project Area Weed and Pest Control” in the Proposal to become a part of the total Bid by the Contractor. Payment under this item will be made only when the Work is not already covered by other items.

“Topsoil Type ____”, per acre. The unit Contract price per acre for “Topsoil Type ____” shall be full payment for all costs for the specified Work.

“Fine Compost ”, per acre or per square yard.

“Medium Compost”, per acre or per square yard.

“Coarse Compost”, per acre or per square yard.

The unit Contract price per acre for “Fine Compost”, “Medium Compost” or “Coarse Compost” shall be full pay for furnishing and spreading the compost onto the existing soil.
“Soil Amendment”, per acre.
The unit Contract price per acre for “Soil Amendment” shall be full pay for furnishing and incorporating the soil amendment into the existing soil.

“Plant Selection ___”, per each.
The unit Contract price for “Plant Selection ___”, per each shall be full pay for all Work to perform the work as specified within the planting area prior to planting for weed control, planting area preparation and installation of plants with initial watering.

As the plants that do not include plant establishment are obtained, propagated, and grown, partial payments will be made as follows:

Payment of 15 percent of the unit Contract price per each when the plant materials have been contracted, propagated, and are growing under nursery conditions. The Contractor shall provide the Engineer with certification that the plant material has been procured or contracted for delivery to the project for planting within the time limits of the project. The certification shall state the location, quantity, and size of all material.

Payment will be increased to 100 percent of the unit Contract price per each for contracted plant material at the completion of the initial planting.

All partial payments shall be limited to the actual number of healthy vigorous plants that meet the stage requirements, limited to plan quantity. Previous partial payments made for materials rejected or missing will be deducted from future payments due the Contractor.

“PSIPE ___”, per each.
The unit Contract price for “PSIPE ___”, per each, shall be full pay for all Work necessary to perform as specified within the planting area for weed control and planting area preparation, planting, cleanup, and water necessary to complete planting operations as specified to the end of first year plant establishment.

As the plants that include plant establishment are obtained, propagated, and grown, partial payments will be made as follows after inspection by the Engineer:

Payment of 5 percent of the unit Contract price, per each, when the plant materials have been contracted, propagated, and are growing under nursery conditions. The Contractor shall provide the Engineer with certification that the plant material has been procured or contracted for delivery to the project for planting within the time limits of the project. The certification shall state the location, quantity, and size of all material.

Payment will be increased to 15 percent of the unit Contract price, per each, upon completion of the initial weed control and planting area preparation Work.

Payment will be increased to 60 percent of the unit Contract price per each for the contracted plant material in a designated unit area when planted.
Payment will be increased to 70 percent of the unit Contract price per each for contracted plant material at the completion of the initial planting.

Payment will be increased to the appropriate percentage upon reaching the following plant establishment milestones:

- June 30th: 80 percent
- September 30th: 90 percent
- Completion of first-year plant establishment or after all replacement plants have been installed, whichever is later.

Plant establishment milestones are achieved when planting areas meet conditions described in Section 8-02.3(13).

“Seeding, Fertilizing and Mulching”, per acre.

“Seeding and Fertilizing”, per acre or per square yard.

“Seeding and Fertilizing by Hand”, per square yard.

“Second Application of Fertilizer”, per acre.

“Seeding and Mulching”, per acre.

“Seeded Lawn Installation”, per square yard.

“Sod Installation”, per square yard.

“Lawn Mowing”, per square yard.

The unit Contract price per square yard for “Seeded Lawn Installation” or “Sod Installation” shall be full pay for all costs necessary to prepare the area, plant or sod the lawn, erect barriers, control weeds, and establish lawn areas and for furnishing all labor, tools, equipment, and materials necessary to complete the Work as specified and shall be paid in the following sequence for healthy, vigorous lawn:

- Completion of Lawn Planting: 60 percent of individual areas
- Mid Lawn Establishment (after two mowings): 85 percent of individual areas
- Completion of Lawn Establishment (after four mowings): 100 percent of individual areas

“Plant Establishment Year ____” will be paid in accordance with Section 1-09.6. For the purpose of providing a common Proposal for all Bidders, the Contracting Agency entered an amount for “Plant Establishment - ___ Year” in the Proposal to become a part of the total Bid by the Contractor.

“Live Pole”, per each.

“Live Stake Row”, per linear foot.
“Bark or Wood Chip Mulch”, per acre.

“Bark or Wood Chip Mulch Rings”, per each.
The unit Contract price per acre for “Bark or Wood Chip Mulch” shall be full pay for furnishing and spreading the mulch onto the existing soil.

“Fascine” and “PSIPE Live Fascine”, per linear foot.
“Brush Mattress” and “PSIPE Live Brush Mattress”, per square yard.
“Brush Layer” and “PSIPE Brush Layer”, per linear foot.
When PSIPE is included with Fascine, Brush Mattress, or Brush Layer, the payment schedule for PSIPE ____ will apply.

“Roadside Maintenance under Construction” will be paid in accordance with Section 1-09.6.
For the purpose of providing a common Proposal for all Bidders, the Contracting Agency has entered an amount for “Roadside Maintenance Under Construction” in the Proposal to become a part of the total Bid by the Contractor.

“Water”, per M Gal.
8-07.AP8  
Section 8-07, Precast Traffic Curb  
April 2, 2018

8-07.3(1) Installing Curbs  
The first sentence of the first paragraph is revised to read:

The curb shall be firmly bedded for its entire length and breadth on a mortar bed conforming to Section 9-20.4(3) composed of one part Portland cement or blended hydraulic cement and two parts sand.

The fourth paragraph is revised to read:

All joints between adjacent pieces of curb except joints for expansion and/or drainage as designated by the Engineer shall be filled with mortar composed of one part Portland cement or blended hydraulic cement and two parts sand.

8-09.AP8  
Section 8-09, Raised Pavement Markers  
April 1, 2019

8-09.5 Payment  
The last paragraph is revised to read:

The unit Contract price per hundred for “Raised Pavement Marker Type 1”, “Raised Pavement Marker Type 2”, “Raised Pavement Marker Type 3 _____ In.”, and “Recessed Pavement Marker” shall be full pay for furnishing and installing the markers in accordance with these Specifications.

8-11.AP8  
Section 8-11, Guardrail  
April 1, 2019

8-11.3(1)A Erection of Posts  
The first sentence of the first paragraph is revised to read:

Posts shall be set to the true line and grade of the Highway after the grade is in place and compaction is completed.

8-11.3(1)C Terminal and Anchor Installation  
The first paragraph is revised to read:

All excavation and backfilling required for installation of anchors shall be performed in accordance with Section 2-09, except that the costs thereof shall be included in the unit Contract price for the anchor installed.

The first sentence of the second to last paragraph is revised to read:
Assembly and installation of Beam Guardrail Non-flared Terminals for Type 31 guardrail shall be supervised at all times by a manufacturer’s representative, or an installer who has been trained and certified by the manufacturer.

The last paragraph is revised to read:

Beam Guardrail Non-flared Terminals for Type 31 guardrail shall meet the crash test and evaluation criteria in the Manual for Assessing Safety Hardware (MASH).

8-11.4 Measurement
The third paragraph is revised to read:

Measurement of beam guardrail _____ terminal will be per each for the completed terminal.

The fourth paragraph is revised to read:

Measurement of beam guardrail Type 31 buried terminal Type 2 will be per linear foot for the completed terminal.

The sixth paragraph is revised to read:

Measurement of beam guardrail anchor Type 10 will be per each for the completed anchor, including the attachment of the anchor to the guardrail.

8-11.5 Payment
The Bid item “Beam Guardrail Anchor Type ___”, per each is revised to read “Beam Guardrail Anchor Type 10”, per each.

The Bid item “Beam Guardrail Buried Terminal Type 1”, per each is deleted from this section.

The Bid item “Beam Guardrail Buried Terminal Type 2”, per linear foot and the following paragraph are revised to read:

“Beam Guardrail Type 31 Buried Terminal Type 2”, per linear foot.

The unit Contract price per linear foot for “Beam Guardrail Type 31 Buried Terminal Type 2” shall be full payment for all costs to obtain and provide materials and perform the Work as described in Section 8-11.3(1)C.

8-14.AP8
Section 8-14, Cement Concrete Sidewalks
April 2, 2018

8-14.2 Materials
In the first paragraph, the reference to “Portland Cement” is revised to read:

Cement 9-01

In the second paragraph, each reference to “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

AMENDMENTS TO THE 2018 STANDARD SPECIFICATIONS BOOK
Revised: 6/3/19
8-16.AP8

Section 8-16, Concrete Slope Protection
April 2, 2018

8-16.2 Materials
In the first paragraph, the last two material references are revised to read:

- Poured Portland Cement or Blended Hydraulic Cement
- Pneumatically Placed Portland Cement or Blended

8-17.AP8

Section 8-17, Impact Attenuator Systems
January 7, 2019

8-17.3 Construction Requirements
This section is supplemented with the following:

Permanent impact attenuators shall meet the crash test and evaluation criteria of the Manual for Assessing Safety Hardware (MASH), except as otherwise noted in the Plans or Special Provisions.

8-20.AP8

Section 8-20, Illumination, Traffic Signal Systems, Intelligent Transportation Systems, and Electrical
August 6, 2018

8-20.1(1) Regulations and Code
The last paragraph is revised to read:

Persons performing electrical work shall be certified in accordance with and supervised as required by RCW 19.28.161. Proof of certification shall be worn at all times in accordance with WAC 296-46B-942. Persons failing to meet these certification requirements may not perform any electrical work, and shall stop any active electrical work, until their certification is provided and worn in accordance with this Section.

8-20.2(1) Equipment List and Drawings
This section is renumbered:

8-20.2(2) Equipment List and Drawings

8-20.3(4) Foundations
The second sentence of the first paragraph is revised to read:

Concrete for Type II, III, IV, V, and CCTV signal standards and light standard foundations shall be Class 4000P and does not require air entrainment.

8-20.3(5)A General
The last two sentences of the last paragraph is deleted.
This section is supplemented with the following:

All conduits shall include a pull tape with the equipment grounding conductor. The pull tape shall be attached to the conduit near the end bell or grounded end bushing, or to duct plugs or caps if present, at both ends of the conduit.

8-20.3(8) Wiring
The seventeenth paragraph is supplemented with the following:

Pulling tape shall meet the requirements of Section 9-29.1(10). Pull string may not be used.

8-20.3(14)C Induction Loop Vehicle Detectors
Item number 2 is deleted.

Item numbers 3 through 12 are renumbered to 2 through 11, respectively.

8-21.AP8
Section 8-21, Permanent Signing
January 7 2019

8-21.3(5) Sign Relocation
The second sentence of the first paragraph is revised to read:

Where the existing sign structure is mounted on concrete pedestals, the Contractor shall remove the pedestal to a minimum of 2 feet below finished grade and backfill the remaining hole with material similar to that surrounding the hole.

8-21.3(9)F Foundations
Item number 3 of the twelfth paragraph is supplemented with the following new sentence:

Class 4000P concrete for roadside sign structures does not require air entrainment.

8-22.AP8
Section 8-22, Pavement Marking
January 7, 2019

8-22.3(2) Preparation of Roadway Surfaces
The second paragraph is revised to read:

Remove all other contaminants from pavement surfaces that may adversely affect the installation of new pavement marking.

8-22.3(3)F Application Thickness
The second to last sentence of the last paragraph is revised to read:

After grinding, clean the groove.
Section 9-00, Definitions and Tests
January 7, 2019

9-00.4 Sieves for Testing Purposes
This section is revised to read:

Test sieves shall be made of either: (1) woven wire cloth conforming to ASTM E11, or
(2) square-hole, perforated plates conforming to ASTM E323.

9-00.7 Galvanized Hardware, AASHTO M 232
The first sentence is revised to read:

An acceptable alternate to hot-dip galvanizing in accordance with AASHTO M 232 will
be zinc coatings mechanically deposited in accordance with ASTM B695, providing the
minimum thickness of zinc coating is not less than that specified in AASHTO M 232,
and the process will not produce hydrogen embrittlement in the base metal.

Section 9-02, Bituminous Materials
January 7, 2019

9-02.1 Asphalt Material, General
The second paragraph is revised to read:

The Asphalt Supplier of Performance Graded (PG) asphalt binder and emulsified
asphalt shall have a Quality Control Plan (QCP) in accordance with WSDOT QC 2
"Standard Practice for Asphalt Suppliers That Certify Performance Graded and
Emulsified Asphalts". The Asphalt Supplier’s QCP shall be submitted and receive the
acceptance of the WSDOT State Materials Laboratory. Once accepted, any change to
the QCP will require a new QCP to be submitted for acceptance. The Asphalt Supplier
of PG asphalt binder and emulsified asphalt shall certify through the Bill of Lading that
the PG asphalt binder or emulsified asphalt meets the Specification requirements of the
Contract.

9-02.1(4) Performance Graded Asphalt Binder (PGAB)
This section’s title is revised to read:

Performance Graded (PG) Asphalt Binder

The first paragraph is revised to read:

PG asphalt binder meeting the requirements of AASHTO M 332 Table 1 of the grades
specified in the Contract shall be used in the production of HMA. For HMA with greater
than 20 percent RAP by total weight of HMA, or any amount of RAS, the new asphalt
binder, recycling agent and recovered asphalt (RAP and/or RAS) when blended in the
proportions of the mix design shall meet the PG asphalt binder requirements of
AASHTO M 332 Table 1 for the grade of asphalt binder specified by the Contract.

The second paragraph, including the table, is revised to read:
In addition to AASHTO M 332 Table 1 specification requirements, PG asphalt binders shall meet the following requirements:

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>PG58S-22</th>
<th>PG58H-22</th>
<th>PG58V-22</th>
<th>PG64S-28</th>
<th>PG64H-28</th>
<th>PG64V-28</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTFO Residue: Average Percent Recovery @ 3.2 kPa</td>
<td>AASHTO T 350¹</td>
<td>30% Min.</td>
<td>20% Min.</td>
<td>25% Min.</td>
<td>30% Min.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹Specimen conditioned in accordance with AASHTO T 240 – RTFO.

The third paragraph is revised to read:

The RTFO $J_{nrdiff}$ and the PAV direct tension specifications of AASHTO M 332 are not required.

9-02.1(6) Cationic Emulsified Asphalt

This section is revised to read:

Cationic Emulsified Asphalt meeting the requirements of AASHTO M 208 Table 1 of the grades specified in the Contract shall be used.

9-02.5 Warm Mix Asphalt (WMA) Additive

This section, including title, is revised to read:

9-02.5 HMA Additive

Additives for HMA shall be accepted by the Engineer.

9-03.AP9

Section 9-03, Aggregates

January 7, 2019

9-03.1 Aggregates for Portland Cement Concrete

This section’s title is revised to read:

Aggregates for Concrete

9-03.1(1) General Requirements

The first two sentences of the first paragraph are revised to read:

Concrete aggregates shall be manufactured from ledge rock, talus, or sand and gravel in accordance with the provisions of Section 3-01. Reclaimed aggregate may be used if it complies with the specifications for concrete.

The second paragraph (up until the colon) is revised to read:
Aggregates for concrete shall meet the following test requirements:

The Contractor shall submit test results according to ASTM C1567 through the Engineer to the State Materials Laboratory that demonstrate that the proposed fly ash when used with the proposed aggregates and cement will control the potential expansion to 0.20 percent or less before the fly ash and aggregate sources may be used in concrete.

9-03.1(2) Fine Aggregate for Portland Cement Concrete

This section’s title is revised to read:

Fine Aggregate for Concrete

9-03.1(4) Coarse Aggregate for Portland Cement Concrete

This section’s title is revised to read:

Coarse Aggregate for Concrete

9-03.1(4)C Grading

The first paragraph (up until the colon) is revised to read:

Coarse aggregate for concrete when separated by means of laboratory sieves shall conform to one or more of the following gradings as called for elsewhere in these Specifications, Special Provisions, or in the Plans:

9-03.1(5) Combined Aggregate Gradation for Portland Cement Concrete

This section’s title is revised to read:

Combined Aggregate Gradation for Concrete

9-03.1(5)B Grading

In the last paragraph, “WSDOT FOP for WAQTC/AASHTO T 27/T 11” is revised to read “FOP for WAQTC/AASHTO T 27/T 11”.

9-03.2 Aggregate for Job-Mixed Portland Cement Mortar

This section’s title is revised to read:

Aggregate for Job-Mixed Portland Cement or Blended Hydraulic Cement Mortar

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

Fine aggregate for portland cement or blended hydraulic cement mortar shall consist of sand or other inert materials, or combinations thereof, accepted by the Engineer, having hard, strong, durable particles free from adherent coating.

9-03.4(1) General Requirements

The first paragraph (up until the colon) is revised to read:
Aggregate for bituminous surface treatment shall be manufactured from ledge rock, talus, or gravel, in accordance with Section 3-01. Aggregates for Bituminous Surface Treatment shall meet the following test requirements:

9-03.8(1) General Requirements
The first paragraph (up until the colon) is revised to read:

Aggregates for Hot Mix Asphalt shall meet the following test requirements:

9-03.8(2) HMA Test Requirements
The two tables in the second paragraph are replaced with the following three tables:

<table>
<thead>
<tr>
<th>Mix Criteria</th>
<th>HMA Class</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>¾ inch</td>
</tr>
<tr>
<td></td>
<td>Min.</td>
</tr>
<tr>
<td>Voids in Mineral Aggregate (VMA), %</td>
<td>15.0 14.0</td>
</tr>
<tr>
<td>Voids Filled With Asphalt (VFA), %</td>
<td>ESAL's (millions)</td>
</tr>
<tr>
<td></td>
<td>&lt; 0.3</td>
</tr>
<tr>
<td></td>
<td>0.3 to &lt; 3</td>
</tr>
<tr>
<td></td>
<td>≥ 3</td>
</tr>
<tr>
<td>Dust/Asphalt Ratio</td>
<td>0.6 1.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test Method</th>
<th>ESAL's (millions)</th>
<th>Number of Passes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hamburg Wheel-Track Testing, FOP for AASHTO T 324 Minimum Number of Passes with no Stripping Inflection Point and Maximum Rut Depth of 10mm</td>
<td>&lt; 0.3</td>
<td>10,000</td>
</tr>
<tr>
<td>Indirect Tensile (IDT) Strength (psi) of Bituminous Materials FOP for ASTM D6931</td>
<td>0.3 to &lt; 3</td>
<td>12,500</td>
</tr>
<tr>
<td></td>
<td>≥ 3</td>
<td>15,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>% Gmm</th>
<th>ESAL's (millions)</th>
<th>N initial</th>
<th>N design</th>
<th>N maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 0.3</td>
<td>≤ 91.5</td>
<td>96.0</td>
<td>≤ 98.0</td>
<td></td>
</tr>
<tr>
<td>0.3 to &lt; 3</td>
<td>≤ 90.5</td>
<td>96.0</td>
<td>≤ 98.0</td>
<td></td>
</tr>
<tr>
<td>≥ 3</td>
<td>≤ 89.0</td>
<td>96.0</td>
<td>≤ 98.0</td>
<td></td>
</tr>
<tr>
<td>Gyratory Compaction (number of gyrations)</td>
<td>&lt; 0.3</td>
<td>6</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>0.3 to &lt; 3</td>
<td>7</td>
<td>75</td>
<td>115</td>
</tr>
<tr>
<td></td>
<td>&gt; 3</td>
<td>8</td>
<td>100</td>
<td>160</td>
</tr>
</tbody>
</table>

9-03.8(7) HMA Tolerances and Adjustments
In the table in item number 1, the fifth row is revised to read:

Asphalt binder -0.4% to 0.5% ±0.7%

In the table in item number 1, the following new row is inserted before the last row:

Voids in Mineral Aggregate, VMA -1.0%
9-03.9(1) Ballast
The second paragraph (up until the colon) is revised to read:

Aggregates for ballast shall meet the following test requirements:

9-03.14(4) Gravel Borrow for Structural Earth Wall
The second sentence of the first paragraph is revised to read:

The material shall be substantially free of shale or other soft, poor durability particles, and shall not contain recycled materials, such as glass, shredded tires, concrete rubble, or asphaltic concrete rubble.

9-03.21(1)B Recycled Concrete Aggregate Approval and Acceptance
The first sentence of the second paragraph is revised to read:

Recycled concrete aggregate may be used as coarse aggregate or blended with coarse aggregate for Commercial Concrete, Class 3000 concrete, or Cement Concrete Pavement.

Item number 4 of the second paragraph is revised to read:

4. For Cement Concrete Pavement mix designs using recycled concrete aggregates, the Contractor shall submit evidence that ASR mitigating measures control expansion in accordance with Section 9-03.1(1).

This section is supplemented with the following new subsection:

9-03.21(1)B1 Recycled Concrete Aggregate Approval and Acceptance
Recycled concrete aggregate may be approved through a three tiered system that consists of the following:

<table>
<thead>
<tr>
<th>Tier 1</th>
<th>Approval Requirements</th>
<th>Acceptance Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approval Requirements</td>
<td>Approval of the Reclamation Facility is not required.</td>
<td>Certification of toxicity characteristics in accordance with Section 9-03.21(1). Field acceptance testing in accordance with Section 3-04.</td>
</tr>
<tr>
<td>Accepted to provide the following Aggregate Materials:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-03.10 Aggregate for Gravel Base</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-03.12(1)B Gravel Backfill for Foundations Class B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-03.12(2) Gravel Backfill for Walls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-03.12(3) Gravel Backfill for Pipe Zone Bedding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-03.14(1) Gravel Borrow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-03.14(2) Select Borrow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-03.14(2) Select Borrow (greater than 3 feet below subgrade and side slope)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-03.14(3) Common Borrow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-03.14(3) Common Borrow (greater than 3 feet below subgrade and side slope)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-03.17 Foundation Material Class A and Class B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-03.18 Foundation Material Class C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-03.19 Bank Run Gravel for Trench Backfill</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Tier 2
### Approval Requirements

The Reclamation Facility shall have a Quality Control Plan (QCP) in accordance with WSDOT QC 9 "Standard Practice for Approval of Reclamation Facilities of WSDOT Recycled Concrete and Returned Concrete". The Reclamation Facility's QCP shall be submitted and approved by the WSDOT State Materials Laboratory. Once accepted, any changes to the QCP will require a new QCP to be submitted for acceptance. Evaluation of aggregate source properties (LA Wear and Degradation) for the recycled concrete aggregate is not required.

### Acceptance Requirements

Certification of toxicity characteristics in accordance with Section 9-03.21(1), required if requested. Field acceptance testing in accordance with Section 3-04 is required. Provide certification in accordance with WSDOT QC 9 for every lot. A lot shall be no larger than 10,000 tons.

### Approved to provide the following Aggregate Materials:

<table>
<thead>
<tr>
<th>Tier 1 aggregate materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-03.1 Coarse Aggregate for Commercial Concrete or Concrete class 3000</td>
</tr>
<tr>
<td>9-03.9(1) Ballast</td>
</tr>
<tr>
<td>9-03.9(2) Permeable Ballast</td>
</tr>
<tr>
<td>9-03.9(3) Crushed Surfacing</td>
</tr>
<tr>
<td>9-03.12(1)A Gravel Backfill for Foundations Class A</td>
</tr>
</tbody>
</table>

### Tier 3

The Reclamation Facility shall have a Quality Control Plan (QCP) in accordance with WSDOT QC 10 "Standard Practice for Approval of Reclamation Facilities of Recycled Concrete Aggregates from Stockpiles of Unknown Sources". The Reclamation Facility's QCP shall be submitted and approved by the WSDOT State Materials Laboratory. Once accepted, any changes to the QCP will require a new QCP to be submitted for acceptance. Evaluation of aggregate source properties (LA Wear and Degradation) for the recycled concrete aggregate is required.

### Acceptance Requirements

Certification of toxicity characteristics in accordance with Section 9-03.21(1) is required. Field acceptance testing in accordance with Section 3-04 is required. Provide certification in accordance with WSDOT QC 10 for every lot. A lot shall be no larger than 10,000 tons.

### Approved to provide the following Aggregate Materials:

<table>
<thead>
<tr>
<th>Tier 1 aggregate materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-03.1 Coarse Aggregate for Commercial Concrete or Concrete class 3000</td>
</tr>
<tr>
<td>9-03.9(1) Ballast</td>
</tr>
<tr>
<td>9-03.9(2) Permeable Ballast</td>
</tr>
<tr>
<td>9-03.9(3) Crushed Surfacing</td>
</tr>
<tr>
<td>9-03.12(1)A Gravel Backfill for Foundations Class A</td>
</tr>
</tbody>
</table>
For Reclamation Facilities that do not participate in Tier 2 and Tier 3, approval of recycled concrete aggregate will be in accordance with Section 9-03.21(1), and acceptance will be in accordance with Section 3-04.

9-03.21(1)E Table on Maximum Allowable percent (By Weight) of Recycled Material
“Portland Cement” is deleted from the first two rows in the table.

The following new row is inserted after the second row:

| Coarse Aggregate for Concrete Pavement | 9-03.1(4) | 0 | 100 | 0 | 0 |

The first column of the fourth row (after the preceding Amendment is applied) is revised to read:

Coarse Aggregate for Commercial Concrete and Class 3000 Concrete

9-04.AP9

Section 9-04, Joint and Crack Sealing Materials

January 7, 2019

This section’s title is revised to read:

Joint Sealing Materials

9-04.1(2) Premolded Joint Filler for Expansion Joints
In this section, each reference to “AASHTO T 42” is revised to read “ASTM D 545”.

9-04.2(1)A1 Hot Poured Sealant for Cement Concrete Pavement
This section is supplemented with the following:

Hot poured sealant for cement concrete pavement is acceptable for installations in joints where cement concrete pavement abuts a bituminous pavement.

9-04.2(1)A2 Hot Poured Sealant for Bituminous Pavement
This section is supplemented with the following:

Hot poured sealant for bituminous pavement is acceptable for installations in joints where cement concrete pavement abuts a bituminous pavement.

9-04.2(1)B Sand Slurry for Bituminous Pavement
Item number 2 of the first paragraph is revised to read:

2. Two percent portland cement or blended hydraulic cement, and

9-04.3 Joint Mortar
The first paragraph is revised to read:

Mortar for hand mortared joints shall conform to Section 9-20.4(3) and consist of one part portland cement or blended hydraulic cement, three parts fine sand, and sufficient water to allow proper workability.
9-04.5 Flexible Plastic Gaskets
In the table, the Test Method value for Specific Gravity at 77°F is revised to read “ASTM D71”.

In the table, the Test Method value for Flash Point COC, F is revised to read “ASTM D93 REV A”.

In the table, the Test Method value for Volatile Matter is revised to read “ASTM D6”.

9-05.AP9
Section 9-05, Drainage Structures and Culverts
January 7, 2019

9-05.3(1)A End Design and Joints
The second sentence of the first paragraph is revised to read:

The joints and gasket material shall meet the requirements of ASTM C990.

9-05.3(1)C Age at Shipment
The last sentence of the first paragraph is revised to read:

Unless it is tested and accepted at an earlier age, it shall not be considered ready for shipment sooner than 28 days after manufacture when made with Type II portland cement or blended hydraulic cement, nor sooner than 7 days when made with Type III portland cement.

9-05.7(3) Concrete Storm Sewer Pipe Joints
The second sentence is revised to read:

The joints and gasket material shall meet the requirements of ASTM C990.

9-05.7(4)A Hydrostatic Pressure on Pipes in Straight Alignment
The first sentence is revised to read:

Hydrostatic pressure tests on pipes in straight alignment shall be made in accordance with the procedure outlined in Section 10 of ASTM C990, except that they shall be performed on an assembly consisting of not less than three nor more than five pipe sections selected from stock by the Engineer and assembled in accordance with standard installation instructions issued by the manufacturer.

9-05.24(1) Polypropylene Culvert Pipe and Storm Sewer Pipe
This section is revised to read:

Polypropylene culvert and storm sewer pipe shall conform to the following requirements:

1. For dual wall pipe sizes up to 60 inches: ASTM F2881 or AASHTO M 330, Type S or Type D.
2. For double or triple wall pipe sizes up to 60 inches: ASTM F2764.
3. Fittings shall be factory welded, injection molded, or PVC.

9-05.24(2) Polypropylene Sanitary Sewer Pipe
This section is revised to read:

Polypropylene sanitary sewer pipe shall conform to the following requirements:

1. For pipe sizes up to 60 inches: ASTM F2764.
2. Fittings shall be factory welded, injection molded, or PVC.

9-06.AP9
Section 9-06, Structural Steel and Related Materials
January 7, 2019

9-06.5 Bolts
This section’s title is revised to read:

Bolts and Rods

9-06.5(4) Anchor Bolts
This section, including title, is revised to read:

9-06.5(4) Anchor Bolts and Anchor Rods
Anchor bolts and anchor rods shall meet the requirements of ASTM F1554 and, unless otherwise specified, shall be Grade 105 and shall conform to Supplemental Requirements S2, S3, and S4.

Nuts for ASTM F1554 Grade 105 black anchor bolts and anchor rods shall conform to ASTM A563, Grade D or DH. Nuts for ASTM F1554 Grade 105 galvanized anchor bolts and anchor rods shall conform to either ASTM A563, Grade DH, or AASHTO M292, Grade 2H, and shall conform to the overtapping, lubrication, and rotational testing requirements in Section 9-06.5(3). Nuts for ASTM F1554 Grade 36 or 55 black or galvanized anchor bolts and anchor rods shall conform to ASTM A563, Grade A or DH. Washers shall conform to ASTM F436.

The bolts and rods shall be tested by the manufacturer in accordance with the requirements of the pertinent Specification and as specified in these Specifications. Anchor bolts, anchor rods, nuts, and washers shall be inspected prior to shipping to the project site. The Contractor shall submit to the Engineer for acceptance a Manufacturer’s Certificate of Compliance for the anchor bolts, anchor rods, nuts, and washers, as defined in Section 1-06.3. If the Engineer deems it appropriate, the Contractor shall provide a sample of the anchor bolt, anchor rod, nut, and washer for testing.

All bolts, rods, nuts, and washers shall be marked and identified as required in the pertinent Specification.

9-06.15 Welded Shear Connectors
The third paragraph is revised to read:

Mechanical properties shall be determined in accordance with AASHTO T 244.
9-06.17 Vacant
This section, including title, is revised to read:

9-06.17 Noise Barrier Wall Access Door
Access door frames shall be formed of 14-gauge steel to the size and dimensions shown in the Plans. The access door frame head and jamb members shall be mitered, securely welded, and ground smooth. Each head shall have two anchors and each jamb shall have three anchors. The hinges shall be reinforced with ¼-inch by 12-inch plate, width equal to the full inside width of the frame.

Access doors shall be full flush 1-¾-inch thick seamless doors with a polystyrene core. Door faces shall be constructed with smooth seamless 14-gauge roller-levered, cold-rolled steel sheet conforming to ASTM A 792 Type SS, Grade 33 minimum, Coating Designation AZ55 minimum. The vertical edges shall be neat interlocked hemmed edge seam. The top and bottom of the door shall be enclosed with 14-gauge channels. Mortise and reinforcement for locks and hinges shall be 10-gauge steel. Welded top cap shall be ground and filled for exterior applications. The bottom channel shall have weep holes.

Each access door shall have three hinges. Access door hinges shall be ASTM A 276 Type 316 stainless steel, 4-½-inches square, with stainless steel ball bearing and non-removable pins.

Each access door shall have two pull plates. The pull plates shall be ASTM A 240 Type 316 stainless steel, with a grip handle of one-inch diameter and 8 to 10-inches in length.

The door assembly shall be fabricated and assembled as a complete unit including all hardware specified prior to shipment.

9-06.18 Metal Bridge Railing
The second sentence of the first paragraph is revised to read:

Steel used for metal railings, when galvanized after fabrication in accordance with AASHTO M111, shall have a controlled silicon content of either 0.00 to 0.06 percent or 0.15 to 0.25 percent.

9-07.AP9
Section 9-07, Reinforcing Steel
January 7, 2019

9-07.5(1) Epoxy-Coated Dowel Bars (for Cement Concrete Rehabilitation)
This section (including title) is revised to read:

9-07.5(1) Dowel Bars for Cement Concrete Pavement Rehabilitation
Dowel bars for Cement Concrete Pavement Rehabilitation shall be 1½ inch outside diameter plain round steel bars or tubular bars 18 inches in length and meet the requirements of one of the following dowel bar types:

1. Epoxy-coated dowel bars shall be round plain steel bars of the dimensions shown in the Standard Plans. They shall conform to AASHTO M31, Grade 60 or ASTM A615, Grade 60 and shall be coated in accordance with ASTM
A1078 Type 2 coating, except that the bars may be cut to length after being coated. Cut ends shall be coated in accordance with ASTM A1078 with a patching material that is compatible with the coating, inert in concrete and recommended by the coating manufacturer. The thickness of the epoxy coating shall be 10 mils plus or minus 2 mils. The Contractor shall furnish a written certification that properly identifies the coating material, the number of each batch of coating material used, quantity represented, date of manufacture, name and address of manufacturer, and a statement that the supplied coating material meets the requirements of ASTM A1078 Type 2 coating. Patching material, compatible with the coating material and inert in concrete and recommended by the manufacturer shall be supplied with each shipment for field repairs by the Contractor.

2. ASTM A513 steel tubes made from Grade 60 Carbon Steel Tube with a 1.625 inch outside diameter and a 0.120 inch wall thickness. Both the inside and outside of the tube shall be zinc coated with G40 galvanizing in accordance with ASTM A653. Following zinc coating the tubes shall be coated in accordance with Section 9-07.5(1) item 1. The ends of the tube shall be capped to prevent intrusion of concrete or other materials.

9-07.5(2) Corrosion Resistant Dowel Bars (for Cement Concrete Pavement and Cement Concrete Pavement Rehabilitation)

The first paragraph (up until the colon) is revised to read:

Corrosion resistant dowel bars shall be 1½ inch outside diameter plain round steel bars or tubular bars 18 inches in length and meet the requirements of one of the following:

Item number 4 and 5 of the first paragraph are revised to read:

4. Corrosion-resistant, low-carbon, chromium plain steel bars for concrete reinforcement meeting all the requirements of ASTM A 1035 Alloy Type CS Grade 100 or Alloy Type CS Grade 120.

5. Zinc Clad dowel bars shall be 1½ inch solid bars or 1.625 inch outside diameter by 0.120 inch wall tubular bars meeting the chemical and physical properties of AASHTO M 31, Grade 60, or AASHTO M 255, Grade 60. The bars shall have a minimum of 0.035 inches A710 Zinc alloy clad to the plain steel inner bar or tube. A710 Zinc shall be composed of: zinc: 99.5 percent, by weight, minimum; copper: 0.1-0.25 percent, by weight; and iron: 0.0020 percent, by weight, maximum. Each end of tubular bars shall be plugged using a snug-fitting insert to prohibit any intrusion of concrete or other materials.

The numbered list in the first paragraph is supplemented with the following:

6. Multicoated fusion bonded epoxy bars shall consist of an ASTM A615 bar with alternating layers of ASTM A934 coating and an abrasion resistant overcoat (ARO). The ASTM A934 coating shall form the base and there shall be two layers of each coating material. The minimum thickness of the combined layers of the ASTM A934 coating and ARO coating shall be 20 mils. The ARO shall meet the following requirements:

<table>
<thead>
<tr>
<th>Test</th>
<th>Method</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gouge Resistance</td>
<td>NACE TM0215, 30 kg wt., LS-1 bit @ 25°C</td>
<td>&lt; 0.22 mm</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Gouge Resistance</td>
<td>NACE TM0215, 50 kg wt., LS-1 bit @ 25°C</td>
<td>&lt; 0.44 mm</td>
</tr>
</tbody>
</table>

7. ASTM A513 steel tubes made from Grade 60 Carbon Steel Tube with a 1.625 inch outside diameter and a 0.120 inch wall thickness. Both the inside and outside of the tube shall be zinc coated with G90 galvanizing in accordance with ASTM A653. Following zinc coating the tubes shall be coated in accordance with Section 9-07.5(1) item 1. The ends of the tube shall be capped to prevent intrusion of concrete or other materials.

The last paragraph is revised to read:

Stainless Steel Clad and Stainless Steel Tube Dowel bar ends shall be sealed with a patching material (primer and finish coat) used for patching epoxy-coated reinforcing steel as required in Section 9-07.3, item 6.

9-07.7 Wire Mesh
This section is supplemented with the following:

Welded wire manufacturers shall participate in the NTPEP Audit Program for Reinforcing Steel (rebar) Manufacturers and shall be listed on the NTPEP audit program website displaying that they are NTPEP compliant.

9-08.AP9
Section 9-08, Paints and Related Materials
January 7, 2019

9-08.1(1) Description
The first sentence is revised to read:

Paint used for highway and bridge structure applications shall be made from materials meeting the requirements of the applicable Federal and State Paint Specifications, Department of Defense (DOD), American Society of Testing of Materials (ASTM), and The Society for Protective Coatings (SSPC) specifications in effect at time of manufacture.

9-08.1(2) Paint Types
This section is supplemented with the following new subsections:

9-08.1(2)M NEPCOAT Qualified Products List A
Qualified products used shall be part of a NEPCOAT system supplied by the same manufacturer.

9-08.1(2)N NEPCOAT Qualified Products List B
Qualified products used shall be part of a NEPCOAT system supplied by the same manufacturer.

9-08.1(2)D Organic Zinc-Rich Primer
This section, including title, is revised to read:

Vacant
**9-08.1(2)E Epoxy Polyamide**

This section is revised to read:

Epoxy polyamide shall be a two-component system conforming to MIL-DTL-24441 or SSPC Coating Standard No. 42.

**9-08.1(2)H Top Coat, Single-Component, Moisture-Cured Polyurethane**

This section is revised to read:

Vehicle Type: Moisture-cured aliphatic polyurethane.

Color and Gloss: Meet the SAE AMS Standard 595 Color as specified in the table below.

The Top Coat shall meet the following requirements:

- The resin shall be an aliphatic urethane.
- Minimum-volume solids 50 percent.
- The top coat shall be semi-gloss.

<table>
<thead>
<tr>
<th>Color</th>
<th>Semi-Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washington Gray</td>
<td>26357</td>
</tr>
<tr>
<td>Mt. Baker Gray</td>
<td>26134</td>
</tr>
<tr>
<td>Mt. St. Helens Gray</td>
<td>26306</td>
</tr>
<tr>
<td>Cascade Green</td>
<td>24158</td>
</tr>
</tbody>
</table>

**9-08.1(2)I Rust-Penetrating Sealer**

This section is revised to read:

Rust-penetrating sealer shall be a two-component, chemically-cured, 100 percent solids epoxy.

**9-08.1(2)J Black Enamel**

This section is revised to read:

The enamel shall conform to Federal Specification MIL PRF 24635E Type II Class 2.

**9-08.1(2)K Orange Equipment Enamel**

The first paragraph is revised to read:

The enamel shall be an alkyd gloss enamel conforming to Federal Specification MIL-PRF-24635E Type II Class 1. The color, when dry, shall match that of SAE AMS Standard 595, color number 12246.

**9-08.1(2)L Exterior Acrylic Latex Paint-White**

The first paragraph is revised to read:

This paint shall conform to Federal Specification MIL-PRF-24635E Type II Class 1, 2 or 3.
9-08.1(7) Acceptance
This section is revised to read:

For projects with moisture-cured polyurethane quantities less than 20 gallons, acceptance will be by the Manufacturer's Certificate of Compliance.

For projects with moisture-cured polyurethane quantities greater than 20 gallons, the product shall be listed in the current WSDOT Qualified Products List (QPL). If the lot number is listed on the QPL, it may be accepted without additional testing. If the lot number is not listed on the QPL, a 1 quart sample shall be submitted to the State Materials Laboratory for testing and acceptance.

For all other paint types, acceptance will be based on visual inspection.

9-08.1(8) Standard Colors
In the first paragraph, the reference to “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

The second paragraph is revised to read:

Unless otherwise specified, all top or finish coats shall be semi-gloss, with the paint falling within the range of 35 to 70 on the 60-degree gloss meter.

9-08.2 Powder Coating Materials for Coating Galvanized Surfaces
The last paragraph is revised to read:

Repair materials shall be as recommended by the powder coating manufacturer and as specified in the Contractor's powder coating plan as accepted by the Engineer.

9-08.3 Pigmented Sealer Materials for Coating of Concrete Surfaces
This section, including title, is revised to read:

9-08.3 Concrete Surface Treatments
9-08.3(1) Pigmented Sealer Materials
The pigmented sealer shall be a semi-opaque, colored toner containing only methyl methacrylate-ethyl acrylate copolymer resins, toning pigments suspended in solution at all times by a chemical suspension agent, and solvent. Toning pigments shall be laminar silicates, titanium dioxide, and inorganic oxides only. There shall be no settling or color variation. Tinting shall occur at the factory at the time of manufacture and placement in containers, prior to initial shipment. Use of vegetable or marine oils, paraffin materials, stearates, or organic pigments in any part of coating formulation will not be permitted. The color of pigmented sealer shall be as specified by the Contracting Agency. The Contractor shall submit a 1-quart wet sample, a drawdown color sample, and spectrophotometer or colorimeter readings taken in accordance with ASTM D2244, for each batch and corresponding standard color card. The calculated Delta E shall not exceed 1.5 from the Commission Internationale de l'Eclairage (CIELAB) when measured at 10 degrees Standard Observer and Illuminant D 65.

The 1-quart wet sample shall be submitted in the manufacturer's labeled container with product number, batch number, and size of batch. The companion drawdown
color sample shall be labeled with the product number, batch number, and size of batch. The Contractor shall submit the specified samples and readings to the Engineer at least 14 calendar days prior to the scheduled application of the sealer. The Contractor shall not begin applying pigmented sealer until receiving the Engineer’s written approval of the pigmented sealer color samples.

9-08.3(2) Exposed Aggregate Concrete Coatings and Sealers

9-08.3(2)A Retardant Coating

Retardant coating shall exhibit the following properties:

1. Retards the set of the surface mortar of the concrete without preventing the concrete to reach the specified 28 day compressive strength.

2. Leaves the aggregate with its original color and luster, and firmly embedded in the concrete matrix.

3. Allows the removal of the surface mortar in accordance with the methods specified in Section 6-02.3(14)E without the use of acidic washing compounds.

4. Allows for uniform removal of the surface mortar.

If the Contractor proposes use of a retardant coating that is not listed in the current WSDOT QPL, the Contractor shall submit a Type 2 Working Drawing consisting of a one quart product sample from a current lot along with supporting product information, Safety Data Sheet, and a Manufacturer’s Certificate of Compliance stating that the product conforms to the above performance requirements.

9-08.3(2)B Clear Sealer

The sealer for concrete surfaces with exposed aggregate finish shall be a clear, non-gloss, penetrating sealer of either a silane, siloxane, or silicone based formulation.

9-08.3(3) Permeon Treatment

Permeon treatment shall be a product of known consistent performance in producing the SAE AMS Standard 595 Color No. 30219 target color hue established by WSDOT, either selected from the WSDOT Qualified Products List (QPL), or an equivalent product accepted by the Engineer. For acceptance of products not listed in the current WSDOT QPL, the Contractor shall submit Type 3 Working Drawings consisting of a one quart product sample from a current lot, supporting product information and a Safety Data Sheet.

Section 9-13, Riprap, Quarry Spalls, Slope Protection, and Rock for Erosion and Scour Protection and Rock Walls

April 2, 2018

9-13.1(1) General

The last paragraph is revised to read:
Riprap and quarry spalls shall be free from segregation, seams, cracks, and other defects tending to destroy its resistance to weather and shall meet the following test requirements:

9-13.5 Concrete Slope Protection
This section is revised to read:

Concrete slope protection shall consist of reinforced portland cement or blended hydraulic cement concrete poured or pneumatically placed upon the slope with a rustication joint pattern or semi-open concrete masonry units placed upon the slope closely adjoining each other.

9-13.5(2) Poured Portland Cement Concrete Slope Protection
This section’s title is revised to read:

Poured Portland Cement or Blended Hydraulic Cement Concrete Slope Protection

9-13.5(3) Pneumatically Placed Portland Cement Concrete Slope Protection
This section’s title is revised to read:

Pneumatically Placed Portland Cement or Blended Hydraulic Cement Concrete Slope Protection

The first paragraph is revised to read:

Cement – This material shall be portland cement or blended hydraulic cement as specified in Section 9-01.

9-13.7(1) Rock for Rock Walls and Chinking Material
The first paragraph (up until the colon) is revised to read:

Rock for rock walls and chinking material shall be hard, sound and durable material, free from seams, cracks, and other defects tending to destroy its resistance to weather, and shall meet the following test requirements:

9-14.AP9
Section 9-14, Erosion Control and Roadside Planting
August 6, 2018

9-14.4(2) Hydraulically Applied Erosion Control Products (HECPs)
In Table 1, the last four rows are deleted.

9-14.4(2)A Long-Term Mulch
The first paragraph is supplemented with the following:

Products containing cellulose fiber produced from paper or paper components will not be accepted.

Table 2 is supplemented with the following new rows:

<table>
<thead>
<tr>
<th>Water Holding Capacity</th>
<th>ASTM D 7367</th>
<th>800 percent minimum</th>
</tr>
</thead>
</table>
9-14.4(2)B Moderate-Term Mulch

This section is revised to read:

Within 48 hours of application, the Moderate-Term Mulch shall bond with the soil surface to create a continuous, absorbent, flexible, erosion-resistant blanket. Moderate-Term Mulch shall effectively perform the intended erosion control function in accordance with Section 8-01.3(1) for a minimum of 3 months, or until temporary vegetation has been established, whichever comes first.

Moderate-Term Mulch shall not be used in conjunction with permanent seeding.

9-14.4(2)C Short-Term Mulch

This section is revised to read:

Short-Term Mulch shall effectively perform the intended erosion control function in accordance with Section 8-01.3(1) for a minimum of 2 months, or until temporary vegetation has been established, whichever comes first. Short-Term Mulch shall not be used in conjunction with permanent seeding.

9-16.AP9

Section 9-16, Fence and Guardrail

August 6, 2018

9-16.3(1) Rail Element

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

All rail elements shall be formed from 12-gage steel except for thrie beam reducer sections, reduced length thrie beam rail elements, thrie beams used for bridge rail retrofits, and Design F end sections, which shall be formed from 10-gage steel.

9-16.3(5) Anchors

The last paragraph is revised to read:

Cement grout shall conform to Section 9-20.3(4) and consist of one part portland cement or blended hydraulic cement and two parts sand.

9-18.AP9

Section 9-18, Precast Traffic Curb

April 2, 2018

9-18.1(1) Aggregates and Proportioning

Item number 1 of the first paragraph is revised to read:

1. Portland cement or blended hydraulic cement shall conform to the requirements of Section 9-01 except that it may be Type I portland cement conforming to AASHTO M 85.
9-20.AP9

Section 9-20, Concrete Patching Material, Grout, and Mortar

April 1, 2019

9-20.1 Patching Material

This section, including title, is revised to read:

9-20.1 Patching Material for Cement Concrete Pavement

Concrete patching material shall be prepackaged mortar extended with aggregate. The amount of aggregate for extension shall conform to the manufacturer’s recommendation.

Patching mortar and patching mortar extended with aggregate shall contain cementitious material and conform to Sections 9-20.1(1) and 9-20.1(2). The Manufacturer shall use the services of a laboratory that has an equipment calibration verification system and a technician training and evaluation process in accordance with AASHTO R 18 to perform all tests specified in Section 9-20.1.

9-20.1(1) Patching Mortar

Patching mortar shall conform to the following requirements:

<table>
<thead>
<tr>
<th>Compressive Strength</th>
<th>ASTM Test Method</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>at 3 hours</td>
<td>C 39</td>
<td>Minimum 3,000 psi</td>
</tr>
<tr>
<td>at 24 hours</td>
<td>C 39</td>
<td>Minimum 5,000 psi</td>
</tr>
</tbody>
</table>

Length Change

| at 28 days           | C 157            | 0.15 percent maximum |
| Total Chloride Ion Content | C 1218          | 1 lb/yd² maximum     |

Bond Strength

| at 24 hours           | C 882 (As modified by C 928, Section 9.5) | Minimum 1,000 psi   |
| Scaling Resistance (at 25 cycles of freezing and thawing) | C 672 (As modified by C 928, Section 9.4) | 1 lb/ft² maximum   |

9-20.1(2) Patching Mortar Extended with Aggregate

Patching mortar extended with aggregate shall meet the following requirements:

<table>
<thead>
<tr>
<th>Compressive Strength</th>
<th>ASTM Test Method</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>at 3 hours</td>
<td>C 39</td>
<td>Minimum 3,000 psi</td>
</tr>
<tr>
<td>at 24 hours</td>
<td>C 39</td>
<td>Minimum 5,000 psi</td>
</tr>
</tbody>
</table>

Length Change

| at 28 days           | C 157            | 0.15 percent maximum |

Bond Strength

| at 24 hours           | C 882 (As modified by ASTM C928, Section 9.5) | Minimum 1,000 psi   |
| Scaling Resistance (at 25 cycles of freezing and thawing) | C 672 | 2 Maximum Visual Rating |
| Freeze thaw           | C 666            | Maximum expansion 0.10% Minimum durability 90.0% |
9-20.1(3) Aggregate
Aggregate used to extend the patching mortar shall conform to Section 9-03.1(4) and be AASHTO Grading No. 8. A Manufacturer’s Certificate of Compliance shall be submitted showing the aggregate source and the gradation. Mitigation for Alkali Silica Reaction (ASR) will not be required for the extender aggregate used for concrete patching material.

9-20.1(4) Water
Water shall meet the requirements of Section 9-25.1. The quantity of water shall be within the limits recommended by the repair material manufacturer.

9-20.2 Specifications
This section, including title, is revised to read:

9-20.2 Patching Material for Concrete Structure Repair
Concrete patching material shall be a prepackaged mixture of portland or blended hydraulic cement, aggregate, and admixtures. Fly ash, ground granulated blast furnace slag and microsilica fume may be used. The concrete patching material may be shrinkage compensated. The concrete patching material shall also meet the following requirements:

• Compressive strength of 6000 psi or higher at 28 days in accordance with AASHTO T 22 (ASTM C 39), unless noted otherwise
• Bond strength of 250 psi or higher at 28 days or less in accordance with ASTM C 1583 or ICRI 210.3R
• Shrinkage shall be 0.05 percent (500 microstrain) or lower at 28 days in accordance with AASHTO T 160 (ASTM C 157) as modified by ICRI 320.3R
• Permeability shall be 2,000 coulombs or lower at 28 days in accordance with AASHTO T 277 (ASTM C 1202)
• Freeze-thaw resistance shall have a durability factor of 90 percent or higher after a minimum of 300 cycles in accordance with AASHTO T 161 Procedure A (ASTM C 666)
• Soluble chloride ion limits in Section 6-02.3(2) shall be satisfied

9-20.2(1) Patching Mortar
This section, including title, is deleted in its entirety.

9-20.2(2) Patching Mortar Extended with Aggregate
This section, including title, is deleted in its entirety.

9-20.3(3) Grout Type 3 for Unconfined Bearing Pad Applications
This section’s title is revised to read:

Grout Type 3 for Unconfined Applications

This section is revised to read:
Grout Type 3 shall be a prepackaged material that does not include expansive admixtures meeting the following requirements:

- Compressive strength shall be 4000 psi or higher at 28 days in accordance with AASHTO T 22 (ASTM C 39) for grout extended with coarse aggregate or AASHTO T 106 (ASTM C109) otherwise.
- Bond strength shall meet one of the following:
  - 250 psi or higher at 28 days or less in accordance with ASTM C1583.
  - 2000 psi or higher at 28 days or less in accordance with ASTM C882. The following modification to ASTM C882 is acceptable: use Type 3 Grout in lieu of epoxy resin base bonding system and freshly mixed portland-cement mortar in the procedure for testing Type II and V systems.
- Drying shrinkage shall be 0.08 percent (800 microstrain) or lower at 28 days in accordance with AASHTO T 160 (ASTM C157). The following modification to AASHTO T 160 is acceptable: use a standard specimen size of 3 x 3 x 11-¼ inches.

9-20.5 Bridge Deck Repair Material
Item number 3 of the first paragraph is revised to read:

3. Permeability of less than 2,000 coulombs at 28-days or more in accordance with AASHTO T 277.

9-21.AP9
Section 9-21, Raised Pavement Markers (RPM)
January 2, 2018

9-21.2 Raised Pavement Markers Type 2
This section’s content is deleted.

9-21.2(1) Physical Properties
This section, including title, is revised to read:

9-21.2(1) Standard Raised Pavement Markers Type 2
The marker housing shall contain reflective faces as shown in the Plans to reflect incident light from either a single or opposite directions and meet the requirements of ASTM D 4280 including Flexural strength requirements.

9-21.2(2) Optical Requirements
This section, including title, is revised to read:

9-21.2(2) Abrasion Resistant Raised Markers Type 2
Abrasion Resistant Raised Markers Type 2 shall comply with Section 9-21.2(1) and meet the requirements of ASTM D 4280 with the following additional requirement: The coefficient of luminous intensity of the markers shall be measured after subjecting the entire lens surface to the test described in ASTM D 4280 Section 9.5 using a sand drop
apparatus. After the exposure described above, retroreflected values shall not be less than 0.5 times a nominal unblemished sample.

9-21.2(3) Strength Requirements
This section is deleted in its entirety.

9-23.AP9
Section 9-23, Concrete Curing Materials and Admixtures
April 1, 2019

9-23.12 Natural Pozzolan
This section is revised to read:

Natural Pozzolans shall be ground Pumice and shall conform to the requirements of AASHTO M295 Class N, including supplementary optional chemical requirements as set forth in Table 2.

9-23.13 Blended Supplementary Cementitious Material
The second sentence is revised to read:

Blended SCMs shall be limited to binary or ternary blends of fly ash, ground granulated blast furnace slag and microsilica fume.

The second to last sentence is deleted.

9-26.AP9
Section 9-26, Epoxy Resins
January 7, 2019

9-26.1(1) General
The following new sentence is inserted after the first sentence of the first paragraph:

For pre-packaged cartridge kits, the epoxy bonding agent shall meet the requirements of ASTM C881 when mixed according to manufacturer instructions, utilizing the manufacturer’s mixing nozzle.

9-26.1(2) Packaging and Marking
The first sentence of the first paragraph is revised to read:

The components of the epoxy system furnished under these Specifications shall be supplied in separate containers or pre-packaged cartridge kits that are non-reactive with the materials contained.

The second paragraph is revised to read:

Separate containers shall be marked by permanent marking that identify the formulator, “Component A” (contains the Epoxy Resin) and “Component B” (Contains the Curing Agent), type, grade, class, lot or batch number, mixing instructions and the quantity contained in pounds or gallons as defined by these Specifications.

The following new paragraph is inserted after the second paragraph:
Pre-packaged cartridge kits shall be marked by permanent marking that identify the formulator, type, grade, class, lot or batch number, mixing instructions and the quantity contained in ounces or milliliters as defined by these Specifications.

9-28.2 Manufacturer’s Identification and Date

The second sentence is revised to read:

In addition, the width and height dimension, in inches, the Contract number, and the number of the sign as it appears in the Plans shall be placed using 3-inch series C black letters on the back of destination, distance, and large special signs.

9-28.10 Digital Printing

Transparent and opaque durable inks used in digital printed sign messages shall be as recommended by the manufacturer. When properly applied, digital printed colors shall have a warranty life of the base retroreflective sign sheeting. Digital applied colors shall present a smooth surface, free from foreign material, and all messages and borders shall be clear and sharp. Digital printed signs shall conform to 70% of the retroreflective minimum values established for its type and color. Digitally printed signs shall meet the daytime color and luminance, and nighttime color requirements of ASTM D 4956. No variations in color or overlapping of colors will be permitted. Digital printed permanent traffic signs shall have an integrated engineered match component clear protective overlay recommended by the sheeting manufacturer applied to the entire face of the sign. On Temporary construction/maintenance signs printed with black ink only, the protective overlay film is optional, as long as the finished sign has a warranty of a minimum of three years from sign sheeting manufacturer.

All digital printed traffic control signs shall be an integrated engineered match component system. The integrated engineered match component system shall consist of retroreflective sheeting, durable ink(s), and clear overlay film all from the same manufacturer applied to aluminum substrate conforming to Section 9-28.8.

The sign fabricator shall use an approved integrated engineered match component system as listed on the Qualified Products List (QPL). Each approved digital printer shall only use the compatible retroreflective sign sheeting manufacturer’s engineered match component system products.

Each retroreflective sign sheeting manufacturer/integrated engineered match component system listed on the QPL shall certify a department approved sign fabricator is approved to operate their compatible digital printer. The sign fabricator shall re-certify annually with the retroreflective sign manufacturer to ensure their digital printer is still meeting manufacturer’s specifications for traffic control signs. Documentation of each re-certification shall be submitted to the QPL Engineer annually.
9-28.11 Hardware
The last paragraph is revised to read:

All steel parts shall be galvanized in accordance with AASHTO M111. Steel bolts and related connecting hardware shall be galvanized in accordance with ASTM F 2329.

9-28.14(2) Steel Structures and Posts
The first sentence of the third paragraph is revised to read:

Anchor rods for sign bridge and cantilever sign structure foundations shall conform to Section 9-06.5(4), including Supplemental Requirement S4 tested at -20°F.

In the second sentence of the fourth paragraph, “AASHTO M232” is revised to read “ASTM F 2329”.

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

Except as otherwise noted, steel used for sign structures and posts shall have a controlled silicon content of either 0.00 to 0.06 percent or 0.15 to 0.25 percent.

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

If such modifications are contemplated, the Contractor shall submit a Type 2 Working Drawing of the proposed modifications.

9-29.AP9
Section 9-29, Illumination, Signal, Electrical
April 1, 2019

9-29.1 Conduit, Innerduct, and Outerduct
This section is supplemented with the following new subsections:

9-29.1(10) Pull Tape
Pull tape shall be pre-lubricated polyester pulling tape. The pull tape shall have a minimum width of ½-inch and a minimum tensile strength of 500 pounds. Pull tape may have measurement marks.

9-29.1(11) Foam Conduit Sealant
Foam conduit sealant shall be self-expanding waterproof foam designed to prevent both water and pest intrusion. The foam shall be designed for use in and around electrical equipment, including both insulated and bare conductors.

9-29.2(1) Junction Boxes
The first paragraph is revised to read:

For the purposes of this Specification concrete is defined as portland cement or blended hydraulic cement concrete and non-concrete is all others.

9-29.2(1)A2 Non-Concrete Junction Boxes
The first paragraph is revised to read:
Material for the non-concrete junction boxes shall be of a quality that will provide for a similar life expectancy as portland cement or blended hydraulic cement concrete in a direct burial application.

9-29.2(2)A Standard Duty Cable Vaults and Pull Boxes
In the table in the last paragraph, the fourth, fifth and sixth rows are revised to read:

<table>
<thead>
<tr>
<th>Material</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slip Resistant Lid</td>
<td>ASTM A36 steel</td>
</tr>
<tr>
<td>Frame</td>
<td>ASTM A36 steel</td>
</tr>
<tr>
<td>Slip Resistant Frame</td>
<td>ASTM A36 steel</td>
</tr>
</tbody>
</table>

9-29.3(2)A1 Single Conductor Current Carrying
This second sentence is revised to read:

Insulation shall be XLP (cross-linked polyethylene) or EPR (Ethylene Propylene Rubber), Type USE (Underground Service Entrance) or USE-2, and rated for 600-volts or higher.

9-29.6 Light and Signal Standards
In the first sentence of the third paragraph, “AASHTO M232” is revised to read “ASTM F 2329”.

Item number 2 of the last paragraph is revised to read:

2. The steel light and signal standard fabricator’s shop drawing submittal, including supporting design calculations, submitted as a Type 2E Working Drawing in accordance with Section 8-20.2(1) and the Special Provisions.

9-29.6(1) Steel Light and Signal Standards
In the second paragraph, “AASHTO M232” is revised to read “ASTM F 2329”.

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

Steel used for light and signal standards shall have a controlled silicon content of either 0.00 to 0.06 percent or 0.15 to 0.25 percent.

9-29.6(5) Foundation Hardware
In the last paragraph, “AASHTO M232” is revised to read “ASTM F 2329”.

9-29.10(1) Conventional Roadway Luminaires
This section is revised to read:

All conventional roadway luminaires shall meet 3G vibration requirements as described in ANSI C136.31.

All luminaires shall have housings fabricated from aluminum. The housing shall be painted flat gray, SAE AMS Standard 595 color chip No. 26280, unless otherwise specified in the Contract. Painted housings shall withstand a 1,000 hour salt spray test as specified in ASTM B117.
Each housing shall include a four bolt slip-fitter mount capable of accepting a nominal 2” tenon and adjustable within +/- 5 degrees of the axis of the tenon. The clamping bracket(s) and the cap screws shall not bottom out on the housing bosses when adjusted within the +/- 5 degree range. No part of the slipfitter mounting brackets on the luminaires shall develop a permanent set in excess of 0.2 inch when the cap screws used for mounting are tightened to a torque of 32 foot-pounds. Each luminaire shall include leveling reference points for both transverse and longitudinal adjustment.

All luminaires shall include shorting caps when shipped. The caps shall be removed and provided to the Contracting Agency when an alternate control device is required to be installed in the photocell socket. House side shields shall be included when required by the Contract. Order codes shall be modified to the minimum extent necessary to include the option for house side shields.

This section is supplemented with the following new subsections:

**9-29.10(1)A High Pressure Sodium (HPS) Conventional Roadway Luminaires**

HPS conventional roadway luminaires shall meet the following requirements:

1. General shape shall be “cobrahead” style, with flat glass lens and full cutoff optics.
2. Light pattern distribution shall be IES Type III.
3. The reflector of all luminaires shall be of a snap-in design or secured with screws. The reflector shall be polished aluminum or prismatic borosilicate glass.
4. Flat lenses shall be formed from heat resistant, high-impact, molded borosilicate or tempered glass.
5. The lens shall be mounted in a doorframe assembly, which shall be hinged to the luminaire and secured in the closed position to the luminaire by means of an automatic latch. The lens and doorframe assembly, when closed, shall exert pressure against a gasket seat. The lens shall not allow any light output above 90 degrees nadir. Gaskets shall be composed of material capable of withstanding the temperatures involved and shall be securely held in place.
6. The ballast shall be mounted on a separate exterior door, which shall be hinged to the luminaire and secured in the closed position to the luminaire housing by means of an automatic type of latch (a combination hex/slot stainless steel screw fastener may supplement the automatic-type latch).
7. Each luminaire shall be capable of accepting a 150, 200, 250, 310, or 400 watt lamp complete and associated ballast. Lamps shall mount horizontally.

**9-29.10(1)B Light Emitting Diode (LED) Conventional Roadway Luminaires**

LED Conventional Roadway Luminaires are divided into classes based on their equivalent High Pressure Sodium (HPS) luminaires. Current classes are 200W, 250W, 310W, and 400W. LED luminaires are required to be pre-approved in order to verify their photometric output. To be considered for pre-approval, LED luminaires must meet the requirements of this section.
LED luminaires shall include a removable access door, with tool-less entry, for access to electronic components and the terminal block. The access door shall be removable, but include positive retention such that it can hang freely without disconnecting from the luminaire housing. LED drivers may be mounted either to the interior of the luminaire housing or to the removable door itself.

LED drivers shall be removable for user replacement. All internal modular components shall be connected by means of mechanical plug and socket type quick disconnects. Wire nuts may not be used for any purpose. All external electrical connections to the luminaire shall be made through the terminal block.

LED luminaires shall include a 7-pin NEMA photocell receptacle. The LED driver(s) shall be dimmable from ten volts to zero volts. LED output shall have a Correlated Color Temperature (CCT) of 4000K nominal (4000-4300K) and a Color Rendering Index (CRI) of 70 or greater. LED output shall be a minimum of 85% at 75,000 hours at 25 degrees Celsius.

LED luminaires shall be available for 120V, 240V, and 480V supply voltages. Voltages refer to the supply voltages to the luminaires present in the field. LED power usage shall not exceed the following maximum values for the applicable wattage class:

<table>
<thead>
<tr>
<th>Class</th>
<th>Max. Wattage</th>
</tr>
</thead>
<tbody>
<tr>
<td>200W</td>
<td>110W</td>
</tr>
<tr>
<td>250W</td>
<td>165W</td>
</tr>
<tr>
<td>310W</td>
<td>210W</td>
</tr>
<tr>
<td>400W</td>
<td>275W</td>
</tr>
</tbody>
</table>

Only one brand of LED conventional roadway luminaire may be used on a Contract. They do not necessarily have to be the same brand as any high-mast, underdeck, or wall-mount luminaires when those types of luminaires are specified in the Contract. LED luminaires shall include a standard 10 year manufacturer warranty.


9-29.10(2) Decorative Luminaires
This section, including title, is revised to read:

9-29.10(2) Vacant

9-29.12 Electrical Splice Materials
This section is supplemented with the following new subsections:

9-29.12(3) Splice Enclosures
9-29.12(3)A Heat Shrink Splice Enclosure
Heat shrink splice enclosures shall be medium or heavy wall cross-linked polyolefin, meeting the requirements of AMS-DTL-23053/15, with thermoplastic adhesive sealant. Heat shrink splices used for “wye” connections require rubber electrical mastic tape.
9-29.12(3)B Molded Splice Enclosure
Molded splice enclosures shall use epoxy resin in a clear rigid plastic mold. The material used shall be compatible with the insulation material of the insulated conductor or cable. The component materials of the resin insulation shall be packaged ready for convenient mixing without removing from the package.

9-29.12(4) Re-Enterable Splice Enclosure
Re-enterable splice enclosures shall use either dielectric grease or a flexible resin contained in a two-piece plastic mold. The mold shall either snap together or use stainless steel hose clamps.

9-29.12(5) Vinyl Electrical Tape for Splices
Vinyl electrical tape in splicing applications shall meet the requirements of MIL-I-24391C.

9-29.12(1) Illumination Circuit Splices
This section is revised to read:
Underground illumination circuit splices shall be solderless crimped connections capable of securely joining the wires, both mechanically and electrically, as defined in Section 8-20.3(8). Aerial illumination splices shall be solderless crimp connectors or split bolt vice-type connectors.

9-29.12(1)A Heat Shrink Splice Enclosure
This section is deleted in its entirety.

9-29.12(1)B Molded Splice Enclosure
This section is deleted in its entirety.

9-29.12(2) Traffic Signal Splice Material
This section is revised to read:
Induction loop splices and magnetometer splices shall use an uninsulated barrel-type crimped connector capable of being soldered.

9-29.13(10)D Cabinets for Type 170E and 2070 Controllers
The first sentence of item number 4 is revised to read:
A disposable paper filter element with dimensions of 12” × 16” × 1” shall be provided in lieu of a metal filter.

Item number 6 is revised to read:
6. LED light strips shall be provided for cabinet lighting, powered from the Equipment breaker on the Power Distribution Assembly. Each LED light strip shall be approximately 12 inches long, have a minimum output of 320 lumens, and have a color temperature of 4100K (cool white) or higher. There shall be three light strips for each rack within the cabinet. Lighting shall be ceiling mounted – rack mounted lighting is not permitted. Light strips shall be installed in the locations shown in the Standard Plans. Lighting shall not interfere with the proper operation of any other ceiling mounted equipment. All lighting fixtures above a rack shall energize
automatically when either door to that respective rack is opened. Each door switch shall be labeled “Light”.

Item number 7 is revised to read:

7. Rack mounted equipment shall be as shown in the Standard Plans. The cabinet shall use PDA #2LX and Output File #1LX. Where an Auxiliary Output File is required, Output File #2LX shall also be included.

This section is supplemented with the following new item:

9. The PCB connectors for Field Terminal Blocks FT1 through FT6 on Output Files #1LX and #2LX shall be capable of accepting minimum 14 AWG field wiring, have a pitch of 5.08 mm, and use screw flange type locking to secure the plug and socket connection. The sockets on the Field Terminal Panel shall be secured to the panel such that unplugging a connector will not result in the socket moving or separating from the panel.

9-29.13(11) Traffic Data Accumulator and Ramp Meters

Item number 2 is revised to read:

2. Rack mounted equipment shall be as shown in the Standard Plans.

Item number 3 is revised to read:

3. PDA #3LX shall be furnished with three Model 200 Load Switches installed. PDA #3LX shall be modified to include a second Model 430 transfer relay, mounted on the rear of the PDA and wired as shown in the Standard Plans.

9-29.13(12) ITS Cabinet

This section’s title is revised to read:

Type 331L ITS Cabinet

The first paragraph (excluding the numbered list) is revised to read:

Basic ITS cabinets shall be Model 331L Cabinets, unless otherwise specified in the Contract. Type 331L Cabinets shall be constructed in accordance with the TEES, with the following modifications:

Item number 6 of the first paragraph is revised to read:

6. LED light strips shall be provided for cabinet lighting, powered from the Equipment breaker on the Power Distribution Assembly. Each LED light strip shall be approximately 12 inches long, have a minimum output of 320 lumens, and have a color temperature of 4100K (cool white) or higher. There shall be three light strips for each rack within the cabinet. Lighting shall be ceiling mounted – rack mounted lighting is not permitted. Light strips shall be installed in the locations shown in the Standard Plans. Lighting shall not interfere with the proper operation of any other ceiling mounted equipment. All lighting fixtures above a rack shall energize automatically when either door to that respective rack is opened. Each door switch shall be labeled “Light”.

9-29.16(2)E Painting Signal Heads
In the first sentence, “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

9-29.17 Signal Head Mounting Brackets and Fittings
In the first paragraph, item number 2 under Stainless Steel is revised to read:

2. Bands or cables for Type N mount.

9-29.20 Pedestrian Signals
In item 2C of the second paragraph, “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

9-29.24 Service Cabinets
The third sentence of item number 6 is revised to read:

The dead front cover shall have cutouts for the entire breaker array, with blank covers where no circuit breakers are installed.

Item number 8 is revised to read:

8. Lighting contactors shall meet the requirements of Section 9-29.24(2).

The last sentence of item number 10 is revised to read:

Dead front panels shall prevent access to any exposed, live components, and shall cover all equipment except for circuit breakers (including blank covers), the photocell test/bypass switch, and the GFCI receptacle.

9-29.24(2) Electrical Circuit Breakers and Contactors
This section is revised to read:

All circuit breakers shall be bolt-on type, with the RMS-symmetrical interrupting capacity described in this Section. Circuit breakers for 120/240/277 volt circuits shall be rated at 240 or 277 volts, as applicable, with an interrupting capacity of not less than 10,000 amperes. Circuit breakers for 480 volt circuits shall be rated at 480 volts, and shall have an interrupting capacity of not less than 14,000 amperes.

Lighting contactors shall be rated for tungsten or ballasted (such as sodium vapor, mercury vapor, metal halide, and fluorescent) lamp loads. Contactors for 120/240/277 volt circuits shall be rated at 240 volts maximum line to line voltage, or 277 volts maximum line to neutral voltage, as applicable. Contactors for 480 volt circuits shall be rated at 480 volt maximum line to line voltage.

9-33.AP9

Section 9-33, Construction Geosynthetic
August 6, 2018

9-33.4(1) Geosynthetic Material Approval
The second sentence of the first paragraph is revised to read:
If the geosynthetics material is not listed in the current WSDOT QPL, a Manufacturer’s Certificate of Compliance including Certified Test Reports of each proposed geosynthetic shall be submitted to the State Materials Laboratory in Tumwater for evaluation.

The last paragraph is revised to read:

Geosynthetics used as reinforcement in permanent geosynthetic retaining walls, reinforced slopes, reinforced embankments, and other geosynthetic reinforcement applications require proof of compliance with the National Transportation Product Evaluation Program (NTPEP) in accordance with AASHTO Standard Practice R 69, Standard Practice for Determination of Long-Term Strength for Geosynthetic Reinforcement.

9-34.AP9
Section 9-34, Pavement Marking Material
January 7, 2019

9-34.2(2) Color
The first sentence is revised to read:

Paint draw-downs shall be prepared according to ASTM D823.

Each reference to “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

9-34.2(3) Prohibited Materials
This section is revised to read:

Traffic paint shall not contain mercury, lead, chromium, diarylide pigments, toluene, chlorinated solvents, hydrolysable chlorine derivatives, ethylene-based glycol ethers and their acetates, nor any other EPA hazardous waste material over the regulatory levels in accordance with CFR 40 Part 261.24.

9-34.2(5) Low VOC Waterborne Paint
The heading “Standard Waterborne Paint” is supplemented with “Type 1 and 2”.

The heading “High-Build Waterborne Paint” is supplemented with “Type 4”.

The heading “Cold Weather Waterborne Paint” is supplemented with “Type 5”.

In the row beginning with “° @90°F”, each minimum value is revised to read “60”.

In the row beginning with “Fineness of Grind, (Hegman Scale)”, each minimum value is revised to read “3”.

The last four rows are replaced with the following:

<table>
<thead>
<tr>
<th>Vehicle Composition</th>
<th>ASTM D 2621</th>
<th>100% acrylic emulsion</th>
<th>100% cross-linking acrylic⁎</th>
<th>100% acrylic emulsion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freeze-Thaw Stability, KU</td>
<td>ASTM D 2243 and D 562</td>
<td>@ 5 cycles show no coagulation or change in viscosity greater</td>
<td>@ 5 cycles show no coagulation or change in viscosity greater</td>
<td>@ 3 cycles show no coagulation or change in viscosity greater</td>
</tr>
</tbody>
</table>
After the preceding Amendments are applied, the following new column is inserted after the "Standard Waterborne Paint Type 1 and 2" column:

<table>
<thead>
<tr>
<th>Semi-Durable Waterborne Paint Type 3</th>
<th>White</th>
<th>Yellow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min.</td>
<td>Max.</td>
<td>Min.</td>
</tr>
<tr>
<td>Within ± 0.3 of qualification sample</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>95</td>
<td>80</td>
</tr>
<tr>
<td>60</td>
<td>60</td>
<td>77</td>
</tr>
<tr>
<td>43</td>
<td>65</td>
<td>65</td>
</tr>
<tr>
<td>1.25</td>
<td>1.25</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>0.98</td>
<td>0.96</td>
<td></td>
</tr>
<tr>
<td>88</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>100°</td>
<td>100°</td>
<td></td>
</tr>
<tr>
<td>9.5</td>
<td>9.5</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>100% acrylic emulsion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>@ 5 cycles show no coagulation or change in viscosity greater than ± 10 KU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>± 10 KU from the initial viscosity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Cracks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pass at 0.25 in mandrel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥70% paint retention in wheel track</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Cracks</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The footnotes are supplemented with the following:

4Cross-linking acrylic shall meet the requirements of federal specification TT-P-1952F Section 3.1.1.

5Cold Flexibility: The paint shall be applied to an aluminum panel at a wet film thickness of 15 mils and allowed to dry under ambient conditions (50±10% RH and 72±5 °F) for 24 hours. A cylindrical mandrel apparatus (in accordance with ASTM D522 method B) shall be put in a 40°F refrigerator when the paint is drawn down. After 24 hours, the aluminum panel with dry paint shall be put in the 40°F refrigerator with the mandrel apparatus for 2 hours. After 2 hours, the panel and test apparatus shall be removed and immediately tested to according to ASTM D522 to evaluate cold flexibility. Paint must show no evidence of cracking, chipping or flaking when bent 180 degrees over a mandrel bar of specified diameter.
NTPEP test deck, or a test deck conforming to ASTM D713, shall be conducted for a minimum of six months with the following additional requirements: it shall be applied at 15 wet mils to a test deck that is located at 40N latitude or higher with at least 10,000 ADT and which was applied during the months of September through November.

Paint is applied to an approximately 4”x12” aluminum panel using a drawdown bar with a 50 mil gap. The coated panel is allowed to dry under ambient conditions (50±10% RH and 72±5 °F) for 24 hours. Visual evaluation of the dry film shall reveal no cracks.

9-34.3 Plastic
In the first sentence of the last paragraph, “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

9-34.3(2) Type B – Pre-Formed Fused Thermoplastic
In the last two paragraphs, each reference to “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

9-34.3(4) Type D – Liquid Cold Applied Methyl Methacrylate
The Test Method value for Adhesion to PCC or HMA, psi is revised to read “ASTM D4541”.

9-34.4 Glass Beads for Pavement Marking Materials
In the Test Method column of the table titled Metal Concentration Limits, “EPA 3052 SW-846 6010C” is revised to read “EPA 3052 SW-846 6010D”.

9-34.5(1) Temporary Pavement Marking Tape – Short Duration
This section, including title, is revised to read:

9-34.5(1) Temporary Pavement Marking Tape – Short Duration (Removable)
Temporary pavement marking tape for short duration (usage is for up to two months) shall conform to ASTM D4592 Type I except that black tape, black mask tape and the black portion of the contrast removable tape, shall be non-reflective.

9-34.5(2) Temporary Pavement Marking Tape – Long Duration
This section’s title is revised to read:

Temporary Pavement Marking Tape – Long Duration (Non-Removable)
The first sentence is revised to read:

Temporary pavement marking tape for long duration (usage is for greater than two months and less than one year) shall conform to ASTM D4592 Type II.

ASTM E2176 is deleted from the second sentence.

9-34.7(1) Requirements
The first paragraph is revised to read:

Field performance evaluation is required for low VOC solvent-based paint per Section 9-34.2(4), Type A – liquid hot applied thermoplastic per Section 9-34.3(1), Type B – preformed fused thermoplastic per Section 9-34.3(2), Type C – cold applied preformed
tape per Section 9-34.3(3), and Type D – liquid applied methyl methacrylate per Section 9-34.3(4).

The last paragraph is deleted.

9-34.7(1)C  Auto No-Track Time

The first paragraph is revised to read:

Auto No-Track Time will only be required for low VOC solvent-based paint in accordance with Section 9-34.2(4).

The second and third sentences of the second paragraph are deleted.
SPECIAL PROVISIONS
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INTRODUCTION TO THE SPECIAL PROVISIONS

(August 14, 2013 APWA GSP)

The work on this project shall be accomplished in accordance with the Standard Specifications for Road, Bridge and Municipal Construction, 2018 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.

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

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

(March 8, 2013 APWA GSP)
(April 1, 2013 WSDOT GSP)
(May 1, 2014 C.O.K. GSP)

Also incorporated into the Contract Documents by reference are:

- Manual on Uniform Traffic Control Devices for Streets and Highways, currently adopted edition, with Washington State modifications, if any
- Standard Plans for Road, Bridge and Municipal Construction, WSDOT/APWA, current edition
- City of Kirkland Public Works Department Pre-Approved Plans

Contractor shall obtain copies of these publications, at Contractor’s own expense.
DIVISION 1 GENERAL REQUIREMENTS

DESCRIPTION OF WORK

(******)

This Contract provides for the construction of the City of Kirkland’s CKC to RCC Regional Connector; including construction of 11-foot wide shared-use pedestrian & bicycle path along the east side of Willows Road NE from the intersection of NE 124th St north approximately 1,800 linear feet to the railroad crossing at the hairpin corner. Other improvements include a stormwater detention vault, storm water conveyance system, gravity block and soldier pile retaining walls, illumination system, curbs, and pavement.

1-01 DEFINITIONS AND TERMS

1-01.3 Definitions

(January 4, 2016 APWA GSP)

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.

(******)
Supplement this Section with the following:

Invitation for Bids
“Invitation for Bids”, “Call for Bids”, and “Advertisement for Bids” shall be used interchangeably.

1-02 BID PROCEDURES AND CONDITIONS

1-02.1 Prequalification of Bidders
Delete this Section and replace it with the following:

1-02.1 Qualifications of Bidder
(January 24, 2011 APWA GSP)
Before award of a public works contract, a bidder must meet at least the minimum qualifications of RCW 39.04.350(1) to be considered a responsible bidder and qualified to be awarded a public works project.

1-02.2 Plans and Specification
(June 27, 2011 APWA GSP)
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 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” x 17”)</td>
<td>4</td>
<td>Furnished automatically upon award.</td>
</tr>
<tr>
<td>Contract Provisions</td>
<td>4</td>
<td>Furnished automatically upon award.</td>
</tr>
<tr>
<td>Large plans (e.g., 22” x 34”)</td>
<td>1</td>
<td>Furnished 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(1)  General
(August 15, 2016 APWA GSP Option B)
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 5 business days preceding the bid opening to allow a written reply to reach all prospective Bidders before the submission of their Bids.

1-02.4(2)  Subsurface Information
(******)
The second sentence in the first paragraph is revised to read:

The Geotechnical Report and the boring logs are included as an appendix to the Special Provisions and shall be considered a part of the Contract. If any discrepancies or conflicts are found, the Special Provisions or Contract Plans shall take precedence over the Geotechnical Report.

1-02.5  Proposal Forms
(July 31, 2017 APWA GSP)
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 UDBE/DBE/M/WBE commitment, if applicable; a State of Washington Contractor’s Registration Number; and a Business License Number, if applicable. Bids shall be completed by typing or shall be printed in ink by hand, preferably in black ink. The required certifications are included as part of the Proposal Form.

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

1-02.6  Preparation of Proposal
(July 11, 2018  APWA GSP)
Supplement the second paragraph with the following:

4. If a minimum bid amount has been established for any item, the unit or lump sum price must equal or exceed the minimum amount stated.

5. Any correction to a bid made by interlineation, alteration, or erasure, shall be initialed by the signer of the bid.

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

If no Subcontractor is listed, the Bidder acknowledges that it does not intend to use any Subcontractor to perform those items of work.

The Bidder shall submit with their Bid a completed Contractor Certification Wage Law Compliance form, provided by the Contracting Agency. Failure to return this certification as part of the Bid Proposal package will make this Bid Nonresponsive and ineligible for Award. A Contractor Certification of Wage Law Compliance form is included in the Proposal Forms.
The Bidder shall make no stipulation on the Bid Form, nor qualify the bid in any manner.

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

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

(August 28, 2017 WSDOT GSP)
Section 1-02.6 is supplemented with the following:

The Bidder shall submit with their Bid a completed Contractor Certification Wage Law Compliance form (WSDOT Form 272-009). Failure to return this certification as part of the Bid Proposal package will make this Bid Nonresponsive and ineligible for Award. A Contractor Certification of Wage Law Compliance form is included in the Proposal Forms.

1-02.7 Bid Deposit
(March 8, 2013 APWA GSP)
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.

1-02.8 Non-collusion Declaration and Lobbying Certification
(C.O.K. GSP)
The following new paragraph is inserted at the end of this Section:

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.

1-02.9 Delivery of Proposal
(May 17, 2018 APWA GSP, Option A)

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 for Bids clearly marked on the outside of the envelope, or as otherwise required in the Bid Documents, to ensure proper handling and delivery.

To be considered responsive on a FHWA-funded project, the Bidder may be required to submit the following items, as required by Section 1-02.6:

- UDBE Written Confirmation Document from each UDBE firm listed on the Bidder’s completed UDBE Utilization Certification (WSDOT 272-056U)
- Good Faith Effort (GFE) Documentation

These documents, if applicable, shall be received either with the Bid Proposal or as a supplement to the Bid. These documents shall be received no later than 24 hours (not including Saturdays, Sundays and Holidays) after the time for delivery of the Bid Proposal.

If submitted after the Bid Proposal is due, the document(s) must be submitted in a sealed envelope labeled the same as for the Proposal, with “Supplemental Information” added. All other information required to be submitted with the Bid Proposal must be submitted with the Bid Proposal itself, at the time stated in the Call for Bids.

The Contracting Agency will not open or consider any Bid Proposal that is received after the time specified in the Call for Bids for receipt of Bid Proposals, or received in a location other than that specified in the Call for Bids. The Contracting Agency will not open or consider any “Supplemental Information” (UDBE confirmations, or GFE documentation) that is received after the time specified above, or received in a location other than that specified in the Call for Bids.

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

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.

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 an Underutilized Disadvantaged Business Enterprise Certification, if applicable, as required in Section 1-02.6;
   i. The Bidder fails to submit written confirmation from each UDBE firm listed on the Bidder’s completed UDBE Utilization Certification that they are in agreement with the bidder’s UDBE 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 UDBE 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.
1-02.14 Disqualification of Bidders  
(May 17, 2018 APWA GSP, Option A)

Delete this section and replace it with the following:

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

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

If the Contracting Agency determines the Bidder does not meet the mandatory bidder responsibility criteria in RCW 39.04.350(1) and is therefore not a responsible Bidder, the Contracting Agency shall notify the Bidder in writing, with the reasons for its determination. If the Bidder disagrees with this determination, it may appeal the determination within two (2) business days of the Contracting Agency’s determination by presenting its appeal and any additional information to the Contracting Agency.

The Contracting Agency will consider the appeal and any additional information before issuing its final determination. If the final determination affirms that the Bidder is not responsible, the Contracting Agency will not execute a contract with any other Bidder until at least two business days after the Bidder determined to be not responsible has received the Contracting Agency’s final determination.

1-02.15 Pre-Award Information  
(August 14, 2013 APWA GSP)

Revise this section to read:

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

1. A complete statement of the origin, composition, and manufacture of any or all materials to be used,

2. Samples of these materials for quality and fitness tests,

3. A progress schedule (in a form the Contracting Agency requires) showing the order of and time required for the various phases of the work,

4. A breakdown of costs assigned to any bid item,

5. Attendance at a conference with the Engineer or representatives of the Engineer,

6. Obtain, and furnish a copy of, a business license to do business in the city or county where the work is located,

7. Any other information or action taken that is deemed necessary to ensure that the bidder is the lowest responsible bidder.
1-03 AWARD AND EXECUTION OF CONTRACT

1-03.1 Consideration of Bids
(January 23, 2006 APWA GSP)
Revise the first paragraph to read:

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

1-03.3 Execution of Contract
(October 1, 2005 APWA GSP)
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 the calendar days after the award date stated above, the Contracting Agency may grant up to a maximum of ten (10) additional calendar days for return of the documents, provided the Contracting Agency deems the circumstances warrant it.

1-03.4 Contract Bond
(C.O.K. GSP)
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).

1-03.7 Judicial Review
(November 30, 2018 APWA GSP)

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 36.01.050 shall control venue and jurisdiction.

1-04 SCOPE OF THE WORK

1-04.1 Intent of the Contract
(C.O.K. GSP)

Supplement this Section with the following:

All materials, tools, labor, and guarantees thereof 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.

Supplement this Section with the following:

All prime contractor and subcontractor fixed project costs shall be included within the Bid items unit costs listed in the Proposal.
1-04.2 Coordination of Contract Documents, Plans, Special Provisions, Specifications, and Addenda

(March 13, 2012 APWA GSP)

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.

1-04.4(1) Minor Changes

(May 30, 2019 APWA GSP)

Delete the first paragraph and replace it with the following:

Payments or credits for changes amounting to $15,000 or less may be made under the Bid item “Minor Change”. At the discretion of the Contracting Agency, this procedure for Minor Changes may be used in lieu of the more formal procedure as outlined in Section 1-04.4, Changes. All “Minor Change” work will be within the scope of the Contract Work and will not change Contract Time.

1-04.6 Variation in Estimated Quantities

(July 23, 2015 APWA GSP, Option B)

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.

1-04.11 Final Cleanup

(C.O.K. GSP)

This Section 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.

(******)

Supplement this section 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

(C.O.K. GSP)

Add the following new subsections:

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 Contractor’s responsibility.

At a minimum the Contractor shall provide the following survey staking:

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 sets of off-set points provided at 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.

Supplement this section with the following:
(C.O.K. 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”, 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.

1-05.7 Removal of Defective and Unauthorized Work

(October 1, 2005 APWA GSP)

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.

1-05.9 Equipment

(C.O.K. GSP)
The following new paragraph is inserted between the second and third paragraphs:

Use of equipment with metal tracks will not be permitted on concrete or asphalt surfaces unless otherwise authorized by the Engineer.

(******)
Supplement the above C.O.K. GSP 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 by the Contractor where and when directed by the Owner, 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 loading of equipment. If the Contractor intends to use equipment with metal tracks, the Contractor shall prepare and submit a surface protection plan to the Engineer for approval 14 calendar days prior to mobilization of equipment.

1-05.10 Guarantees

(C.O.K. GSP)
Supplement this Section with the following:

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.

1-05.11 Final Inspection

Delete this section and replace it with the following:

1-05.11 Final Inspections and Operational Testing

(October 1, 2005 APWA GSP)

1-05.11(1) Substantial Completion Date

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

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

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

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

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

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

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

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

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

1-05.11(3) Operational Testing

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

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

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

Add the following new Section:

1-05.12(1) One-Year Guarantee Period
(March 8, 2013 APWA GSP)

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.

1-05.13 Superintendents, Labor, and Equipment of Contractor
(August 14, 2013 APWA GSP)
Delete the sixth and seventh paragraphs of this section.

1-05.14 Cooperation with Other Contractors
(******)
Supplement this Section with the following:

The Contractor shall coordinate the work with other Contractors and utility companies, which also have facilities in the project area which are to be relocated or adjusted to grade, including but not limited to relocation of PSE gas main and PSE poles, adjustment of gas valves, and relocation/adjustment of other Franchise utility facilities which are in conflict with proposed improvements. See Section 1-07.17 of these Special Provisions for more information.

All costs associated with coordination and cooperation with other contractors shall be considered incidental and shall not be grounds for additional payment or claims of any kind.
The Contractor shall be responsible for coordinating directly with affected utilities responsible for utility relocation. Contractor shall coordinate all required relocations such that no delay in work occurs. Delay caused by Contractor’s failure to coordinate work with utilities shall not be just cause for a claim, dispute, or suspension. At a minimum coordination shall include:

- Providing each utility with an overall project schedule showing private utility impacts requiring coordination.
- Providing each utility with a three week look ahead showing any private utility work required that could impact the Critical Path of the project schedule.
- All phone conversations and emails between the Contractor and utilities in regards to schedules and coordination shall be documented on a record of communication and provided to the Owner.

All cost associated with coordination and cooperation with utility companies and other contractors as required by these Contract documents shall be incidental and included within the unit Bid prices provided in the Proposal.

1-05.15 Method of Serving Notices
(March 25, 2009 APWA GSP)
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.

Add the following new section:

1-05.16 Water and Power
(October 1, 2005 APWA GSP)

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:

1-05.18 Record Drawings

The Contractor shall maintain one set of electronic PDF or hardcopy 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.).

The Contract requires the Contractor to perform surveying/staking; the applicable tolerance limits include, but are not limited to the following:

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<tr>
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<th>Vertical</th>
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<tr>
<td>As-built sanitary &amp; storm invert and grate elevations</td>
<td>± 0.01 foot</td>
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<td>As-built monumentation</td>
<td>± 0.001 foot</td>
<td>± 0.001 foot</td>
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<tr>
<td>As-built waterlines, invert, valves, hydrants</td>
<td>± 0.10 foot</td>
<td>± 0.10 foot</td>
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<tr>
<td>As-built ponds/swales/water features</td>
<td>± 0.10 foot</td>
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<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>
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Making Entries on the Record Drawings:

- Use color 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:

“Record Drawings (Min. Bid $1,000)”, lump sum.

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

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. Nothing contained within the Daily Construction Report will be considered to be notification of change or protest.

Every single Daily Construction Report 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 Daily Construction Report 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 will not be considered a formal notice of differing site conditions. Formal notice shall be per 1-04.7.

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 Construction Report 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 Daily Construction Report in the manner described above will constitute a waiver of any such claims or disputes by Contractor.

All costs associated with the work specified above in this Section shall be not measured for separate payment, but shall be considered incidental to and included in “Mobilization”.

Notifications of any change conditions, claims, or protest shall follow the requirements of the Standard Specifications. Information contained within the Construction Daily report will not be considered as the required notifications of the Standard Specifications.

Add the following new section:

1-05.20 Preconstruction Photos or Video

(******)

The Contractor shall take a preconstruction photos or video immediately prior to initiating construction in order to provide a substantiated record of the condition of existing improvement of the existing site and all existing abutting improvements. The photos or video shall be considered as indicative of the nature of the original improvements in determining the adequacy or inadequacy, of the sole opinion of the Engineer, of restoration. The photos or video file shall be provided electronically.

A full set of photos, or video, shall be provided to:

- The City of Kirkland
- KPG, P.S.
All costs associated with the work specified above in this Section shall be not measured for separate payment, but shall be considered incidental to and included in “Mobilization”.

1-06 CONTROL OF MATERIAL

1-06.1 Approval of Materials Prior to Use

(April 3, 2017 WSDOT GSP)
Section 1-06.1 is supplemented with the following:

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

(C.O.K. GSP)
Supplement this Section with the following:

Approval of a Material source shall not mean acceptance of the Material. The Material shall meet the requirements of the Contract.

1-06.6 Recycled Materials

(January 4, 2016 APWA GSP)
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 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.

(******)
Add the following new section:

1-06.7 Shop Drawings and Submittals

1-06.7(1) General

Shop drawing and submittal review by the Owner or Owner’s representative will be limited to general design requirements only, and shall not relieve the Contractor from responsibility for errors or omissions or responsibility for consequences due to deviations from the Contract Documents. No changes may be made in any submittal after it has been reviewed except with written notice and approval from the Owner.
The Contractor shall review each submittal and provide approval in writing or by stamping, with a statement indicating that he has reviewed and approved the submittal, verified dimensional information, materials, catalog numbers, and similar data, confirmed that specified criteria has been met, and acknowledges that the product, method, or information will function as intended.

Shop drawing and submittal data for each item shall contain sufficient information on each item to determine if it is in compliance with the contract requirements.

Shop drawing and submittal items that have been installed in the work but have not been approved through the review process shall be removed, and an approved product shall be furnished, all at the Contractor’s expense. Under no circumstances shall payment be made to the Contractor for materials not approved by the submittal process.

1-06.7(2) Required Information

Five (5) copies of each submittal shall be submitted within ten (10) Working Days after contract execution to:

    City of Kirkland
    Public Works Department
    Attn: CKC to RCC Regional Connector
    Project Manager
    123 5th Ave.
    Kirkland, WA 98033

Shop drawings and submittals shall contain the following information for all items:

1. Project Name.
2. Contractor.
3. Engineer.
4. Owner.
5. Applicable specification and drawing reference.
6. A stamp showing that the Contractor has checked the material or equipment for conformance with the contract requirements, coordination with other work on the job, and dimensional suitability.
7. A blank space for the Engineer to place a 3-inch by 4-inch review stamp.
8. Dimensions and weights.
9. Catalog information.
10. Manufacturer’s specifications.
11. Special handling instructions.
12. Maintenance requirements.
13. Wiring and control diagrams.
15. Other information as required by the Engineer.
16. Installation and Operating Instructions.

1-06.7(3) Review Schedule

Shop drawings and submittals will be reviewed as promptly as possible and transmitted to Contractor not later than 10 Working Days after receipt by the Engineer. The Contractor shall revise and resubmit previously rejected submittals as necessary to obtain approval. Delays caused by the need for
resubmittal may not be a basis for an extension of contract time or delay damages at the discretion of the Owner. One set of electronic shop drawings will be returned to the Contractor via email after review.

1-06.7(4) Substitutions

Any product or construction method that does not meet these specifications will be considered a substitution. Substitutions must be approved prior to their installation or use on this project, as specified below.

1-06.7(5) After Contract Execution

Within 10 Working Days after the date of the Notice of Award of Contract, Owner will consider formal requests from Contractor for substitution of product in place of those specified. Contractor shall submit one electronic copy of request for substitution to the email address specified above. Data shall include the necessary change in construction methods, including a detailed description of proposed method and related drawings illustrating methods. An itemized comparison of proposed substitution with product or method shall be provided.

In making a request for substitution, Contractor represents that he has personally investigated the proposed product or method and has determined that it is equal or superior to, in all respects, the product specified. All substitutions shall be reviewed and approved by the City prior to incorporation into the project. Upon review and acceptance by the Owner, Contractor shall coordinate installation of accepted substitutions into the work, making changes that may be required for work to be completed. Contractor waives all claims for additional costs related to substitutions that consequently become apparent.

1-06.7(6) Equivalent Materials

Mention of equipment or materials by brand name and/or model number is occasionally made in order to establish a basis of quality for certain items of material, equipment, or processes. Such mention is intended to include products of other manufacturers that will meet the design standards of the product mentioned.

If the Contractor desires to use products other than those specified under this “or approved equivalent” provision, he shall obtain the approval of the Owner and the Engineer before entering an order therefore. All substitutions or products to be used under the “or approved equivalent” provision shall be reviewed and approved by the City prior to incorporation into the project.

Wherever mention is made of a specific manufacturer, such references shall be treated as if the phrase “or approved equivalent” appears thereafter whether or not in fact it does. The terms “or equal” and/or “or approved equivalent” shall be considered synonymous.

Cost of all work under this Section shall be included in the lump sum contract bid item of “Mobilization”.

1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

1-07.1 Laws to be Observed

(C.O.K. GSP)
Supplement this Section 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.

**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.

*(April 3, 2006 WSDOT GSP)*

Section 1-07.1 is supplemented with the following:

**Confined Space**

Confined spaces are known to exist at the following locations:

- Vaults, excavations, and manholes

The Contractor shall be fully responsible for the safety and health of all on-site workers and compliant with Washington Administrative Code (WAC 296-809).
The Contractor shall prepare and implement a confined space program for each of the confined spaces identified above. The Contractors Confined Space program shall be sent to the contracting agency at least 30 days prior to the Contractor beginning work in or adjacent to the confined space. No work shall be performed in or adjacent to the confined space until the plan is submitted to the Engineer as required. The Contractor shall communicate with the Project Engineer to ensure a coordinated effort for providing and maintaining a safe worksite for both the Contracting Agency’s and Contractor’s workers when working in or near a confined space.

All costs to prepare and implement the confined space program shall be included in the bid prices for the various items associated with the confined space work.

1-07.2 State Taxes
Delete this section, including its subsections, in its entirety and replace it with the following:

1-07.2 State Sales Tax
(June 27, 2011 APWA GSP)

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).

1-07.6 Permits and Licenses

(C.O.K. GSP)

Section 1-07.6 is supplemented with the following:

The Contractor is responsible for obtaining the below-listed permits for this project. All costs to obtain and comply with permit requirements shall be included in the applicable bid items for the work involved. Copies of these permits are required to be onsite at all times.

- NPDES Construction Stormwater General Permit (obtained by Owner, transferred to Contractor)
- Separate City of Kirkland Building Permits for:
  - Stormwater detention vault
  - Structural walls (over 4 feet tall)
  - Stairs
- City of Kirkland Business License. More information can be found at: http://www.kirklandwa.gov/depart/Finance_and_Administration/doingbusiness/Business_Licenses.htm

(******)

Section 1-07.6 is supplemented with the following:

Contractors shall obtain all required permits and licenses and give any notices these call for. The Contracting Agency will support the Contractor in efforts to obtain a temporary operating permit in its name if:

1. A local rule or an agency policy prevent issuing the permit to a private firm;
2. The Contractor takes all action to obtain the permit;
3. The permit will serve the public interest;
4. The permit applies only to Work under the Contract;
5. The Contractor agrees in writing: (a) to comply with all the issuing agency requires, and (b) to hold the Contracting Agency harmless for any Work-related liability incurred under the permit; and
6. The permit costs the Contracting Agency nothing.

1-07.7 Load Limits
Section 1-07.7 is supplemented with the following:
(March 13, 1995 WSDOT GSP)

If the sources of materials provided by the Contractor necessitates hauling over roads other than State Highways, the Contractor shall, at the Contractor’s expense, make all arrangements for the use of the haul routes.

1-07.13 Contractor’s Responsibility for Work

1-07.13(1) General

1-07.13(4) Repair of Damage
Section 1-07.13(4) is revised to read:
(August 6, 2001 WSDOT GSP)

The Contractor shall promptly repair all damage to either temporary or permanent work as directed by the Engineer. For damage qualifying for relief under Sections 1-07.13(1), 1-07.13(2) or 1-07.13(3), payment will be made in accordance with Section 1-04.4. Payment will be limited to repair of damaged work only. No payment will be made for delay or disruption of work.

1-07.14 Responsibility for Damage

(C.O.K. GSP)
Supplement this Section 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(1) Spill Prevention, Control, and Countermeasures Plan

(C.O.K. GSP)
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.

(******)
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 at all times.
Supplement the Implementation Requirements with the following:

The SPCC 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 nonworking 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 original third 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

1-07.16(1) Private/Public Property

Supplement this Section with the following:

The Contractor shall take care to preserve the integrity of existing improvements adjacent to the work.

1-07.16(2) Vegetation Protection and Restoration

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

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

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

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

1-07.16(3) Fences, Mailboxes, Incidentals

Supplement this Section with the following:

U.S. Postal Service Collection Boxes, Mail Receptacles, and other Structures: U.S. Postal Service collection boxes 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.

1-07.17 Utilities and Similar Facilities

Supplement this Section 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>Tom Chriest</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) 587-3901</td>
</tr>
<tr>
<td>Streets</td>
<td>City of Kirkland</td>
<td>123 Fifth Avenue Kirkland, WA 98033</td>
<td>Nathan Hower</td>
<td>(425) 587-3909</td>
</tr>
<tr>
<td>Transportation/Signals</td>
<td>City of Kirkland</td>
<td>123 Fifth Avenue Kirkland, WA 98033</td>
<td>Brian Dalseg</td>
<td>(425) 587-3918</td>
</tr>
<tr>
<td>Electric</td>
<td>Puget Sound Energy</td>
<td>P.O. Box 97034 EST-11W Bellevue, Washington 98009</td>
<td>Fremont Aguinaldo</td>
<td>(425) 223-0936</td>
</tr>
<tr>
<td>Telephone/FIOS</td>
<td>Frontier Communications</td>
<td>P.O. Box 97034 EST-11W Bellevue, Washington 98009</td>
<td>Jay Schwab Repair Line</td>
<td>(425) 263-4019 (877) 462-8188</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>Puget Sound Energy</td>
<td>P.O. Box 97034 EST-11W Bellevue, Washington 98009</td>
<td>Jeanne Coleman</td>
<td>(425) 449-7410</td>
</tr>
<tr>
<td>Cable Television</td>
<td>Comcast</td>
<td>1525 - 75th St SW, Suite 200, Everett, WA 98203</td>
<td>Joe Fordon</td>
<td>(425) 319-4968</td>
</tr>
<tr>
<td>School District Transportation</td>
<td>Lake Washington School District</td>
<td>15212 NE 95th St Redmond, WA 98052</td>
<td>Jeff Miles</td>
<td>(425) 936-1120</td>
</tr>
<tr>
<td>Transit</td>
<td>King County Metro</td>
<td>1270 6th Ave S Seattle, WA 98134</td>
<td>METRO Construction Information Center</td>
<td>(206) 477-1140</td>
</tr>
</tbody>
</table>

Note that most utility companies may be contacted for locations through the “One Call” system, 811. 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 hours in advance.
(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(2) Utility Construction, Removal or Relocation by Others

(C.O.K. GSP)

Supplement this Section 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.

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
- KPG, P.S.

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.

1-07.18(5)K Professional Liability
(January 4, 2016 APWA GSP)

The Contractor and/or its Subcontractor(s) and/or its design consultant providing construction management, value engineering, or any other design-related non-construction professional services shall provide evidence of Professional Liability insurance covering professional errors and omissions.

Such policy shall provide the following minimum limits:

- $1,000,000 per claim and annual aggregate

If the scope of such design-related professional services includes work related to pollution conditions, the Professional Liability insurance shall include coverage for Environmental Professional Liability.

If insurance is 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.
1-07.23 Public Convenience and Safety

(C.O.K. GSP)

Section 1-07.23 is supplemented with the following:

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 providing written notification to affected property owners 24 hours in advance of scheduled interruptions to access, additional restrictions and notifications requirements are contained within these contract requirements for specific cases and locations.

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 equal to
or better than the access that existed prior to construction shall be maintained to all properties adjacent to the construction site.

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

Contractor shall maintain pedestrian access project wide during construction per MUTCD Chapter 6D requirements.

1-07.23(1) Construction Under Traffic

(******)
This Section is supplemented with the following:

All trench sections within the roadway shall be restored prior to a non-Working Day except during allowable road closure for installation of the stormwater detention vault. Steel plates used to cover open trenches within the roadway will not be allowed to remain in place during non-Working Days, except within and during road closure.

Full Road Closure:

A full road closure will be allowed between station 25+00 and 27+50 for installation of the stormwater detention vault. The following conditions shall apply:

1. Full road closure shall not exceed 14 total calendar days.
2. Contractor shall prepare detour plans and submit to City for approval.
3. Detour plans shall be approved by City prior to placement of PCMS boards.
4. Two PCMS boards shall be in place a minimum of 15 working days prior to the approved road closure.
5. City-approved traffic safety devices shall be in place to prevent unintended vehicle access.
6. Pedestrian access shall be maintained through closure area.

Properties with Single Point of Access

For properties which have only one vehicle access point, the following additional restrictions shall apply:

1. Driveway closures longer than 4 hours will only be allowed during the impacted business’ non-working hours (before 6:00 AM or after 5:00 PM on weekdays, or during weekends). The Contractor shall provide written notification of the closure to the property owner 5 working days in advance. See Section 8-06 of these Special Provisions for driveway material requirements and other closure restrictions.
2. Driveway closures during the impacted business’ working hours may be approved for up to 1 hour in duration, but will not be allowed between 6:00 AM and 7:00 AM or between 4:00 PM and 5:00 PM. The Contractor shall provide written notification of the closure to the property owner 24 hours in advance, and provide a verbal notice to the property owner 1 to 2 hours in advance.
3. With the exception of the above described closures, temporary driveway access over a hard surface shall be maintained at all times. A hard surface shall mean one of the following: existing pavement, temporary pavement, or steel sheets.
4. Driveway closures longer than 4 hours shall be shown on the Contractor’s 3-week lookahead schedule.
(May 2, 2017 APWA GSP)
Revise the third sentence of the second paragraph to read:

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

1-07.23(2) Construction and Maintenance of Detours

Supplement this section with the following:

Measurement and Payment

All costs related to equipment, labor and materials required to complete work described in Section 1-07.23 including but not limited to pedestrian access and safety, developing an approved Traffic Control Plan with pedestrian elements; construction, maintenance, and removal of pathways, protective barricades, fencing, and bridges; warning guidance devices; signing; temporary striping or structures; traffic control labor; and providing and maintaining temporary driveway access, alternative, or existing pedestrian routes and access points will not be measured for separate payment, but shall be included in the lump sum Bid item “Project Temporary Traffic Control.”

Add the following new Section:

1-07.23(3) Communication/Dissemination of Information

The Contractor shall attend a weekly construction meeting throughout the duration of the project. Information regarding schedule specifics, traffic disruptions, and water and sewer service disruptions shall be provided by the Contractor and reviewed at such meetings.

The Contractor shall provide and distribute adequate (as determined by the Engineer) written notice (two Working Days at a minimum) to all property owners prior to driveway demolition and construction.

The Contractor will provide Owner/Engineer a minimum five (5) Working Days written notice prior to utility (i.e., sewer and water) shut-offs to properties.

1-07.24 Rights of Way

(July 23, 2015 APWA GSP)
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.

(C.O.K. GSP)
Supplement this section with the following:

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.
PROPERTY RELEASE

DATE: ________________________________

I, ___________________________________ (Contractor's name and address), hereby release _________________ (Contractor's name), owner of ______________________________, from any property damage or personal injury resulting from construction on or adjacent to my property located at _____________________________________________________ during construction of the __________________________. My signature below is my acknowledgment and acceptance that my property, as identified above, was returned to a satisfactory condition.

Signed: _______________________________

Name: _______________________________

Address: _______________________________

Phone: _______________________________

(*****)
Supplement this Section with the following:

All equipment and materials shall be staged at an off-site location provided by the Contractor. Staging of equipment and materials within right of way or easements will not be allowed unless approved by the Owner.

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 frontend load 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
      • Connection to office network and set up to allow the sending of scanned documents as email attachments
      • 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 business-grade internet connection with one (1) static public IPv4 address and no data cap and a **minimum bandwidth of 40 Mbps download/20 Mbps upload**. The contractor shall provide for 24-hour technical support and shall be responsible for working with the ISP or other vendors to resolve any technical issues that may arise with the internet connection. The contractor shall provide cabling (CAT 5E or better) to support a local area network inside the field office and shall include RJ-45 jacks at each workstation (desk or table locations to be addressed at the pre-construction meeting per Section 1-08.1(2)). The contractor shall provide an uplink to the internet via a RJ-45 jack. If the hardware provided by the ISP includes a router or firewall, the firewall shall be placed into “passthrough” or “bridge” mode such that a third-party firewall may be used with a public IP address downstream of the ISP-provided equipment.

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 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, then the Engineer will have the option to provide the field office. If the Engineer elects to provide the field office, 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 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 the field office as specified in Section 1-07.29. Upon deliverance of the second Written Notice, the Contractor’s right to provide the field office 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 and maintain 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.” 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:

1-08.0 Preliminary Matters
(May 25, 2006 APWA GSP)

1-08.0(1) Preconstruction Conference
(October 10, 2008 APWA GSP)

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:

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

During the allowable 14-calendar day road closure between STA 25+00 and 27+50 for the stormwater detention vault installation, the Contractor has the option to work 24 hours per day to complete the work. Each calendar day during the road closure will be counted as one working day regardless of the amount of hours worked. The Contractor shall receive approval from the City 15 working days in advance for road closure and working hours associated with the vault construction prior to proceeding with 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 during allowable road closure, and for 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 and 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**

No work will be performed on arterial streets 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 Blv/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>
</tbody>
</table>
Add the following new section:

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 (except during the road closure period). 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 (based on 40 hours per week) costs for employees of the Contracting Agency required to work overtime hours.

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

1-08.1 Subcontracting

(C.O.K. GSP)

Supplement this Section 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.

1-08.3 Progress Schedule

(C.O.K. GSP)

Supplement this Section with the following:

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.
Kirkland in compliance with the Plans and specifications. However, the Contractor shall 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.

1-08.3(1) General Requirements
(C.O.K. GSP)
Supplement this Section with the following:

The Contractor is responsible for planning, scheduling, managing, and reporting the progress of the work in accordance with all of the specific methods and submittals described in Section 1-08.3.

1-08.3(2)A Type A Progress Schedule
(March 13, 2012 APWA GSP)
Revise this Section to read:

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

Add the following new Subsections:

1-08.3(2)C Scheduling Review and Acceptance
(C.O.K. GSP)
The Contractor’s schedule submittals will be reviewed by the Engineer; such review shall not constitute an approval, control or direction over the Contractor’s construction means, methods, sequencing or its ability to complete the Work in a timely manner.

The initial schedule is referred to as the Preliminary Schedule. Upon receipt and acceptance by the Engineer, it is referred to as the Baseline Schedule. Monthly revisions are termed Update Schedules. If major delays require drastic revision to the schedule, it is referred to as the Recovery Schedule.

1-08.3(3)A Scheduling – Failure to Comply
(C.O.K. GSP)
Failure by the Contractor to provide the required Preliminary Schedule information will result in a delay of the Engineer’s issuance of a Notice-to-Proceed for the Contractor to begin work. Failure by the Contractor to provide the required monthly Update Schedules may result in either default termination or denial of partial or all progress payments until such time as the required schedule information is submitted, at the sole option of the Engineer.

1-08.3(3)B Project-Specific Scheduling Requirements
(******)
The order of work shall be at the Contractor’s option, with the exceptions noted below, and shall be in keeping with good construction practice and the terms of the Contract. Schedules shall be submitted in color hard copy, PDF, and in the electronic format of the program used to create the schedule, if requested by the owner.
**Working Days**
The project schedule shall be based on total allowed contract Working Days, with 5 days of float to account for unexpected site changes, Minor Changes and Force Account work.

**Traffic Control Plans**
The Contractor shall prepare and submit a project specific Detour and Traffic Control Plan (TCP) to the City. Review and revision of the TCP may take up to two (2) weeks. The Contractor is alerted that no work affecting traffic operations, including clear zones, may be performed until the TCP is approved.

**Notifications**
All notifications required by the contract which affect the critical path shall be shown as milestones on the project schedule.

**Coordination With Other Contractors**
All work required by Franchise Utilities or other Contractors which affect the critical path shall be shown on the project schedule. For additional schedule requirements refer to Section 1-05.14 Cooperation with Other Contractors.

**1-08.4 Prosecution of Work**
Delete this section and replace it with the following:

1-08.4 Notice to Proceed and Prosecution of Work

*(July 23, 2015 APWA GSP)*

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.

(******)

Upon request by the Contractor the Notice to Proceed will be given for a mutually agreed upon date on or before April 20, 2020. The intent of this Special Provision is to allow the Contractor flexibility in scheduling the construction start date.
1-08.5 Time for Completion

Supplement this Section with the following:

This project shall be physically completed in its entirety within 110 Working Days.

Note that the base bid allowable Working Days includes 5 Working Days for unexpected site changes, Minor Changes and Force Account work. Request for Extension of Working Days due to these changes will not be considered unless the impact to the Critical Path is in excess of the 5 Working Days of float time.

(November 30, 2018 APWA GSP, Option A)

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.
   f. A copy of the Notice of Termination sent to the Washington State Department of Ecology (Ecology); the elapse of 30 calendar days from the date of receipt of the Notice of Termination by Ecology; and no rejection of the Notice of Termination by Ecology. This requirement will
not apply if the Construction Stormwater General Permit is transferred back to the Contracting Agency in accordance with Section 8-01.3(16).

g. Property owner releases per Section 1-07.24

1-08.9 Liquidated Damages

(C.O.K. GSP)
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 > $50,000 \rightarrow LD = 0.15 \times C \div T$, and

For $C \leq $50,000 \rightarrow LD = 0.30 \times C \div T$.

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)

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

1-09.2(1) General Requirements for Weighing Equipment

(C.O.K. GSP)
The last paragraph of this Section is supplemented with the following:

Trucks and Tickets

All tickets shall, at a minimum, contain the following information:
1. Ticket serial number
2. Date and hour of weighing
3. 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 on the day of delivery of materials. Tickets not collected on the day of delivery will not be honored for payment.

(******)
Supplement this Section with the following:

Contractor shall stockpile all materials separately based on Bid item and provide signage identifying the associated Bid item. All stockpiled gravel materials which are incidental to other Bid items are not required to be separated or signed.

(July 23, 2015 APWA GSP, Option 2)
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.

1-09.2(5) Measurement
(May 2, 2017 APWA GSP)
Revise the first paragraph to read:

Scale Verification Checks – At the Engineer’s discretion, the Engineer may perform verification checks on the accuracy of each batch, hopper, or platform scale used in weighing contract items of Work.

1-09.6 Force Account
(October 10, 2008 APWA GSP)
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.

1-09.9 Payments
(March 13, 2012 APWA GSP)
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.

\textit{(C.O.K. GSP)}
\textit{Section 1-09.9 is supplemented with the following:}

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

1-09.11(3) Time Limitation and Jurisdiction
(November 30, 2018 APWA GSP)
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 36.01.050 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

1-09.13(3) Claims $250,000 or Less
(C.O.K. GSP)
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.

1-09.13(3)A Administration of Arbitration
(November 30, 2018 APWA GSP)
Revise the third paragraph to read:

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

1-10 TEMPORARY TRAFFIC CONTROL

1-10.2 Traffic Control Management

1-10.2(1) General
(January 3, 2017 WSDOT GSP)
Section 1-10.2(1) is supplemented with the following:

Only training with WSDOT TCS card and WSDOT training curriculum is recognized in the State of Washington. The Traffic Control Supervisor shall be certified by one of the following:
The first and second sentences of this Section are deleted and replaced with the following:

The Contractor shall submit a Traffic Control Plan or Plans showing a method of handling traffic. All construction signs, flaggers, spotters and other traffic control devices shall be shown on the Traffic Control Plan(s). Generic WSDOT 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 Traffic Control Plans shall be prepared by the Contractor’s Traffic Control Supervisor or an engineer licensed 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 WSDOT.

Traffic Control Plans shall also specify how accessible pedestrian routes shall be maintained through the project site as discussed in Section 1-07.23, and how existing driveway access will be maintained throughout the duration of construction. A specific plan shall be provided for each driveway.

Prior to submitting the initial Traffic Control Plans for review by the Engineer, the Contractor shall meet with the Engineer and provide a detailed explanation of his proposed construction schedule, construction phasing, and associated temporary traffic control implementation. The plan must be acceptable to the Engineer prior to the Contractor submitting the initial set of Traffic Control Plans. No construction will be allowed until the Traffic Control Plans are acceptable to and approved by the Engineer.

Payment for developing approved Traffic Control Plans shall be considered incidental to the lump sum price in the Proposal for “Project Temporary Traffic Control” and no additional compensation will be made.
1-10.3 Traffic Control Labor, Procedures and Devices

1-10.3(1) Traffic Control Labor

1-10.3(1)B Other Traffic Control Labor

(******)
Supplement this section with the following:

Off Duty Police

When construction activities impact traffic through any signalized intersection, as determined by the Engineer, the Contractor shall provide an off-duty uniformed police officer to control the flow of traffic through the intersection. It is the Contractor’s responsibility to coordinate the scheduling of the Uniformed Police Officer. The numbers below are provided for the convenience of the Contractor:

- Off-duty City of Kirkland Police Officers: (206) 755-6632
- Puget Sound Executive Services (Off-duty Washington State Patrol Troopers): (206) 417-8282

City of Kirkland Police Officers shall have first right of refusal to provide labor. Contractor shall give preference to off-duty City of Kirkland Police Officers.

1-10.3(2) Traffic Control Procedures

(******)
Supplement this section with the following:

Contractor shall phase construction activities such that traffic control operations affect only one intersection at any given time.

In all cases, local and emergency access must be maintained at all times.

All excavation(s) outside of the lane closures allowed during peak traffic hours shall be restored sufficiently by the Contractor (as judged solely by the Engineer) to allow unobstructed flow of traffic during peak flow hours.

All other traffic lanes will remain in use with direction of traffic as approved by the City based on the Contractor-provided Traffic Control Plans.

Except for road closures as described in Section 1-07.23 for stormwater detention vault, excavations will not be allowed to remain open during non-working hours. All open excavation within the driving surface shall be backfilled and covered with a 2-inch temporary HMA patch, permanently restored per the Plans, or covered with steel sheets with appropriate traffic warning signs. Steel sheets shall not remain in place over weekends within 100 feet of any intersection as measured from the mainline stop bar. Cold mix will not be allowed for temporary trench restoration. All work described in this section shall be included in the Lump Sum Contract price for “Project Temporary Traffic Control”.

1-10.3(3)C Portable Changeable Message Sign

(******)
Supplement this section with the following:

Two (2) Portable Changeable Message Signs (PCMS) will be required at locations directed by the Engineer. Signs shall be solar charged and programmable. Signs shall be provided a minimum of fifteen (15) calendar days prior to construction and remain through the duration of the construction. Signs shall be provided in advance at each end of the construction zone notifying oncoming traffic of...
the construction conditions. For allowed road closures see Section 1-07.23. Exact message language on PCMS boards shall be as approved by the Engineer/Owner. All costs associated with providing, operating, maintaining, and programming the signs for the required duration shall be included in the Proposal item, “Project Temporary Traffic Control”.

1-10.5 Payment

1-10.5(1) Lump Sum Bid Item for Project (No Unit Items)

This section is supplemented with the following:

“Project Temporary Traffic Control”, lump sum.

All costs associated with Section 1-10 and 1-07.23 shall be included in the lump sum Bid item “Project Temporary Traffic Control.”

Providing, operating, programming, and maintaining Portable Changeable Message Signs shall be included in the lump sum Bid item “Project Temporary Traffic Control”.

Providing one (1) Traffic Control Supervisor and a minimum of two (2) flaggers during all working hours shall be included in the lump sum Bid item “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, including but not limited to steel sheets and/or temporary HMA trench patching, 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 considered 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 or “Minor Change”, 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 originally allowed total contract Working Days as defined in Section 1-08.5 of these Special Provisions to arrive at a daily cost for temporary traffic control.

END OF DIVISION 1
DIVISION 2
EARTHWORK

2-01 CLEARING, GRUBBING, AND ROADSIDE CLEANUP

2-01.1 Description

This section is supplemented with the following:

The Contractor shall consider the clearing and grubbing limits for this project to be all areas within the limits specified on the Site Preparation Plans, or 1-foot beyond the proposed improvements, whichever is greater. The Contractor shall allow 48 hours for the Engineer to approve the clearing limits before commencing activities. At the direction of the Engineer, the limits shall be adjusted in the field. When marking the limits, the Contractor shall protect from damage existing landscaping items and private improvements, including but not limited to vegetation, rockeries, mailboxes, signs, irrigation, and other items.

2-01.2 Disposal of Usable Material and Debris

This section is supplemented with the following:

The Contractor shall dispose of all debris in accordance with Disposal Method No. 2 per Section 2-01.2(2).

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

This section is supplemented with the following:

No waste site has been provided for the disposal of excess or excavated materials. The Contractor shall make his or her own arrangements for obtaining waste sites in accordance with Section 2-03.3(7)C of the Standard Specifications.

2-01.3 Construction Requirements

This section is supplemented with the following:

Existing curb from STA 29+00 to STA 36+00 on the west side of Willows Road shall be thoroughly cleaned. The Contractor shall cut and remove vegetation to the back of curb, and clean soil and debris from the top and face of curb.

2-01.3(1) Clearing

This section is revised to read:

1. Fell trees only within the clearing limits as identified on the Plans.
2. Leave standing and protect all trees, roots, and native growth outside of the clearing limits or that have not been identified by the Engineer for removal. Where roots extend into the improvement area and are in conflict with the proposed improvements, they shall be sawcut and allowed to dry prior to backfill, except as noted in item 3 below.
3. Removal of trees shall include removal of stumps and roots to 1-foot below existing or finished subgrade, whichever is lower, unless noted otherwise on the Plans.
4. Completely remove all stumps in conflict with proposed utilities, structures, walls and foundations.
5. To avoid disturbance outside clearing limits, roots requiring removal shall be cut at the clearing limits.
6. Contractor shall take all necessary precautions to protect adjacent trees, utilities, and other improvements from damage.

7. Trim all trees to remain to the height specified by the Engineer or to a minimum height of 8-feet above proposed sidewalk and 14-feet above the finish roadway surface. Neatly cut all limbs close to the tree trunk.

8. Trim trees, brush, and shrubs encroaching over the right-of-way line as necessary to accommodate the proposed improvements.

9. Trim trees and other vegetation as necessary to provide clear, unobstructed view of roadway signs. Determination of “clear and unobstructed” shall be at the sole discretion of the Engineer.

2-01.3(4) Roadside Cleanup
Delete Section 2-01.3(4) in its entirety and replace it with the following:

2-01.3(4) Cleanup and Restoration
From time to time throughout the progress of the work, the Contractor, when directed by the Owner’s Representative, shall clean up and remove all refuse and unwanted or unused materials resulting from the work, at the Contractor’s expense. If the Contractor fails to do so within 24 hours after the request by the Owner’s Representative, the work may be done by the City and the cost thereof be charged to the Contractor and deducted from monies due to the Contractor.

All cleanup shall be performed as specified in the various sections of these Specifications. Final cleanup shall be in accordance with Section 1-04.11.

This work shall also include cleaning existing curb on the west side of Willows Rd, including removal of dirt, vegetation, and debris.

2-01.4 Measurement
Supplement this Section with the following:

“Cleaning Existing Curb” will be measured per linear foot.

2-01.5 Payment
Supplement this Section with the following:

“Cleaning Existing Curb”, per linear foot.

The unit Contract price for “Cleaning Existing Curb” shall be full compensation for all costs necessary and incidental to cleaning the curb, including but not limited to removal and disposal of vegetation, soil, and debris.

2-02 REMOVAL OF STRUCTURES AND OBSTRUCTIONS

2-02.1 Description
This section is supplemented with the following:

This work shall consist of removing all materials noted in this section of the Special Provisions as well as any other materials designated for removal on the Plans or necessary for the construction of this project for which a specific Bid item is not provided in the Proposal. The following items shall be included under “Removal of Structures and Obstructions”, as well as other items noted on the Plans:
1. STA 20+40 RT: Remove approx. 45 LF of storm pipe.
2. STA 20+55 RT: Remove catch basin.
3. STA 24+00 RT: Relocate (2) ecology blocks, chain, and lock to the east as directed.
4. STA 24+45 LT: Remove catch basin.
5. STA 25+50 RT: Relocate end of fence to right of way line.
6. STA 26+85 RT: Relocate end of fence to right of way line.
7. STA 30+20 RT: Remove railroad ties.
8. STA 31+90 RT: Remove railroad ties.
9. STA 35+15 RT: Relocate gate post as directed.
10. STA 35+50 RT: Relocate gate post as directed.
11. STA 36+00 RT: Remove misc. post.
12. STA 35+50 to 36+60: Remove guardrail.
13. STA 37+20 to 38+60 RT: Remove guardrail.
14. STA 38+50 RT: Remove ecology blocks and small rockery. Remove and salvage railroad crossing arm to King County’s Sunset Storage Yard. Contractor shall coordinate the delivery with King County.

Items to be removed, abandoned, or relocated that are identified on the Plans but not specifically called out above shall also be paid for under the lump sum bid item for “Removal of Structures and Obstructions”.

In general, the Contractor shall remove and dispose, relocate, or abandon existing items which are in conflict with the new improvements. Where not in conflict, or where not specified for demolition or removal, Contractor shall protect all private and public improvements.

2-02.3 Construction Requirements

Supplement this section with the following:

Prior to relocating or realigning any feature, the Contractor shall mark the proposed location in the field and obtain approval from the Engineer.

Where fences are noted for relocation to the right of way line, this work shall include removal of fence and posts within right of way, and installation of relocated post and other fence material to match existing construction.

The Contractor shall remove storm structures as identified on the Plans and backfill the voids. If deemed usable by the Owner, castings shall be salvaged and returned to the Owner. The Contractor shall dispose of other structures.

All portions of abandoned utility systems that conflict with the proposed improvements shall be removed and disposed of. Segment of pipe not removed shall be plugged per Section 2-02.3(6).

Voids left by the removal or abandonment of items shall be backfilled with Gravel Borrow as approved by the Engineer and compacted to 95 percent of maximum density as specified in Section 2-03.3(14)D of the Standard Specifications.

All material removed for the construction of the project shall be hauled off-site to a legal disposal site by the Contractor, except for materials specifically noted for salvage, reinstallation, or relocation. The Contractor shall determine the requirements of his selected disposal site related to accepting the material to be deposited on the site. Testing of the material by the disposal site or refusal of the site to accept the material shall not be the basis for additional payment or for an extension of the Contract time. The cost of all such requirements shall be included in the various Bid prices in the Proposal.
2-02.3(3) Removal of Pavement, Sidewalks, Curbs, and Gutters

Supplement this section with the following:

Any pavement, sidewalk, or curb and gutter that is damaged and not designated for removal on the Plans or preapproved by the Owner shall be repaired or replaced entirely at the Contractor’s expense.

Existing asphalt concrete pavement, sidewalk, or curbs shall be sawcut before commencing removal. These items shall be removed as required for construction, and to the limits approved by the Engineer. Pavement, sidewalk, and curb and gutter thickness, type, and extent may vary.

Refer to Existing Conditions and Pothole Plans for approximate pavement depths.

Removal shall be accomplished by making a neat longitudinal vertical cut along the boundaries of the area to be removed. All cuts shall be continuous and shall be made with saws specifically equipped for this purpose. No skip cutting will be allowed. Existing sidewalk or curb and gutter shall be removed in full panel sections and removed or sawcut at expansion/contraction joints only unless directed otherwise by the Engineer or noted otherwise on the Plans.

The location of sawcuts shall be marked in the field by the Contractor and approved by the Engineer prior to cutting of pavement, sidewalk, or curb and gutter.

Wheel cutting or jack hammering will not be considered an acceptable means of pavement, sidewalk, or curb and gutter “cutting,” and will not be measured for payment. All pavements, curbs, gutters, sidewalks, and other surfacing materials to be removed shall be sawcut unless noted otherwise on the Plans.

Add the following new sections:

2-02.3(4) Salvage
All salvageable materials not named in the Special Provisions, identified on the Plans, or otherwise identified by the Contracting Agency as City property shall become the property of the Contractor.

2-02.3(5) Adjust Utility to Finished Grade
Existing utilities, including but not limited to sanitary sewer manholes and gas valves, shall be adjusted to finished grade unless noted otherwise on the Plans. The Contractor shall, prior to beginning any work, familiarize himself with the existing utility locations. The Contractor shall mark the location of all utilities prior to paving the new surface. Final adjustment shall be smooth and flush with finished grade.

Existing boxes, rings, grates, and covers shall be inspected by the Owner of the utility prior to reuse. Materials in good condition shall be reset in a careful and workmanlike manner to conform to the new grade. Materials determined to be in unsatisfactory or poor condition shall be disposed of by the Contractor and replaced by the respective utility, for subsequent installation by the Contractor. Any damage occurring due to the Contractor’s operations shall be repaired at the Contractor’s own expense. Adjustments shall be made using adjustment rings or cement, and the interior of the structure adjustment shall be mortared smoothly and water-tight. All covers and frames shall be thoroughly cleaned. The Contractor shall be responsible for referencing and keeping a record of such references of all structures and appurtenances encountered and shall submit a copy of these references to the Engineer.

Structures and appurtenances shall be adjusted to finished grade per City of Kirkland Standard Plans and Woodinville Water District Standard Plans, as specified in the Plans.
2-02.3(6) Remove/Abandon Existing Water/Sanitary/Storm Infrastructure
Where existing utilities are to be abandoned in-place, a concrete plug shall be installed. The length of the concrete plugs shall be equal to twice the diameter of the pipe.

2-02.4 Measurement
Supplement this Section with the following:

No specific unit of measure shall apply to the lump sum item for “Removal of Structures and Obstructions”.

“Sawcut Asphalt Conc. Pavement” will be measured per linear foot along the final sawcut line, regardless of depth. Sawcutting will only be measured once for payment at each location. Sawcuts throughout construction which are for interim construction purposes will not be measured for payment. A clean, vertical butt joint shall be provided between any surface that is to remain and the portion to be removed. Edges of pavement that becomes damaged after initial sawcutting shall be recut by the Contractor to provide a clean, vertical joint. This recut will not be measured for payment. Costs for other types of pavement cutting shall be considered incidental to the Bid item it is associated with and will not be measured for payment.

“Asphalt Conc. Pavement Removal” will be measured per square yard, regardless of type and depth. Only pavement designated for removal on the Plans or approved by the Engineer will be measured for payment.

“Cement Conc. Sidewalk Removal” will be measured per square yard, regardless of depth. Only cement concrete sidewalk and driveways designated for removal on the Plans or approved by the Engineer will be measured for payment.

“Cement Conc. Curb Removal” will be measured per linear foot, regardless of type and depth. Only curb designated for removal on the Plans or approved by the Engineer will be measured for payment.

“Adjust Existing Manhole to Grade” will be measured per each existing manhole adjusted to finished grade. Separate measurement will not be made for interim utility adjustments.

“Adjust Existing Gas Valve to Grade” will be measured per each existing gas valve adjusted to finished grade. Separate measurement will not be made for interim utility adjustments.

2-02.5 Payment
Supplement this Section with the following:

“Removal of Structures and Obstructions”, lump sum.

All items noted for removal, abandonment, relocation, or salvage on the Plans or specified herein to which other Bid items do not apply shall be considered included in the lump sum Bid item “Removal of Structures and Obstructions”.

“Sawcut Asphalt Conc. Pavement”, per linear foot.

The unit Contract price for “Sawcut Asphalt Conc. Pavement” shall be full compensation for all costs necessary and incidental to performing the sawcut in the final location, regardless of depth.

“Asphalt Conc. Pavement Removal”, per square yard.
The unit Contract price for “Asphalt Conc. Pavement Removal” shall be full compensation for all costs necessary and incidental to completely removing and disposing of pavement, regardless of depth.

“Cement Conc. Sidewalk Removal”, per square yard.

The unit Contract price for “Cement Conc. Sidewalk Removal” shall be full compensation for all costs necessary and incidental to completely removing and disposing of concrete sidewalks and driveway approaches, regardless of depth, including but not limited to sawcutting.


The unit Contract price for “Cement Conc. Curb Removal” shall be full compensation for all costs necessary and incidental to completely removing and disposing of concrete curbs, including but not limited to sawcutting.

“Adjust Existing Manhole to Grade”, per each.

The unit Contract price for “Adjust Existing Manhole to Grade” shall be full compensation for all costs necessary and incidental to adjusting the existing manhole to finished grade, including but not limited to excavation, backfill, and installing new castings if provided by the utility owner.

“Adjust Existing Gas Valve to Grade”, per each.

The unit Contract price for “Adjust Existing Gas Valve to Grade” shall be full compensation for all costs necessary and incidental to adjusting the existing valve to finished grade, including but not limited to installing new castings if provided by the utility owner.

2-03 ROADWAY EXCAVATION AND EMBANKMENT

2-03.1 Description

Supplement this section with the following:

The work shall include all excavation for the roadway, curbs, shared-use path, sidewalks, driveways and driveway approaches, and excavation for all other work unless specifically paid for under other Bid items included in the Proposal.

This work also includes unsuitable foundation excavation.

This work also includes removal of a large boulder as necessary to construct improvements, as noted in the Plans.

2-03.2 Materials

Supplement this section with the following:

Fill material for embankment construction, soldier pile wall backfill, non-structural modular block wall backfill, and unsuitable foundation excavation shall be Gravel Borrow per Standard Specification Section 9-03.14(1).

Backfill material for structural earth walls shall be as specified in Section 6-13 and on the Plans, and shall be considered incidental to the Bid item for the wall being installed.
2-03.3 Construction Requirements

Supplement this section with the following:

Any excavation beyond that necessary for construction, unless otherwise directed by the Engineer in writing, will be considered unauthorized and will not be measured for payment. Unauthorized over-excavated areas shall be filled with Gravel Borrow to be furnished, placed, and compacted at the Contractor’s expense.

Blasting will not be allowed for boulder removal.

2-03.3(7) Disposal of Surplus Material

Supplement this section with the following:

Disposal of surplus material shall be considered incidental to the project and as such, included in the various unit prices bid in the Proposal.

2-03.3(14)E Unsuitable Foundation Excavation

Supplement this section with the following:

The Contractor shall excavate to the proposed foundation of wall; the Engineer will then inspect the conditions of existing material in the excavation and determine the extent, if required, of unsuitable foundation excavation. The Contractor shall perform the excavation to the limits directed by the Engineer, then backfill unsuitable foundation excavation with Gravel Borrow and compact to 95% dry density. It is anticipated that unsuitable foundation excavation will be required to a two-foot depth on average.

2-03.3(14)C Compacting Earth Embankments

Supplement this section with the following:

Embankments shall be placed and compacted per Method C.

In areas outside the existing roadway prism, prior to placing embankment materials the Contractor shall compact the top 2 feet of existing material to 90 percent maximum dry density.

2-03.4 Measurement

Supplement this section with the following:

“Remove Boulder Incl. Haul” will be measured per cubic yard of boulder removed in the position occupied prior to removal.

No specific unit of measurement shall apply to the lump sum item of “Roadway Excavation Incl. Haul”. Earthwork quantities were computed by means of electronic data processing equipment, by use of the average end area method utilizing digital terrain modeling techniques, without shrinkage or swelling factors. The quantities were calculated as follows:

- Where existing pavement is present: the quantity is calculated from the bottom of existing pavement to subgrade elevation.
- Outside existing paved areas, but within clearing and grubbing areas: the quantity is calculated from the elevation of ground surface after grubbing to subgrade elevation. It is anticipate that clearing and grubbing will remove the top 4 inches of native material.
- Outside existing paved areas and outside clearing and grubbing areas: the quantity is calculated original ground surface elevation, as recorded prior to the award of this Contract, to subgrade elevation.
Only one determination of the original ground elevation will be made on this project. If discrepancies are discovered in ground elevations that will materially affect the quantities of earthwork, the original computations of earthwork quantities will be adjusted accordingly. All excavation required for roadway, driveways, sidewalks, and curbs, including subgrade excavation, not identified for payment under other Bid items shall be included in the lump sum price for “Roadway Excavation Incl. Haul”. The lump sum cost for “Roadway Excavation Incl. Haul” in the Proposal is based on 250 CY of excavation measured in place.

Should the Owner direct the Contractor to perform additional excavation beyond that shown on the Contract Plans, the additional roadway excavation will be measured and paid for at a unit cost determined by dividing the lump sum bid amount by the cubic yards specified above.

If the Contractor does not agree with the “Roadway Excavation Incl. Haul” quantity shown above the Contractor shall employ their own survey crew to conduct survey as needed to develop a digital terrain model as outlined in the Standard Specifications and present this information to the Owner. Should it be determined that the quantities are in error, the lump sum bid amount will be adjusted by a unit price calculated as described above. All costs required to survey the site, develop the model, and compare the model to the pre-construction model shall be borne by the Contractor.

Refer to Section 2-09 for structure excavation.

No separate measurement for payment will be made for disposal of surplus materials. All costs associated with this work shall be included with the other various Bid items in the Proposal.

“Unsuitable Foundation Excavation Incl. Haul – Wall” will be measured per cubic yard in place for material removed. The amount of such excavation is unknown; therefore, a quantity has been estimated based on field observations to provide a common basis for bidding. The unit price submitted shall be used for all such excavation. Material that must be excavated to construct the improvements to the lines and grades shown on the Plans, regardless of the nature of the material, will not be measured as unsuitable foundation excavation. Additional unsuitable material excavated as directed by the Engineer or City Construction Inspector to provide a stable subgrade will be measured as “Unsuitable Foundation Excavation Incl. Haul - Wall”.

Compaction of all material as required by this Contract, regardless of method, will not be measured for separate payment and shall be considered incidental to and included in the cost of the Bid item for the material being placed.

2-03.5 Payment
Supplement this section with the following:

“Remove Boulder Incl. Haul” per cubic yard.

The unit Contract price for “Remove Boulder Incl. Haul” shall be full compensation for all costs necessary and incidental to removing boulder as necessary to construct improvements.


The lump sum Contract price for “Roadway Excavation, Incl. Haul” shall be full compensation for all costs necessary and incidental to establish subgrade for surface improvements.

The unit Contract price for “Unsuitable Foundation Excavation Incl. Haul – Wall” shall be full compensation for all costs necessary and incidental to performing the work. To provide a common basis for all bidders, the Contracting Agency has entered an amount in the proposal to become part of the total bid by the Contractor.

“Gravel Borrow Incl. Haul”, per ton.

The unit Contract price for “Gravel Borrow Incl. Haul” shall be full compensation for all costs necessary and incidental to building embankments, backfilling soldier pile and non-structural modular block walls, and backfilling unsuitable foundation excavations.

Backfill for Structural Earth Walls is included in the unit price for the wall bid item specified in Section 6-13.

2-04 HAUL

Add the following new section:

2-04.2 Hauling on Other Than State Highways
If the sources of materials provided by the Contractor necessitate hauling over roads other than City streets, the Contractor shall, at the Contractor’s expense, make all arrangements for the use and cleaning, if necessary, of the haul routes.

2-04.5 Payment
Supplement this section with the following:

All costs associated with hauling materials of any description to, from, and within the project site, including loading and disposal, shall be considered incidental and shall be included in the appropriate unit Bid prices in the Proposal and no further compensation will be paid.

2-06 SUBGRADE PREPARATION

2-06.3 Construction Requirements
Supplement this Section with the following:

The subgrade must be suitable, as determined by the Engineer, prior to placement of crushed rock. All costs for protection of the subgrade, including replacing all material that becomes unsuitable while the subgrade is exposed, shall be incidental to the Contract and no additional compensation shall be made.

Preparation and compaction of the subgrade shall be considered incidental to the construction and all costs thereof shall be included by the Contractor in other pay items of the Contract. The subgrade shall be shaped and maintained to drain at all times during construction, including temporary ditches and modifications to drainage structures necessary to eliminate standing water on the subgrade.
2-07 WATER

2-07.3 Construction Requirements

*Supplement this Section with the following:*

The hauling and applying water for compacting embankments, constructing subgrade, placing of crushed surfacing, dust control, and as the Engineer requires, will be incidental to the various bid items and no additional compensation shall be considered.

The City will provide water at no expense to the Contractor. The Contractor will be required to obtain water from the City Public Works yard. If preferred, the Contractor may instead purchase water from the local water district at no cost to the Owner.

2-09 STRUCTURE EXCAVATION

2-09.3 Construction Requirements

2-09.3(1) General Requirements

2-09.3(1)D Disposal of Excavated Material

*Supplement this section with the following:*

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

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

2-09.3(3)C Preparation for Placing Foundations

*Supplement this section with the following:*

Based on the geotechnical information provided in the appendix, it is anticipated that groundwater seepage will be encountered during excavation of the stormwater detention vault.

The Contractor shall furnish, install, and operate all necessary equipment to keep excavations above the foundation level free from water during construction. Sufficient pumping equipment shall be available at all times for all emergencies, including power outage, and the Contractor shall have available at all times competent workmen for the operation of the pumping equipment.

2-09.4 Measurement

*Supplement this section with the following:*

No specific unit of measurement shall apply to the lump sum item “Shoring or Extra Excavation Cl. B”.

No measurement will be made for any class of structure excavation. Structure excavation shall be considered incidental to the improvement being installed.

2-09.5 Payment

*Supplement this section with the following:*

“Shoring or Extra Excavation Cl. B”, lump sum.
The lump sum Contract price for “Shoring or Extra Excavation Cl. B” shall be full compensation for all costs necessary and incidental to designing, furnishing, installing, and removing shoring systems. When extra excavation is used in lieu of constructing the shoring, cofferdam, sheet piles, or caisson, the lump sum contract price shall be full pay for all excavation, backfill, compaction, and other work required for Extra Excavation Cl. B.

2-11 TRIMMING AND CLEANUP

2-11.1 Description

Supplement this section with the following:

During construction, and then upon completion of the work, the Contractor shall thoroughly comb and search the surrounding area and remove any construction material thrown or discarded amongst the trees, bushes, ditches, etc., such as paint cans, cartons, broken pipe, pavement pieces, paper, bottles, etc., and shall tidy up the surrounding general area to make it neat in appearance, including removal of debris that may or may not have been deposited by Contractor’s operation.

Paved surfaces, existing and new, shall be thoroughly cleaned (i.e. by street sweeper) upon completion of work within the area, and shall require daily cleaning if dust or mud exists. Prior to Physical Completion, all hard surfaces shall be clean.

2-11.3 Construction Requirements

Add the following new subsections:

2-11.3(1) Routine Cleaning

General

1. Retain all stored materials and equipment in an orderly fashion allowing maximum access, not impeding drainage or traffic, and providing protection.
2. Do not allow the accumulation of scrap, debris, waste material, and other items not required for this work.
3. At least once a week, and more often if necessary or as directed by the Construction Inspector, the Contractor shall completely remove all scrap, debris, and waste material from the project site.
4. Provide adequate storage for all materials awaiting removal from the project site, observing all requirements for fire protection and protection of the environment.

Site

1. Daily and more often if necessary or as directed, inspect the site and pick up all scrap, debris, and waste material. Remove all such items to the place designated for their storage until it can be disposed of.
2. Weekly, and more often if necessary or directed, inspect all arrangements of materials stored on the site, restack, tidy, or otherwise service all arrangements to meet the requirements above.
3. Maintain the site in a neat and orderly condition at all times so as to meet the approval of the Owner.

2-11.3(2) Final Cleaning

Prior to final inspection for Physical Completion, remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste.
2-11.4 Measurement

Delete this section and replace with the following:

Trimming and cleanup shall be considered incidental to the lump sum Contract price for “Mobilization” and will not be measured for separate payment.

END OF DIVISION 2
DIVISION 3
AGGREGATE PRODUCTION AND ACCEPTANCE

3-01 PRODUCTION FROM QUARRY AND PIT SITES

3-01.4 Contractor Furnished Material Sources

Supplement this section with the following:

No source has been provided for any imported materials necessary for the construction of this improvement.

The Contractor shall make arrangements to obtain the necessary materials at no expense to the City, and all costs of acquiring, producing, and placing this material in the finished work shall be included in the unit Contract prices for the various items involved.

If the source of materials provided by the Contractor necessitates hauling over roads other than City streets, the Contractor at its own expense shall make all arrangements for the use of haul routes.

3-01.6 Payment

Supplement this section with the following:

All costs of any work required under Division 3 shall be incidental to and included in the unit contract prices for the various items in the Proposal.

END OF DIVISION 3
DIVISION 4
BASES

4-04 BALLAST AND CRUSHED SURFACING

4-04.1 Description
Supplement this section with the following:

Crushed surfacing and permeable ballast shall be placed in accordance with the Standard Specifications and the Plans, or as directed by the Engineer.

4-04.2 Materials
Supplement this section with the following:

Permeable Ballast Base Course per Section 9-03.9(2) shall be used beneath the storm detention vault as specified herein and shown on the Plans.

Crushed Surfacing Base Course per Section 9-03.9(3) shall be used for trench backfill, structure backfill, and wall foundations as specified herein and shown on the Plans.

Crushed Surfacing Top Course per Section 9-03.9(3) shall be used under concrete and paved surfaces as specified herein and shown on the Plans.

4-04.3 Construction Requirements

4-04.4 Measurement
Supplement this section with the following:

“Crushed Surfacing Top Course” will be measured per ton based on certified truck tickets collected by the inspector at the end of each working day. Tickets will be accepted for payment after the end of each working day only when prior arrangements have been made with the inspector.

Crushed surfacing material used for temporary purposes, including but not limited to driving surfaces, will not be measured for payment unless it is incorporated into construction of the final improvements as required by the Plans.

Should the Contractor not prepare subgrade to the correct line and grades and crushed surfacing materials are placed in excess of the depths required by the Plans, the excess depth will not be measured for payment. The crushed surfacing in these areas will instead be measured by neat line to be converted to tons for deduction in quantities accepted based on the certified truck tickets.

Water used in placing and compacting surfacing materials shall be considered incidental to the material being placed.

Crushed surfacing base course used for trench backfill, structure backfill, wall foundations, and other items as shown on the Plans and described herein will not be measured for payment and is considered incidental to and included in other Bid items in the Contract.

Permeable ballast base course will not be measured for payment and is considered incidental to the “Stormwater Detention Vault” lump sum cost in Section 7-06.
4-04.5 Payment

Supplement this section with the following:

“Crushed Surfacing Top Course”, per ton.

The unit Contract price for “Crushed Surfacing Top Course” shall be full compensation for all costs necessary and incidental to satisfactorily completing the work as defined in the Plans, Standard Specifications and these Special Provisions.

It is the Contractor’s responsibility to track crushed surfacing materials measured per ton separately from crushed surfacing materials incidental to other Bid items by providing separate stockpiles or another method acceptable by the Engineer. Should the Contractor not provide separate stockpiles or other method as outlined above, crushed surfacing material paid for per ton will not be based on certified truck tickets, but instead be measured by neat line to be converted to tons based neat line measurements in the field and on the cross sections provided in the Plans.

END OF DIVISION 4
5-04 HOT MIX ASPHALT

*****

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

5-04.1 Description
This Work shall consist of providing and placing one or more layers of plant-mixed hot mix asphalt (HMA) on a prepared foundation or base in accordance with these Specifications and the lines, grades, thicknesses, and typical cross-sections shown in the Plans.

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

5-04.2 Materials
Materials shall meet the requirements of the following sections:
- Asphalt Binder 9-02.1(4)
- Cationic Emulsified Asphalt 9-02.1(6)
- Anti-Stripping Additive 9-02.4
- HMA Additive 9-02.5
- Aggregates 9-03.8
- Recycled Asphalt Pavement 9-03.8(3B)
- Mineral Filler 9-03.8(5)
- Recycled Material 9-03.21
- Portland Cement 9-01
- Sand 9-03.1(2)

(As noted in 5-04.3(5)C for crack sealing)
- Joint Sealant 9-04.2
- Foam Backer Rod 9-04.2(3A)

The Contract documents may establish that the various mineral materials required for the manufacture of HMA will be furnished in whole or in part by the Contracting Agency. If the documents do not establish the furnishing of any of these mineral materials by the Contracting Agency, the Contractor shall be required to furnish such materials in the amounts required for the designated mix. Mineral materials include coarse and fine aggregates, and mineral filler.

The Contractor may choose to utilize recycled asphalt pavement (RAP) in the production of HMA. The RAP may be from pavements removed under the Contract, if any, or pavement material from an existing stockpile.

The Contractor may use up to 20 percent RAP by total weight of HMA with no additional sampling or testing of the RAP. The RAP shall be sampled and tested at a frequency of one sample for every 1,000 tons produced and not less than ten samples per project. The asphalt content and gradation test data shall be reported to the Contracting Agency when submitting the mix design for approval on the QPL. The Contractor shall include the RAP as part of the mix design as defined in these Specifications.
The grade of asphalt binder shall be as required by the Contract. Blending of asphalt binder from different sources is not permitted.

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

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

5-04.2(1)A Vacant

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

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

Commercial evaluation will be used for all HMA on the project. Other nonstructural applications of HMA accepted by commercial evaluation shall be as approved by the Project Engineer. Sampling and testing of HMA accepted by commercial evaluation will be at the option of the Project Engineer. The Proposal quantity of HMA that is accepted by commercial evaluation will be excluded from the quantities used in the determination of nonstatistical evaluation.

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

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

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

5-04.3 Construction Requirements

Where the new HMA pavement connects to the existing pavement, the transition shall produce a smooth ride. The surface of the pavement through the connection shall not vary more than 1/4 inch in 10 feet.

If the edges of existing remaining pavement become broken, uneven, or jagged prior to placement of new asphalt abutting those edges, the existing pavement shall be re-sawcut to provide a smooth, even edge prior to placement of the new asphalt.

5-04.3(1) Weather Limitations

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

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

<table>
<thead>
<tr>
<th>Compacted Thickness (Feet)</th>
<th>Wearing Course</th>
<th>Other Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 0.10</td>
<td>55°F</td>
<td>45°F</td>
</tr>
<tr>
<td>0.10 to .20</td>
<td>45°F</td>
<td>35°F</td>
</tr>
<tr>
<td>More than 0.20</td>
<td>35°F</td>
<td>35°F</td>
</tr>
</tbody>
</table>

5-04.3(2) Paving Under Traffic
When the Roadway being paved is open to traffic, the requirements of this Section shall apply.

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

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

The Contractor shall minimize any pavement drop-offs or abrupt pavement edges to traffic during nonworking hours. Unless otherwise approved by the Engineer, pavement drop-offs or abrupt pavement edges left exposed to traffic during nonworking hours shall be protected as follows:

1. Drop-offs up to 0.20 feet, unless otherwise directed by the Engineer, may remain exposed with appropriate warning signs alerting motorists of the condition.

2. Drop-offs more than 0.20 feet that are within the traveled way shall be protected with appropriate warning signs and further protected by the following:
   a. A wedge of asphalt cold mix or other material approved by the Engineer shall be placed at a slope of 4 to 1 or flatter.
   b. Channelization devices shall be placed along the traffic side of the drop-off or abrupt pavement edges and shall comply with the latest edition of the MUTCD. Pavement drop-off warning signs shall be placed in advance of and throughout the drop-off area.

3. Open trenches within the traveled way shall have a steel plate cover placed over them. A wedge of asphalt cold mix or other material approved by the Engineer shall be placed along the sheet edges to provide a smooth transition between the pavement and the steel plate. Warning signs shall be used to alert motorists of the presence of the steel plates. Refer to Section 5-04.3 for additional requirements.

During paving operations, temporary pavement markings shall be maintained throughout the project. Temporary pavement markings shall be installed on the Roadway prior to opening to traffic. Temporary pavement markings shall be in accordance with Section 8-23.
All costs in connection with performing the Work in accordance with these requirements shall be included in the unit Contract prices for the various Bid items involved in the Contract.

5-04.3(3) Equipment

5-04.3(3)A Mixing Plant

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

1. **Equipment for Preparation of Asphalt Binder** – Tanks for the storage of asphalt binder shall be equipped to heat and hold the material at the required temperatures. The heating shall be accomplished by steam coils, electricity, or other approved means so that no flame shall be in contact with the storage tank. The circulating system for the asphalt binder shall be designed to ensure proper and continuous circulation during the operating period. A valve for the purpose of sampling the asphalt binder shall be placed in either the storage tank or in the supply line to the mixer.

2. **Thermometric Equipment** – An armored thermometer, capable of detecting temperature ranges expected in the HMA mix, shall be fixed in the asphalt binder feed line at a location near the charging valve at the mixer unit. The thermometer location shall be convenient and safe for access by Inspectors. The plant shall also be equipped with an approved dial-scale thermometer, a mercury actuated thermometer, an electric pyrometer, or another approved thermometric instrument placed at the discharge chute of the drier to automatically register or indicate the temperature of the heated aggregates. This device shall be in full view of the plant operator.

3. **Heating of Asphalt Binder** – The temperature of the asphalt binder shall not exceed the maximum recommended by the asphalt binder manufacturer nor shall it be below the minimum temperature required to maintain the asphalt binder in a homogeneous state. The asphalt binder shall be heated in a manner that will avoid local variations in heating. The heating method shall provide a continuous supply of asphalt binder to the mixer at a uniform average temperature with no individual variations exceeding 25°F. Also, when a WMA additive is included in the asphalt binder, the temperature of the asphalt binder shall not exceed the maximum recommended by the manufacturer of the WMA additive.

4. **Sampling and Testing of Mineral Materials** – The HMA plant shall be equipped with a mechanical sampler for the sampling of the mineral materials. The mechanical sampler shall meet the requirements of Section 1-05.6 for the crushing and screening operation. The Contractor shall provide for the setup and operation of the field testing facilities of the Contracting Agency as provided for in Section 3-01.2(2).

5. **Sampling HMA** – The HMA plant shall provide for sampling HMA by one of the following methods:
   a. A mechanical sampling device attached to the HMA plant.
   b. Platforms or devices to enable sampling from the hauling vehicle without entering the hauling vehicle.

5-04.3(3)B Hauling Equipment

Trucks used for hauling HMA shall have tight, clean, smooth metal beds and shall have a cover of canvas or other suitable material of sufficient size to protect the mixture from adverse weather.

Whenever the weather conditions during the work shift include, or are forecast to include, precipitation or an air temperature less than 45°F or when time from loading to unloading exceeds 30 minutes, the cover shall be securely attached to protect the HMA.
The contractor shall provide an environmentally benign means to prevent the HMA mixture from adhering to the hauling equipment. Excess release agent shall be drained prior to filling hauling equipment with HMA. Petroleum derivatives or other coating material that contaminate or alter the characteristics of the HMA shall not be used. For live bed trucks, the conveyer shall be in operation during the process of applying the release agent.

5-04.3(3)C Pavers
HMA pavers shall be self-contained, power-propelled units, provided with an internally heated vibratory screed and shall be capable of spreading and finishing courses of HMA plant mix material in lane widths required by the paving section shown in the Plans.

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

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

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

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

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

5-04.3(3)D Material Transfer Device or Material Transfer Vehicle
A material transfer device or vehicle (MTD/V) is not required at the following locations: entire project.

5-04.3(3)E Rollers
Rollers shall be of the steel wheel, vibratory, oscillatory, or pneumatic tire type, in good condition and capable of reversing without backlash. Operation of the roller shall be in accordance with the manufacturer’s recommendations. When ordered by the Engineer for any roller planned for use on the
project, the Contractor shall provide a copy of the manufacturer’s recommendation for the use of that roller for compaction of HMA. The number and weight of rollers shall be sufficient to compact the mixture in compliance with the requirements of Section 5-04.3(10). The use of equipment that results in crushing of the aggregate will not be permitted. Rollers producing pickup, washboard, uneven compaction of the surface, displacement of the mixture or other undesirable results shall not be used.

5-04.3(4) Preparation of Existing Paved Surfaces

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

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

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

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

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

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

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

5-04.3(4)A Crack Sealing

5-04.3(4)A1 General

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

5-04.3(5)A Vacant

5-04.3(6) Mixing

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

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

Storing or holding of the HMA in approved storage facilities will be permitted with approval of the Engineer, but in no event shall the HMA be held for more than 24 hours. HMA held for more than 24 hours after mixing shall be rejected. Rejected HMA shall be disposed of by the Contractor at no expense to the Contracting Agency. The storage facility shall have an accessible device located at the top of the cone or about the third point. The device shall indicate the amount of material in storage. No HMA shall be accepted from the storage facility when the HMA in storage is below the top of the cone of the storage facility, except as the storage facility is being emptied at the end of the working shift.
Recycled asphalt pavement (RAP) utilized in the production of HMA shall be sized prior to entering the mixer so that a uniform and thoroughly mixed HMA is produced. If there is evidence of the recycled asphalt pavement not breaking down during the heating and mixing of the HMA, the Contractor shall immediately suspend the use of the RAP until changes have been approved by the Engineer. After the required amount of mineral materials, RAP, new asphalt binder and asphalt rejuvenator have been introduced into the mixer the HMA shall be mixed until complete and uniform coating of the particles and thorough distribution of the asphalt binder throughout the mineral materials, and RAP is ensured.

5-04.3(7) Spreading and Finishing
The mixture shall be laid upon an approved surface, spread, and struck off to the grade and elevation established. HMA pavers complying with Section 5-04.3(3) shall be used to distribute the mixture. Unless otherwise directed by the Engineer, the nominal compacted depth of any layer of any course shall not exceed the following:

<table>
<thead>
<tr>
<th>HMA Class</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1”</td>
<td>0.35 feet</td>
</tr>
<tr>
<td>¾” and ½”</td>
<td>0.30 feet</td>
</tr>
<tr>
<td>wearing course</td>
<td>0.30 feet</td>
</tr>
<tr>
<td>other courses</td>
<td>0.35 feet</td>
</tr>
<tr>
<td>⅜”</td>
<td>0.15 feet</td>
</tr>
</tbody>
</table>

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

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

5-04.3(8) Aggregate Acceptance Prior to Incorporation in HMA
For HMA accepted by nonstatistical evaluation the aggregate properties of sand equivalent, uncompacted void content and fracture will be evaluated in accordance with Section 3-04. Sampling and testing of aggregates for HMA accepted by commercial evaluation will be at the option of the Engineer.

5-04.3(9) HMA Mixture Acceptance
Acceptance of HMA shall be as provided under commercial evaluation. Other nonstructural applications of HMA accepted by commercial evaluation shall be as approved by the Engineer. Sampling and testing of HMA accepted by commercial evaluation will be at the option of the Engineer.

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

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

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Non-Statistical Evaluation</th>
<th>Commercial Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Binder</td>
<td>+/- 0.5%</td>
<td>+/- 0.7%</td>
</tr>
<tr>
<td>Air Voids, Va</td>
<td>2.5% min. and 5.5% max</td>
<td>N/A</td>
</tr>
</tbody>
</table>

For Aggregates in the mixture:

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

<table>
<thead>
<tr>
<th>Aggregate Percent Passing</th>
<th>Non-Statistical Evaluation</th>
<th>Commercial Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1″, ¾″, ½″, and 3/8″ sieves</td>
<td>+/- 6%</td>
<td>+/- 8%</td>
</tr>
<tr>
<td>No. 4 sieve</td>
<td>+/-6%</td>
<td>+/-8%</td>
</tr>
<tr>
<td>No. 8 Sieve</td>
<td>+/- 6%</td>
<td>+/-8%</td>
</tr>
<tr>
<td>No. 200 sieve</td>
<td>+/- 2.0%</td>
<td>+/- 3.0%</td>
</tr>
</tbody>
</table>

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

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

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

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

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

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

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

If a constituent is not measured in accordance with these Specifications, its individual pay factor will be considered 1.00 in calculating the Composite Pay Factor (CPF).
5-04.3(10)  HMA Compaction Acceptance

HMA mixture that is used in traffic lanes and for shared-use path shall be compacted to a specified level of relative density. The specified level of relative density shall be a Composite Pay Factor (CPF) of not less than 0.75 when evaluated in accordance with Section 1-06.2, using a LSL of 92.0 (minimum of 92 percent of the maximum density). The maximum density shall be determined by WSDOT FOP for AASHTO T 729. The specified level of density attained will be determined by the evaluation of the density of the pavement. The density of the pavement shall be determined in accordance with WSDOT FOP for WAQTC TM 8, except that gauge correlation will be at the discretion of the Engineer, when using the nuclear density gauge and WSDOT SOP 736 when using cores to determine density.

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

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

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

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

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

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

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

Test Results

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

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

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

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

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

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

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

5-04.3(11)  Reject Work

5-04.3(11)A  Reject Work General

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

5-04.3(11)B  Rejection by Contractor

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

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

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

No payment will be made for the rejected materials or the removal of the materials unless the Contractor requests that the rejected material be tested. If the Contractor elects to have the rejected material tested, a minimum of three representative samples will be obtained and tested. Acceptance of rejected material will be based on conformance with the nonstatistical acceptance Specification. If the CPF for the rejected material is less than 0.75, no payment will be made for the rejected material; in addition, the
cost of sampling and testing shall be borne by the Contractor. If the CPF is greater than or equal to 0.75, the cost of sampling and testing will be borne by the Contracting Agency. If the material is rejected before placement and the CPF is greater than or equal to 0.75, compensation for the rejected material will be at a CPF of 0.75. If rejection occurs after placement and the CPF is greater than or equal to 0.75, compensation for the rejected material will be at the calculated CPF with an addition of 25 percent of the unit Contract price added for the cost of removal and disposal.

5-04.3(11)D  Rejection - A Partial Sublot
In addition to the random acceptance sampling and testing, the Engineer may also isolate from a normal sublot any material that is suspected of being defective in relative density, gradation or asphalt binder content. Such isolated material will not include an original sample location. A minimum of three random samples of the suspect material will be obtained and tested. The material will then be statistically evaluated as an independent lot in accordance with Section 1-06.2(2).

5-04.3(11)E  Rejection - An Entire Sublot
An entire sublot that is suspected of being defective may be rejected. When a sublot is rejected a minimum of two additional random samples from this sublot will be obtained. These additional samples and the original sublot will be evaluated as an independent lot in accordance with Section 1-06.2(2).

5-04.3(11)F  Rejection - A Lot in Progress
The Contractor shall shut down operations and shall not resume HMA placement until such time as the Engineer is satisfied that material conforming to the Specifications can be produced:

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

5-04.3(11)G  Rejection - An Entire Lot (Mixture or Compaction)
An entire lot with a CPF of less than 0.75 will be rejected.

5-04.3(12)  Joints

5-04.3(12)A  HMA Joints

5-04.3(12)A1 Transverse Joints
The Contractor shall conduct operations such that the placing of the top or wearing course is a continuous operation or as close to continuous as possible. Unscheduled transverse joints will be allowed and the roller may pass over the unprotected end of the freshly laid mixture only when the placement of the course must be discontinued for such a length of time that the mixture will cool below compaction temperature. When the Work is resumed, the previously compacted mixture shall be cut back to produce a slightly beveled edge for the full thickness of the course.

A temporary wedge of HMA constructed on a 20H:1V shall be constructed where a transverse joint as a result of paving or planing is open to traffic. The HMA in the temporary wedge shall be separated from the permanent HMA by strips of heavy wrapping paper or other methods approved by the Engineer. The wrapping paper shall be removed and the joint trimmed to a slightly beveled edge for the full thickness of the course prior to resumption of paving.
The material that is cut away shall be wasted and new mix shall be laid against the cut. Rollers or tamping irons shall be used to seal the joint.

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

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

**5-04.3(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 ¼ 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, the pavement surface shall be corrected by one of the following methods:

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

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

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

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

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

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

The planning plan must be approved by the Engineer and a pre planning meeting must be held prior to the start of any planning. See Section 5-04.3(14)B2 for information on planning submittals.
Locations of existing surfacing to be planed are as shown in the Drawings.

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

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

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

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

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

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

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

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

5-04.3(14)A   Planing Metal Detection Check
Before starting planing of pavements, and before any additional depth planing required by the Engineer, the Contractor must conduct a physical survey of existing pavement to be planed with equipment that can identify hidden metal objects.

Should such metal be identified, promptly notify the Engineer.

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

The Contractor is solely responsible for any damage to equipment resulting from the Contractor’s failure to conduct a pre-planing metal detection survey, or from the Contractor’s failure to notify the Engineer of any hidden metal that is detected.
5-04.3(14)B   Paving and Planing Under Traffic

5-04.3(14)B1 General
In addition the requirements of Section 1-07.23 and the traffic controls required in Section 1-10, and unless the Contract specifies otherwise or the Engineer approves, the Contractor must comply with the following:

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

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

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

5-04.3(14)B2 Submittals – Planing Plan and HMA Paving Plan
The Contractor must submit a separate planing plan and a separate paving plan to the Engineer at least 5 Working Days in advance of each operation’s activity start date. These plans must show how the moving operation and traffic control are coordinated, as they will be discussed at the pre-planing briefing and pre-paving briefing. When requested by the Engineer, the Contractor must provide each operation’s traffic control plan on 24 x 36 inch or larger size Shop Drawings with a scale showing both the area of operation and sufficient detail of traffic beyond the area of operation where detour traffic may be required. The scale on the Shop Drawings is 1 inch = 20 feet, which may be changed if the Engineer agrees sufficient detail is shown.

The planing operation and the paving operation include, but are not limited to, metal detection, removal of asphalt and temporary asphalt of any kind, tack coat and drying, staging of supply trucks, paving trains, rolling, scheduling, and as may be discussed at the briefing.
When intersections will be partially or totally blocked, provide adequately sized and noticeable signage alerting traffic of closures to come, a minimum 2 Working Days in advance. The traffic control plan must show where police officers will be stationed when signalization is or may be, countermanded, and show areas where flaggers are proposed.

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

1. A copy of the accepted traffic control plan, see Section 1-10.2(2), detailing each day’s traffic control as it relates to the specific requirements of that day’s planing and paving. Briefly describe the sequencing of traffic control consistent with the proposed planing and paving sequence, and scheduling of placement of temporary pavement markings and channelizing devices after each day’s planing, and paving.
2. A copy of each intersection’s traffic control plan.
3. Haul routes from Supplier facilities, and locations of temporary parking and staging areas, including return routes. Describe the complete round trip as it relates to the sequencing of paving operations.
4. Names and locations of HMA Supplier facilities to be used.
5. List of all equipment to be used for paving.
6. List of personnel and associated job classification assigned to each piece of paving equipment.
7. Description (geometric or narrative) of the scheduled sequence of planing and of paving, and intended area of planing and of paving for each day’s work, must include the directions of proposed planing and of proposed paving, sequence of adjacent lane paving, sequence of skipped lane paving, intersection planing and paving scheduling and sequencing, and proposed notifications and coordinations to be timely made. The plan must show HMA joints relative to the final pavement marking lane lines.
8. Names, job titles, and contact information for field, office, and plant supervisory personnel.
9. A copy of the approved Mix Designs.
10. Tonnage of HMA to be placed each day.
11. Approximate times and days for starting and ending daily operations.

5-04.3(14)B3 Pre-Paving and Pre-Planing Briefing
At least 2 Working Days before the first paving operation and the first planing operation, or as scheduled by the Engineer for future paving and planing operations to ensure the Contractor has adequately prepared for notifying and coordinating as required in the Contract, the Contractor must be prepared to discuss that day’s operations as they relate to other entities and to public safety and convenience, including driveway and business access, garbage truck operations, Metro transit operations and working around energized overhead wires, school and nursing home and hospital and other accesses, other contractors who may be operating in the area, pedestrian and bicycle traffic, and emergency services. The Contractor, and Subcontractors that may be part of that day’s operations, must meet with the Engineer and discuss the proposed operation as it relates to the submitted planing plan and paving plan, approved traffic control plan, and public convenience and safety. Such discussion includes, but is not limited to:

1. General for both Paving Plan and for Planing Plan:
   a. The actual times of starting and ending daily operations.
   b. In intersections, how to break up the intersection, and address traffic control and signalization for that operation, including use of peace officers.
c. The sequencing and scheduling of paving operations and of planing operations, as applicable, as it relates to traffic control, to public convenience and safety, and to other contractors who may operate in the Project Site.

d. Notifications required of Contractor activities, and coordinating with other entities and the public as necessary.

e. Description of the sequencing of installation and types of temporary pavement markings as it relates to planning and to paving.

f. Description of the sequencing of installation of, and the removal of, temporary pavement patch material around exposed castings and as may be needed.

g. Description of procedures and equipment to identify hidden metal in the pavement, such as survey monumentation, monitoring wells, street car rail, and castings, before planning, see Section 5-04.3(14)B2.

h. Description of how flaggers will be coordinated with the planing, paving, and related operations.

i. Description of sequencing of traffic controls for the process of rigid pavement base repairs.

j. Other items the Engineer deems necessary to address.

2. Paving – additional topics:

a. When to start applying tack and coordinating with paving.

b. Types of equipment and numbers of each type equipment to be used. If more pieces of equipment than personnel are proposed, describe the sequencing of the personnel operating the types of equipment. Discuss the continuance of operator personnel for each type equipment as it relates to meeting Specification requirements.

c. Number of JMFs to be placed, and if more than one JMF how the Contractor will ensure different JMFs are distinguished, how pavers and MTVs are distinguished if more than one JMF is being placed at the time, and how pavers and MTVs are cleaned so that one JMF does not adversely influence the other JMF.

d. Description of contingency plans for that day’s operations such as equipment breakdown, rain out, and Supplier shutdown of operations.

e. Number of sublots to be placed, sequencing of density testing, and other sampling and testing.

5-04.4 Measurement

“HMA Cl. ½ In. PG 58H-22” and “Commercial HMA Driveway” will be measured per ton with no deduction being made for the weight of asphalt binder, mineral filler, or any other component of the mixture.

Cold Mix, if used by the Contractor, will not be measured for separate payment and shall be considered incidental to the lump sum bid item “Project Temporary Traffic Control”.

HMA used for temporary patching will not be measured for separate payment and shall be considered included in the lump sum item “Project Temporary Traffic Control”.

Asphalt concrete pavement shall be measured based on certified truck tickets collected on the day of paving.

No measurement will be made for asphalt used in conjunction with adjusting utilities to finished grade or used for any temporary purposes.
5-04.5 Payment

“HMA Cl. ½ In. PG 58H-22”, per ton.

“Commercial HMA Driveway”, per ton.

The unit Contract price for “HMA Cl. ½ In. PG 58H-22” and “Commercial HMA Driveway” shall be full compensation for all costs necessary and incidental to carrying out the requirements of Section 5-04.

All costs for minimizing drop-offs and maintaining access to existing streets and driveways including, but not limited to steel sheeting, cold mix, and channelization devices, shall be included in the lump sum bid item “Project Temporary Traffic Control”. No additional or separate compensation will be considered.

END OF DIVISION 5
DIVISION 6
STRUCTURES

6-13    STRUCTURAL EARTH WALL

6-13.1   Description

*Supplement this Section with the following:*

This work shall consist of constructing precast concrete Structural Earth Wall and Modular Block Walls in accordance with details in the Plans.

6-13.2   Materials

*Supplement this Section with the following:*

Backfill within the geogrid reinforcement zone for Structural Earth Wall shall be Gravel Borrow for Structural Earth Wall per Section 9-03.14(4) of the Standard Specifications.

Backfill for Modular Block Wall and backfill outside of the reinforcement zone for Structural Earth Wall shall be Gravel Borrow per Section 9-03.14(1) of the Standard Specifications.

Unit fill, wall drain, and drain rock behind block walls shall be per manufacturer’s recommendations.

Block wall foundation material shall be Crushed Surfacing Base Course.

Geogrid reinforcement for Structural Earth Walls shall be per manufacturer’s recommendations and Contractor-provided structural design.

Precast concrete block wall units shall be:

1. Manufactured in accordance with ASTM C1372 with a minimum 28-day compressive strength of 3000 psi and a maximum moisture absorption of 8%. Finish and appearance of units shall be per ASTM C1372. Exposed faces shall be free of chips, cracks or other imperfections when viewed from a distance of 20-feet under diffused lighting.

2. Provide shear pins or connection devices to provide a mechanical connection between vertically and horizontally adjacent units so as to provide at a 2 psi normal pressure a minimum inter-unit shear strength of 500 plf per NCMA SRWU-2 and a geosynthetic to SEW unit peak connection strength of 500 lbs/ft per NCMA SRWU-1. Shear devices shall protrude at least 1-inch into receiving openings of the Block units. At least one shear connector is required per linear foot of wall for each course. The shear connector must fit within an aperture of the soil reinforcement and be capable of holding the reinforcement in the proper position during tensioning and backfilling. Connectors shall result in a design wall batter of 1° to 10°.

3. Each block shall have an exposed surface face not to exceed 1.1 square foot.

4. Color: Shall be a manufacturer’s standard color as approved by the Owner.

5. Face Finish: shall be as specified on the Plans.

6. Drain pipe and rock shall be per manufacturer’s recommendations.
6-13.3 Construction Requirements

Supplement this Section with the following:

Structure excavation and backfill for Structural Earth Wall and Modular Block Wall shall be required as described herein and as detailed on the Plans. No excavation for wall construction shall be allowed beyond those limits. Contractor shall provide shoring or modify construction methods comply with excavation limits.

Where wall drain pipes cross under or through block walls, a concrete collar shall be installed per the block wall manufacturer’s recommendations.

Structure excavation for block walls shall take care to avoid tree roots. Tree roots damaged during the excavation of the footing shall be trimmed back with clean cut.

Installation of block walls shall be based on the Contractor’s structural design and manufacturer’s recommendations for the near vertical position.

6-13.4 Measurement

Supplement this Section with the following:

“Structural Earth Wall” and “Modular Block Wall” will be measured per square foot of face area measured from the top of wall (not including cement concrete cap) to the maximum pay limit 12 inches below finish grade or to the top of wall foundation, whichever is higher.

6-13.5 Payment

Supplement this Section with the following:

“Structural Earth Wall”, per square foot.

The unit Contract price for “Structural Earth Wall” shall be full compensation for all costs necessary and incidental to satisfactorily complete the work, including but not limited to Contractor-provided design, excavation, backfill within the reinforcement zone, unit core fill, drainage pipe and rock, foundation material, compaction, precast concrete blocks, and geosynthetic/geogrid reinforcement.

“Modular Block Wall”, per square foot.

The unit Contract price for “Modular Block Wall” shall be full compensation for all costs necessary and incidental to satisfactorily complete the work, including but not limited to Contractor-provided design, excavation, unit core fill, drainage pipe and rock, foundation material, compaction, precast concrete blocks.

6-16 SOLDIER PILE AND SOLDIER PILE TIEBACK WALLS

6-16.1 Description

Supplement this Section with the following:

This work shall consist of constructing Soldier Pile Walls with Timber Lagging and as specified herein and as shown on the Plans.
6-16.3(6)C  Permanent Lagging

Supplement this Section with the following:

Permanent Lagging, including Timber, shall be as shown in the Plans. Timber Lagging shall be Douglas Fir No. 2 or better and shall be treated with waterborne wood preservative in accordance with AWPA Standards U1 and T1, User Category UC4B or UC4C. Waterborne wood preservative shall be ACZA (Ammoniacal Copper Zinc Arsenate), 0.6pcf minimum retention. Manual or field applied wood preservative shall be liberally applied Copper Napthenate complying with AWPA Standard M4.

6-16.5  Payment

Supplement this Section with the following:

“ Shaft - 30 Inch Diameter”, per linear foot.

“Furnishing Soldier Pile – W16x36”, per linear foot.

“Furnishing Soldier Pile – W16x40”, per linear foot.

“Furnishing Soldier Pile – W16x67”, per linear foot.

“Lagging”, per square foot.

“Removing Soldier Pile Shaft Obstructions”, estimated.

Payment for removing obstructions, as defined in Section 6-16.3(3), will be made for the changes in shaft construction methods necessary to remove 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 Soldier Pile Shaft Obstructions" in the bid proposal to become a part of the total Bid by the Contractor.

If the shaft construction equipment is idled as a result of the obstruction removal work 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 obstruction removal work 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 current progress schedule provided in accordance with Section 1-08.3.

END OF DIVISION 6
DIVISION 7
DRAINAGE STRUCTURES, STORM SEWERS, SANITARY SEWERS, WATER MAINS, AND CONDUITS

7-01 DRAINS

7-01.5 Payment

Delete this Section in its entirety and replace with the following:

“Underdrain Pipe 6 In. Diam.” per linear foot.

The unit Contract price for “Underdrain Pipe 6 In. Diam.” shall be full compensation for all costs necessary and incidental for complete underdrain installation, including but not limited to trench excavation, disposal of excavated materials, 6-inch perforated Solid Wall PVC pipe, fittings, end cap, backfilling trench with Gravel Backfill for Drain, compaction, and connection to new drainage structures.

7-04 STORM SEWERS

7-04.2 Materials

Supplement this section with the following:

Trench backfill and pipe bedding shall be Crushed Surfacing Base Course per Section 9-03.9(3).

Storm Pipe shall be Solid Wall PVC SDR 35.

7-04.3 Construction Requirements

7-04.3(1) Cleaning and Testing

Supplement this section with the following:

Upon completion of paving and prior to inspection and acceptance of storm drainage work, pipes and storm drain structures shall be cleaned and flushed. Any obstructions to flow within the storm drain system (such as rubble, mortar, or wedged debris) shall be removed at the nearest structure. This work shall be performed in accordance with Section 7-07 of the Standard Specifications.

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

7-04.4 Measurement

Supplement this section with the following:

“Solid Wall PVC Storm Sewer Pipe __ In. Diam.” will be measured per linear foot of installed pipe along the invert, from center of structure to center of structure.

Pipe placed in excess of the length shown on the Plans, unless approved by the Engineer, will not be measured for payment.

7-04.5 Payment

Supplement this section with the following:

“Solid Wall PVC Storm Sewer Pipe __ In. Diam.”, per linear foot.
The unit Contract price for “Solid Wall PVC Storm Sewer Pipe __ In. Diam.” shall be full compensation for all costs necessary and incidental to storm sewer pipe installation, including but not limited to trench excavation, disposal of excavated materials, CSBC pipe bedding, CSBC trench backfill, compaction, fittings, connection to new and existing drainage structures, trench dewatering, and hauling, placing, cleaning, and testing pipe.

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

7-05.3 Construction Requirements

Supplement this section with the following:


All storm pipe penetrations to catch storm structures shall be grouted inside and out to produce a watertight seal. If necessary, new pipe inlets and outlets for existing drainage structures shall be formed by core drilling or other means.

All catch basins shall have a “Dump No Waste – Drains to Lake” stencil per City of Kirkland Policies D-1.

All drainage structures over 5-feet deep shall have an access ladder installed per City of Kirkland Standard Plan CK-D.12.

All Type 1 Catch Basins shall have a vaned grate per City of Kirkland Standard Plan No. CK-D.14, unless noted otherwise on the Plans.

Temporary diversion of surface flow may be necessary if this work is performed during a rain event. Surface flow may be diverted by pumping or providing an overland flow pipe within the gutter to low points outside of the work area. No turbid runoff shall be allowed to enter the storm drainage system. This work, if necessary, shall be considered included in the Bid item “Erosion / Water Pollution Control”.

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

Supplement this Section with the following:

All existing storm and sewer structures within or abutting new improvements shall be adjusted to finished grade. Final adjustment shall be smooth and flush with finished grade. The Contractor shall mark the location of all utilities prior to paving the new surface.

Existing box, ring, grate, and cover shall be inspected by the Owner prior to reuse unless otherwise noted on the plans. Materials other than castings that are in good condition shall be reset in a careful and workmanlike manner to conform to the new grade. Contractor shall remove, dispose of, and replace materials determined to be in unsatisfactory or poor condition with new materials directed by the Owner. Any damage occurring to the catch basins due to the Contractor’s operations shall be repaired at the Contractor’s own expense. All covers and frames to be reused or salvaged shall be thoroughly cleaned. The Contractor shall be responsible for referencing and keeping a record of such references of all catch basins encountered, and shall submit a copy of these references to the Engineer.

The adjustment section, pick holes, joints and other penetrations shall be grouted inside and out to provide a water-tight seal.
The use of brick will only be allowed on a case-by-base basis for adjustment where a full concrete adjustment ring cannot be used.

Catch basins shall be adjusted to finished grade in conformance with City of Kirkland Standard Plan CK-D.11.

Add the following new Sub-Sections:

7-05.3(6) Connection to Drainage Structure
The locations, type, and size of the existing catch basins and storm lines have been determined from available records and are approximate; however, it is anticipated that connections to these existing facilities may be made, in general, as shown on the Plans.

It shall be the responsibility of the Contractor to determine the exact location, type, and size of the existing facilities prior to starting work on each connection, and to provide any alterations, as required at no additional cost to the City.

The Contractor shall clean and re-grout existing structures where connections are made.

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

7-05.3(7) Connection to Existing Pipe
The location, type and size of existing storm sewer pipe has been determined from available records, and are approximate. However, it is anticipated that connection may be made, in general, as shown on the Plans.

It shall be the responsibility of the Contractor to determine the exact location, type, and size of the existing facilities prior to starting work on each connection, and to provide any alterations, as required at no additional cost to the City.

Connect existing pipe to a new concrete structure using a knockout, if available, or by core drilling the structure. Connections shall be made with watertight rubber boots, sand collars, manhole adapter, or other approved watertight connections, except for concrete, ductile iron or corrugated metal pipe. For concrete, ductile iron, or corrugated metal pipe the connections shall be made with non-shrink Portland cement grout to make a watertight fit.

Connections/coupling to existing corrugated metal pipe shall be made by installing a dimpled repair band as approved by the Owner.

7-05.4 Measurement
Supplement this section with the following:

“Frame and Vaned Grate” will be measured per each where installed on new or existing drainage structures includes adjustment to finished grade.

“Open Curb Face Frame and Grate” will be measured per each where installed on new or existing drainage structures and includes adjustment to finished grade.

“Solid Locking Lid” will be measured per each where installed on new or existing drainage structures and includes adjustment to finished grade.
“Heavy Duty Solid Locking Lid” will be measured per each where installed on new or existing drainage structures and includes adjustment to finished grade.

Adjusting existing structures to finished grade will not be measured for separate payment and shall be included in the Bid item for the new castings to be installed.

Connecting to existing pipe or structure will not be measured for separate payment and shall be included in the cost of the new structure or pipe being installed.

Shoring or Extra Excavation Class B will be measured as specified in Section 2-09.4.

7-05.5 Payment

Supplement this section with the following:

“Catch Basin Type 1”, per each.

“Catch Basin Type 1L”, per each.

“Catch Basin Type 2 48 In. Diam.”, per each.

The unit Contract price for “Catch Basin Type _____” shall be full compensation for all costs necessary and incidental to providing and installing new storm structures. Work elements include but are not limited to excavating, compaction, foundation material, CSBC structure backfill, grouting of inlet and outlet pipes, and ladders.

“Frame and Vaned Grate” per each.

“Open Curb Face Frame and Grate” per each.

“Solid Locking Lid” per each.

“Heavy Duty Solid Locking Lid” per each.

The unit Contract price for “Frame and Vaned Grate”, “Open Curb Face Frame and Grate”, “Solid Locking Lid”, and “Heavy Duty Solid Locking Lid” shall be full compensation for all costs necessary and incidental to providing and installing new castings on new or existing drainage structures as shown on the Plans. Work elements include but are not limited to removing and disposal of existing casting, new castings and adjustment sections, grouting and CDF, adjustment to finished grade, and restoration of surrounding surfaces.

All cost of interim adjustments of structures required though out construction shall be in included in the unit Contract price for the item being adjusted. Interim adjustments shall not be measured for payment.

Add the following new section:

7-06 STORMWATER DETENTION VAULT

7-06.1 Description

This work shall consist of construction of a stormwater detention vault of the type and size noted in the Plans.
Submittals
The Contractor shall submit Shop Drawings for detention vault installation including size, location, and elevations; bottom and top slab, footings, end walls, access openings, vented grates and supports, risers, joints, ladders, control structure and appurtenant piping, valves, access ways, and confined space vent details.

Design Live Load (over and around the vaults) for Fire Department Apparatus Loading:

a. HS 20 Truck Loading, and;
b. Stabilizer outrigger maximum reaction = 45,000-lbs concentrated load
   This load must be applied on an 18-inch by 18-inch area and also applied as an unfactored load on a 10-inch by 14-inch area.

Drawings and calculations shall be sealed, signed, and dated by a Professional Engineer licensed in the State of Washington for review by the Owner.

Include the following in the submittal:

1. The submittal drawings shall provide all structural details for all vault components.
2. Complete materials list.
3. Documentation of corrosion protection package elements and all site-specific protection needs.
4. Manufacturer's data and calculations to demonstrate compliance with product criteria included within these Specifications.
5. Manufacturer's recommended installation and maintenance procedures.
6. Manufacturer's certificate of satisfactory installation and warranty.

7-06.2 Materials

The detention vault shall be constructed with precast concrete panels, with exception of the base which may be cast in place. The detention vault shall conform to applicable ASTM C858 underground precast utility standards. Precast detention vault and components shall include the following:

1. Fittings and knockouts for inlet and outlet pipes, access risers, castings, grates, and vents.
2. Access manhole risers, access risers, and access steps per City of Kirkland Standards.
3. Lifting lugs at balancing points for handling and installation.
4. Identification nameplates affixed to a prominent location, durable and legible throughout equipment life.
5. Vault penetrations shall be sized to accommodate connections to the Vault made with a Korn-Seal boot, or approved equivalent.
6. Locking manhole frames and covers shall have the word “DRAIN” on the cover.
7. All metal parts shall be corrosion resistant.
8. Precast vault panels shall have an approved water tight gasket system.
9. Stormwater detention vault shall include a sign affixed to each of the access risers indicating “CAUTION – CONFINED SPACE ENTRY, AUTHORIZED PERSONNEL ONLY” or similar. Signs shall be clearly visible upon entry through access risers.
10. The 5-foot by 10-foot grated, access door (hatch) shown on the Plans shall be rated for H-20 loading, galvanized steel, removable, hinged and lift-assisted, and comply with ADA standards. Prefabricated vault sections may require structural modifications to support the 5-foot by 10-foot opening.
Manufacturer shall warrant all products to be free from defects in materials and workmanship for a minimum of 1 year from the date of installation. Manufacturer shall inspect and repair and replace defective parts during warranty period at no additional cost to Owner.

Backfill materials for vault installation shall be Crushed Surfacing Base Course per Section 9-03.9(3).

Foundation materials for vault installation shall be permeable ballast per Section 9.03.9(2).

Geotextile for soil stabilization and reinforcement above the vault shall be Mirafi RS380i or approved equal.

7-06.3 Construction Requirements

7-06.3(1) General

A. Installation of detention vault and appurtenances shall be in accordance with the Drawings and the manufacturers recommended installation procedures.
B. Bedding and backfill for detention vault shall be installed in accordance with Division 2, Earthwork.
C. Contractor shall exercise extreme care in the site storage, transport, and installation of the detention vault, and appurtenant piping. Damage as a result of improper handling or installation shall be the sole responsibility of Contractor and shall be repaired in accordance with manufacturer recommendations at no additional cost to Owner.
D. Shoring and extra excavation for the vaults is limited as specified in section 2-09.
E. Manufacturer's representative shall observe installation of detention vault and shall provide a certificate of satisfactory installation to Owner prior to operation.

7-06.4 Measurement

No specific unit of measurement shall apply to the lump sum item “Stormwater Detention Vault.”

7-06.5 Payment

“Stormwater Detention Vault”, lump sum.

The lump sum Contract price for “Stormwater Detention Vault” shall be full compensation for all costs necessary and incidental to complete the vault installation according to the Plans and Specifications, including but not limited to Contractor-provided structural vault design, structure excavation including haul, dewatering of excavation, permeable ballast foundation material, CSBC backfill, compaction, testing and cleaning, geotextile, submittals, and furnishing and placing of all accessories such as the control structure, access covers, grates, vents and risers, ventilation piping and covers, adjustment rings, access steps, grating, joints, gate valves, flanges, and other hardware to provide a complete installation.
7-07 CLEANING EXISTING DRAINAGE STRUCTURES

7-07.5 Payment

Delete this Section and replace with the following:

All costs associated with cleaning existing drainage structures shall be considered incidental to and included in the Bid items for storm sewer pipe and no additional payment shall be made.

7-08 GENERAL PIPE INSTALLATION REQUIREMENTS

7-08.3 Construction Requirements

7-08.3(1)B Shoring

Supplement this Section with the following:

Shoring design shall be the responsibility of the Contractor. No implication of methods, means, or materials is implied within the Bid Documents.

7-08.3(3) Backfilling

Supplement this Section with the following:

Backfilling and surface restoration shall closely follow the installation of the pipe, so that not more than 50 feet of the trench line is left open at any one time without approval of the City. When public safety concerns exist, the City may require more stringent backfilling standards.

Trench backfill material shall be:

Crushed Surfacing Base Course 9-03.9(3)

7-08.4 Measurement

Supplement this Section with the following:

No measurement or payment will be made for structure excavation, foundation material, pipe bedding, or trench backfill but instead will be considered incidental to and included in the structure or pipe being installed.

7-14 HYDRANTS

7-14.1 Description

Supplement this Section with the following:

This work also includes removing existing fire hydrant assemblies.

7-14.2 Materials

Supplement this Section with the following:

All materials for new fire hydrant assemblies shall be per City of Kirkland Standard Plan CK-W.14.

All fire hydrants shall be approved by the National Board of Fire Underwriters and conform to City of Kirkland's standard details and AWWA Specifications C-502. New hydrants shall be used in all cases. Each hydrant shall be equipped with a suitable positive acting drain valve, a 5-¼ inch female Seattle standard thread rigid Storz adaptor, and 1-¼ inch pentagonal operating nut (counter clockwise opening).
Storz adaptors shall be installed prior to making the new water main and hydrants active. The fire hydrants shall be Mueller (Centurion), M&H (Style 929), Waterous (Pacer), Clow (Medallion), American Darling (B-62-B), or American AVK (Series 2780). Hydrants shall be painted per City Standards with 2 coats of Kelly Moore DTM 5780 enamel - Safety Yellow.

One blue lane marker, Type 2, shall be installed at all fire hydrant locations. The marker shall be permanently adhered to the street pavement.

The hydrant shall utilize shackle rods and blocks – no exceptions.

7-14.3 Construction Requirements

Supplement this Section with the following:

Removal of existing hydrant assembly shall be up to but not including the existing valve. Hydrants that are deemed salvageable by the Owner shall be delivered to City of Kirkland Public Works yard. Install new hydrant assembly at location shown on the Plans per City of Kirkland Standard Plan CK-W.14 and connect to existing valve.

7-14.3(1) Setting Hydrants

Supplement this Section with the following:

Storz adaptors shall be installed prior to activating the new water main and hydrants.

The hydrant shall be set to proper grade and shall be tested for proper function.

The hydrant shall have a 3-foot minimum surrounding level ground clear of obstructions per City of Kirkland Standard Plan CK-W.16. Install Keystone Compac modular block cut wall, or approved equal, as required. Restore level ground around hydrant with 2 inches of CSTC, finished grade of CSTC shall be 1 inch below top of adjacent curb.

Hydrants shall be installed in accordance with the City of Kirkland Standard Plans and Policies.

7-14.5 Payment

Supplement this section with the following:

“Hydrant Assembly” per each.

The unit Contract price for “Hydrant Assembly” shall be full compensation for all costs necessary and incidental to the complete installation of new fire hydrant assemblies as shown on the Plans and described herein, including but not limited to removal of existing hydrant assemblies up to existing valve, excavation and dewatering, pipes, fittings and appurtenances, Storz adapter, thrust blocking and/or joint restraints, bedding, CSBC trench backfill, compaction, testing and disinfection, installing blue reflector on pavement, hydrant painting, CSTC surface restoration and grading, and modular block wall required to achieve level surrounding area.

7-15 SERVICE CONNECTIONS

7-15.1 Description

Supplement this Section with the following:

This work shall include relocating existing meters and installing new meter box, service lines, appurtenances and fittings, and connection to main, where indicated on the Plans.
7-15.3 Construction Requirements

Supplement this Section with the following:

Where shown on the Plans and per City of Kirkland Standard Plans, existing services shall be removed and replaced with completely new water services at new locations. Existing service pipe and fittings shall be removed and disposed of by the Contractor. Connection to the existing service line shall be made at the right of way line. Contractor shall expose and determine the existing service line material type at the point of connection and provide an appropriate fitting for connection.

All materials shall be on-site and approved by the Engineer prior to scheduling water shutdowns. Contractor shall coordinate the water service replacement to limit service outage to less than 4-hours.

Contractor shall provide written notice of shutdown 2-working days in advance to all affected customers. Written notice shall be reviewed and approved by the City 4-working days prior to shutdown.

Pipe bedding for water service lines shall be clean sand.

Trench Backfill shall be Crushed Surfacing Base Course.

7-15.4 Measurement

Supplement this section with the following:

No specific unit of measurement will be applied to the lump sum item “Service Connection 1-In. Diam.”.

7-15.5 Payment

Supplement this section with the following:

“Service Connection 1 In. Diam.”, lump sum.

The lump sum Contract price for “Service Connection 1-In. Diam.” shall be full compensation for all costs necessary and incidental to the complete relocation of the water service as shown on the Plans and per City of Kirkland Standard Plan CK-W.18, including but not limited to new 1-inch service line to main in Willows Road, tapping main, saddle, corporation stop, all fittings and appurtenances, turning off and capping existing corporation stop to be abandoned, removing existing service line within right of way, new 1-inch service line from back of meter and connection to existing service with appropriate coupler, excavation, clean sand bedding, CSBC trench backfill and compaction, adjustment to finished grade, new meter box per City of Kirkland Standard Plan CK-W.21, and reinstalling existing meter.

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:

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 Contractors “Stormwater Pollution Prevention Plan” (SWPPP) and as directed by the Engineer or the City. Such measures shall include, but are not necessarily limited to:

- Commercial construction entrances per City of Kirkland Standard Plan 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
- 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 City. 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

The Contractor shall submit his or her own Storm Water Pollution Prevention Plan (SWPPP) to the City 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 shall 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 Control and Water Pollution Prevention”.

City of Kirkland
CKC to RCC Regional Connector
Bid Documents

KPG #17132
SP-106
January 2020
8-01.3  Construction Requirements

Supplement this section 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 City 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 City.

8-01.3(1)  General

8-01.3(1)A  Submittals

Supplement this section 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 1-05.3 and 1-08.3.

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.

8-01.3(1)C  Water Management

Supplement this section with the following:

The Contractor will be responsible for meeting the SWPPP requirements.

The Bid Item “Erosion Control and Water Pollution Prevention” 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 City.
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 Control and Water Pollution Prevention”. 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.

8-01.3(2)D Mulching
*Supplement this section with the following:*

Mulch used for the Bid item “Seeding, Fertilizing, and Mulching with Moderate-Term Mulch” shall be moderate-term mulch per the Standard Specifications.

8-01.3(8) Street Cleaning
*Supplement this section with the following:*

The Contractor shall provide for cleaning all surfaced roadways that have become dirty as a result of the execution of this project. This shall be done at the completion of each day's activities or more often if so directed by the Engineer. Street sweepers with a vacuum function shall be the only acceptable method used to clean. Flushing will not be permitted.

Contractor shall have a vacuum sweeper available, full-time, for the duration of the project. Not having a full-time vacuum sweeper available and/or sufficient additional materials to react in a timely manner to changes may be grounds for the City to issue a Stop Work Order until the Contractor remedies the deficiency or the City may elect to have complete the street sweeping and deduct the cost from monies due to the Contractor. Time spent under a Stop Work Order in this situation shall not be grounds for a claim for additional payment or additional Working Days.

Roadway sweeping and cleaning shall be considered included in the lump sum Contract price for “Erosion Control and Water Pollution Prevention”.

8-01.3(9)D Inlet Protection
*Supplement this Section with the following:*

Inlet protection can be in the form of internal devices and shall be installed prior to clearing, grubbing or earthwork activities. Inlet protection shall be installed on existing catch basins, new catch basins, and those immediately downstream of the project site that could possibly receive sediment laden runoff from the site. Inlet protection shall meet the requirements of City of Kirkland Standard Plan CK-E.11.

When the depth of accumulated sediment and debris reaches approximately one-half the height of an internal device or one-third the height of the external device (or less if so specified by the manufacturers), the deposits shall be removed. Contractor shall be responsible for removing catch basin inserts upon completion of the project.
8-01.3(16) Removal

Supplement this section with the following:

**Removing Temporary Erosion / Water Pollution Control BMPs**

The Contractor shall removal all Temporary Erosion / Water Pollution Control BMPs within twenty (20) days after final stabilization, landscape restoration, or after the BMPs are no longer needed. Trapped sediment shall be removed or stabilized on site.

Add the following new Sections:

8-01.3(17) Protection of Existing Trees and Shrubs

The Contractor shall carefully protect existing trees and shrubs that are not designated for removal during the course of construction against cutting, breaking or skinning of roots, skinning or bruising of bark. The Contractor shall plan all operations to avoid creating situations in which trees and shrubs may be damaged. Notify the Engineer if construction may damage trees and shrubs. The Contractor shall not proceed with Work until directed by the Engineer.

**Root Protection**

Cut exposed roots cleanly and keep moist with straw mulch and burlap or equivalent during the time trenches are open. Hand dig trenches in areas with extensive roots. Roots larger than 3-inches in diameter shall be left intact and the Engineer notified for instructions on how to proceed.

**Damages for Loss or Injury to Existing Trees and Shrubs to Remain**

The Contractor shall be liable for damage to trees and shrubs. In the event of injuries to the crown, trunk or root system of existing trees and shrubs resulting from the Contractor’s failure to protect them (the just value of which is determined by the *Valuation of Landscape Trees, Shrubs, and Other Plants*, (Current Edition) damages shall be deducted from the total amount due the Contractor.

8-01.3(18) Suspension of Work

If at any time during the life of this Contract the Contractor requests to suspend work due to weather conditions or other constraints, it shall be the Contractor’s responsibility to meet the Temporary Erosion / Water Pollution Control requirements of the Bid Documents, including maintenance and repair of BMPs already installed, at all times during suspension.

8-01.4 Measurement

8-01.4(3) Reinstating Unit Items with Lump Sum Erosion Control and Water Pollution Prevention

Supplement this section with the following:

No specific unit of measurement will apply to the lump sum Bid item “NPDES Construction Stormwater General Permit”.

“High Visibility Silt Fence” will be measured per linear foot.

No specific unit of measurement will apply to the lump sum Bid item “Seeding, Fertilizing, and Mulching with Moderate-Term Mulch”.

8-01.5 Payment

8-01.5(3) Reinstating Unit Items with Lump Sum Erosion Control and Water Pollution Prevention

Supplement this section with the following:

“Erosion Control and Water Pollution Prevention”, lump sum.

The lump sum Contract price for “Erosion Control and Water Pollution Prevention” shall be full compensation for all costs necessary and incidental to installation, maintenance, repair, and removal of erosion control facilities, and removal and disposal of sediment, as specified on the Plans and Standard Specifications for which specific Bid items are not provided, including but not limited to preparation and implementation of SWPPP, all temporary erosion control measures described within special provisions and shown on the plans, cleaning and rehabilitating the site after BMPs are removed, street sweeping, and other incidental items of works necessary to establish and maintain TESC measures.

“NPDES Construction Stormwater General Permit”, lump sum.

The lump sum Contract price for “NPDES Construction Stormwater General Permit” shall be full compensation for all costs necessary and incidental to the permit, including but not limited to transfer of coverage of the permit from Owner to Contractor, SWPPP documentation required by the permit, ESC Lead and their responsibilities including but not limited to sampling, monitoring, reporting, coordinating, inspecting, fees and any other expenses, materials and labor (pertinent to their responsibilities) necessary to fully comply with the requirements of the permit and terminate it upon completion of the project. The lump sum price shall also include all costs necessary to supply City with all information as necessary to ensure compliance with the permit.

“High Visibility Silt Fence”, linear foot.

The lump sum Contract price for “High Visibility Silt Fence” shall be full compensation for all costs necessary and incidental to installing and maintaining the silt fence at the locations shown on the Plans and where directed by the Engineer.

“Seeding, Fertilizing, and Mulching with Moderate-Term Mulch”, lump sum.

The lump sum Contract price for “Seeding, Fertilizing, and Mulching with Moderate-Term Mulch” shall be full compensation for all costs necessary and incidental to temporary and permanent restoration of unimproved areas and slopes as defined herein and on the Plans for areas which other Bid items do not apply.

8-02 ROADSIDE RESTORATION

8-02.1 Description

Supplement this section with the following:

All plant material required by the Bid Documents shall be plant species including plant establishment (PSIPE) per the Standard Specifications.
8-02.2 Materials

Supplement this section with the following:

- Topsoil Type A
- Seed
- Bark or Wood Chip Mulch

Section 9-14.1(1)
Section 9-14.2
Section 9-14.4(3)

8-02.3 Construction Requirements

8-02.3(1) Responsibility During Construction

Supplement this Section with the following:

Landscape construction is anticipated to begin after all curbs, sidewalks, and associated roadside work is completed. Landscape materials shall not be installed until weather permits and installation has been authorized by the Engineer. If water restrictions are anticipated or in force, planting of landscape materials may be delayed.

Throughout planting operations, the Contractor shall keep the premises clean, free of excess soils, plants, and other materials, including refuse and debris, resulting from the Contractor’s work. At the end of each work day, and as each planting area is completed, it shall be neatly dressed, and all surrounding walks and paved areas shall be cleaned to the satisfaction of the Engineer. No flushing will be allowed. At the conclusion of work, the Contractor shall remove surplus soils, materials, and debris from the construction site and shall leave the project in a condition acceptable to the Engineer.

8-02.3(3) Roadside Work Plan

Supplement this Section with the following:

The Roadside Work Plan shall be submitted to the Engineer and approved at least one week prior to initiating proposed work. The use of chemical herbicides shall be considered on a case-by-case basis. The Contractor must submit, as part of the Work Plan, the intent to use chemical herbicides to the Engineer for approval prior to use.

8-02.3(4) Topsoil Type A

Supplement this Section with the following:

Topsoil Type A shall conform to Section 9-14.1(1) of these Special Provisions and shall be supplied by a Contractor’s supplied source, and as approved by the Engineer.

8-02.3(5) Planting Area Preparation

Supplement this Section with the following:

Thoroughly scarify subgrade in all Roadway Planter areas to a minimum depth of eight inches (8”), unless otherwise noted on the Plans. Scarified subgrade shall be inspected and approved by the Engineer prior to the placement of topsoil or compost. Remove all construction debris and rocks over two inches (2”) in diameter prior to placement of topsoil or compost.

Topsoil Type A shall be used in any areas requiring additional soil to bring subgrade up to grade, prior to the placement of required depth of topsoil, as noted on the Plans.

Upon approval of subgrade in Roadway Planter areas, Topsoil Type A shall be installed to a minimum compacted depth of twelve inches (12”). Topsoil shall be installed in two lifts: the first three inches (3”) shall be incorporated into the top six inches (6”) of the subgrade by rototilling, then the remaining nine inches (9”) of topsoil shall be installed.
Following installation of topsoil, remove rocks, roots and debris over 1 inch diameter in all cultivated areas. Lightly compact soil to a compaction rate of no more than eighty-five percent (85%), and establish a smooth and uniform finished grade to allow surface drainage and prevent ponding.

Areas around existing trees to remain shall not be cultivated within an additional three foot (3 foot) radius of the tree dripline or any other areas which appear to have a significant number of existing tree roots.

Finish grade of all planted areas shall be brought to a uniform grade one inch (1 inch), plus the specified depth of mulch, below walks, curbs, junction and valve boxes, and driveways unless otherwise specified. Finish grades shall be reviewed and approved by the Engineer prior to any planting.

The cost of removing all excess material and debris shall be considered incidental to and included in the unit contract prices of other items in this contract.

8-02.3(8) Planting

*Supplement this Section with the following:*

All trees, shrubs and groundcover shall be planted as detailed on the Plans.

Scarify sides and bottom of planting pits prior to planting. Sufficient planting soil shall be placed around the plant and compacted so as to insure that the location of the ground line at the top of the root ball is the same as in the nursery.

Plant shrubs upright and rotate in order to give the best appearance or relationship to adjacent plants, topography and structures.

When shrub planting pit is backfilled halfway, evenly place fertilizer plant adjacent to the root system at a depth that is between the middle and bottom of the root system. Do not injure root system. Place and compact planting topsoil carefully to avoid injury to roots; fill all voids.

When the planting pit is three-quarters (3/4) backfilled, fill with water and allow water to soak away. If water does not drain within ½ hour, notify the Engineer. Fill pits with additional soil to finish grade and continue backfilling as detailed on the Plans.

The Contractor shall be responsible for watering and fertilizing all planted areas during the one year establishment period.

8-02.3(10) Fertilizers

*Supplement this Section with the following:*

Fertilizer shall be a standard commercial grade of organic or inorganic fertilizer as specified in Section 9-14.3 of these special provisions. All fertilizers shall be furnished in standard unopened containers with weight, name of plant nutrients and manufacturer’s guaranteed statement of analysis clearly marked, in accordance with State and Federal law.

Shrubs shall be fertilized at a rate according to fertilizer manufacturer’s recommendations.

All fertilizer shall be pre-mixed prior to bringing on the job.

Fertilizer tablets shall be considered incidental to and included in the unit contract price for plants.
8-02.3(11) Bark or Wood Chip Mulch

Supplement this Section with the following:

Bark or wood chip mulch shall be placed over all planting beds and disturbed areas to a depth no less than three inches (3 inches) unless otherwise noted on the Plans. Thoroughly water and hose down plants with a fine spray to wash the leaves of the plants immediately after application.

Bark or wood chip mulch shall meet the requirements of Section 9-14.4(3) Bark or Wood Chips of these Special Provisions and shall be supplied by a Contractor’s supplied source, and as approved by the Engineer.

8-02.3(13) Plant Establishment

Supplement this Section with the following:

Plant establishment shall consist of insuring resumption and continued growth of all planted material for a period of one (1) year. This shall include, but is not limited to, labor and materials necessary for removal and replacement of any rejected plant material planted under this Contract. The Contractor shall be responsible for coordinating and supplying water sufficient for establishing the plants in a thriving condition during construction and throughout the duration of the Plant Establishment period. Any temporary irrigation system must be approved by the City and all associated cost included in the Bid items for the plants.

The Contractor shall establish a regular schedule (day of week and time) for site visits for the duration of the plant establishment period. The Contractor shall provide notification of all site visit 24-hours in advance for those which are not in accordance with the regular schedule visits. Within 2-working days after each site visit the contractor shall provide the Owner with a written report of all work completed during the site visit. Failure to provide the written report or to complete site visits will be considered Failure to Comply and will result in a suspension of the time for plant establishment period(s).

During the plant establishment period plants identified as dead, dying, or damaged shall be replaced within one week of the time they are identified.

Plant establishment period shall be one (1) year from time of Final Acceptance.

Suspension of Time

Failure to Comply

Failure to comply with corrective steps as outlined by the Engineer shall result in a suspension of time for plant establishment period(s).

Suspension Relief

Any such suspension of time shall not be lifted until all unsatisfactory conditions have been corrected to the satisfaction of the Engineer.

Suspension and Penalties

If a suspension of time is in effect for more than fifteen (15) calendar days without effective action being taken by the Contractor, the Contracting Agency will have justification to take corrective steps and to deduct all costs thereof from moneys due the Contractor.

Plant Establishment Plan

Prior to completion of initial planting as defined in Section 8-02.3(12) and in accordance with Section 8-02.3(13), the Contractor shall submit a Plant Establishment Plan for approval by the Engineer. The Plan shall define the Work necessary to maintain all Contract areas during the period between
completion of initial planting through final acceptance at the completion of the plant establishment period.

The Plant Establishment Plan shall show the scheduling, frequency, dates, materials and equipment utilized, whichever may apply, for all maintenance activities including, but not limited to, the following:

A. Plant Establishment
   1. Pruning
   2. Fertilizing
   3. Watering - amount in inches per week
   4. Weed Control and Chemical Application - post and pre-emergent (to be approved by Engineer)
   5. Litter and Debris Removal
   7. Erosion Control Methods and Procedures
   8. Plant Replacement

B. Other items as defined by the Contractor’s Plant Establishment Plan

Also indicate the following:

A. Maintenance Supervisor/Responsible Contact Name
   1. Local address
   2. Local telephone number

B. Emergency Contact Name - 24 hours, 7 days per week availability
   1. Local address
   2. Local telephone number

C. Sign and date the Plant Establishment Plan

Should this Plan become unworkable at any time during the specified period, the Contractor shall submit and receive approval of a revised Plan. Failure to comply with the Plant Establishment Plan or to revise the Plan as outlined by the Engineer, shall result in a suspension of time for plant establishment period as outlined above.

Plant establishment shall be considered incidental to and included in the unit contract price for all plant material.

8-02.4 Measurement

Supplement this section with the following:

The pay quantities for the plant materials will be determined by count of the number of satisfactorily installed shrubs, groundcover and other plants accepted by the Engineer.

“Bark or Wood Chip Mulch” and “Topsoil Type A” will be measured per cubic yard in the haul conveyance at the point of delivery.

8-02.5 Payment

Supplement this section with the following:

“Topsoil Type A”, per cubic yard.
“Bark or Wood Chip Mulch”, per cubic yard.

The unit contract price per cubic yard for “Bark or Wood Chip Mulch” and “Topsoil Type A” shall be full compensation for all costs necessary to furnish and place the materials as required in these Specifications or as shown in the Plans.

“PSIPE____”, per each.

The unit contract price for “PSIPE____”, per each, shall be full compensation for all materials, labor, tools, equipment, and supplies necessary to fine grade, produce, plant, cultivate and cleanup for the particular items called for in the plans. Fertilizer shall be incidental to the above bid items and all costs shall be included in the unit contract prices. All costs associated with the maintenance of the landscaping, including watering both during construction and during the establishment period and weeding, pruning and caring for planted areas during the one year plant establishment period shall be considered incidental to and included in the unit contract price for “PSIPE____”, per each.

Any incidental work required to complete the roadside planting specified herein but not specifically mentioned in these Specifications shall be incidental to the roadside planting, and all costs therefore shall be included in the unit contract prices of the bid items.

8-04 CURBS, GUTTERS, AND SPILLWAYS

8-04.3 Construction Requirements

8-04.3(1) Cement Concrete Curbs, Gutters, and Spillways

Replace the first paragraph of this Section with the following:

All cement concrete curb shall be constructed with air-entrained Class 4000 concrete in accordance with City of Kirkland Standard Details.

Cement Conc. Traffic Curb and Gutter shall be per City of Kirkland Standard Plan CK-R.17.

Concrete Vertical Curb shall be per City of Kirkland Standard Plan CK-R.17C.

Supplement this section with the following:

Curbs shall be protected against damage or defacement of any kind until it has been accepted by the Engineer. Work that is not acceptable to the Engineer because of damage or defacement shall be removed and replaced by the Contractor at his own expense.

Lip of gutter at all curb ramps shall be flush with bottom of ramp, no exceptions.

Pigmented curing compounds shall not be used on curb and gutter. Only clear curing compounds will be permitted.

The Contractor shall have the subgrade prepared and the line or formwork for curbs placed at least 24 hours prior to installing curbs. Compliance shall be checked by the contractor when forms are set and when concrete is poured. Any modification of grading from that shown on the Plans as required for ADA compliance shall be approved by the Engineer. Minor adjustment shall be considered changes to the Plan elevations of 3-inches or less. The work to revise the lines, formwork and subgrade for minor adjustments shall be considered incidental to the bid price for the type of curb being installed. If the lines and formwork are not in conformance with the Plans, all adjustments, regardless of size, shall be
at the sole expense of the Contractor. Adjustments to the lines and grades shall not constitute a basis for claims for additional contract time or expenses.

8-04.3(1)A Extruded Cement Concrete Curb
Supplement this Section with the following:
Extruded Curb shall be cement concrete per City of Kirkland Standard Plan CK-R.19.

8-04.4 Measurement
Supplement this section with the following:
“Concrete Vertical Curb” will be measured per linear foot.
“Remove and Replace Cement Conc. Curb with Integrated Lighting” will be measured per linear foot.

8-04.5 Payment
Supplement this section with the following:
“Cement Conc. Traffic Curb and Gutter”, per linear foot.
“Cement Conc. Pedestrian Curb”, per linear foot.
“Concrete Vertical Curb”, per linear foot.

The unit Contract price for “Cement Conc. Traffic Curb and Gutter”, “Cement Conc. Pedestrian Curb”, and “Concrete Vertical Curb” shall be full compensation for all costs necessary and incidental to completely install curbs to lines and grades specified on the Plans, including but not limited to forming, form adjustments, procuring and pouring concrete, joint materials, finishing, curing, and stripping forms.

“Remove and Replace Cement Conc. Curb with Integrated Lighting”, per linear foot

The unit Contract price for “Remove and Replace Cement Conc. Curb with Integrated Lighting” shall be full compensation for all costs necessary and incidental to completely remove and replace the existing curbs to match existing conditions, including but not limited to sawcutting existing curb, forming to match existing configuration, electrical conduit and installation of light fixtures. The costs for electrical wiring, lighting fixtures and all electrical work will be paid under Minor Changes.

Add the following new section:

8-05 MISCELLANEOUS WORK

8-05.1 Description
This work shall consist of providing miscellaneous construction work and documentation as described herein.

8-05.3 Construction Requirements

8-05.3(1) Potholing

Potholing has been included in the Proposal for the use in the determination of the location of existing utilities in advance of the Contractor's operations. The Engineer shall approve all potholing requests.
from the Contractor prior to potholing. Additionally, the Contractor shall provide potholes at Engineer's request. The Contractor shall review the utility markings in the field after construction staking has been provided but prior to starting of installation of and utilities or foundations for signal or light poles.

When potholing is performed the Contractor shall:

1. Receive prior written approval from the Engineer for the location of the proposed pothole.
2. Contact on-call utility services prior to performing potholes.
3. Excavate down to the existing utility.
4. Record the horizontal (station and offset) and vertical location (elevation) of the found utility.
5. Provide the Engineer an Information Data sheet showing the location of the existing utility and location of the proposed utility, and note if a conflict exists between the proposed and existing utility.

Should a conflict exist, the Contractor shall notify the Engineer in as soon as possible. The Engineer will provide a revised design within seven (7) working days upon the receipt of the written notification of a utility conflict.

To be considered for payment, potholing must be done prior to starting trenching, excavation work, or foundation construction.

8-05.4 Measurement

“Potholing” will be measured per each for each pothole location approved in writing by the Engineer, regardless of the type or number of utilities, depth, and location of the potholing being performed.

8-05.5 Payment

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

“Potholing”, per each.

The unit Contract price for “Potholing” shall be full compensation for all costs necessary and incidental to completely perform each pothole, including but not limited to exposing the locations of existing utilities, recording vertical and horizontal locations, recording the size, material and depth of the existing utility, CSBC backfill, determining if a conflict exists, providing a data sheet, and compacting excavated areas per City of Kirkland Policies and as described herein. This unit price shall also include the cost for rescheduling work as required to allow the City time (up to seven working days) to issue any design modifications that may be required.

For the purposes of bidding equality, the Contracting Agency has furnished an estimated quantity for Potholing. Actual payment for this work will be made only for the actual amount of work performed as authorized and deemed necessary by the Engineer and may differ from the estimated amount provided.
8-06 CEMENT CONCRETE DRIVEWAY ENTRANCES

8-06.2 Materials
Supplement this section with the following:

Cement concrete driveway approaches shall be constructed with a Class 4000 Portland Cement Concrete mix conforming to the requirements of Section 6-02, with the following exception:

For cement concrete driveway entrance construction at properties with a single vehicle access point, the Contractor will not be allowed to close the driveway until after 5:00 PM on a Friday and must have the driveway open by 6:00 AM on the following Monday. This will require the Contractor to provide a higher strength alternate mix design that will obtain 3,000 PSI strength by the time the driveway is opened at 6:00 AM on Monday.

8-06.3 Construction Requirements
Supplement this section with the following:

All cement concrete driveways shall be constructed in accordance with the Plans and WSDOT Standard Plans.

The Contractor shall confirm each driveway configuration with the Engineer prior to pouring concrete. The Contractor’s failure to gain the Engineer’s approval could result in rejection of the work and subsequent replacement at no cost to the Owner if found to be unsatisfactory.

Contractor shall provide protection of all concrete as required to allow access to the property. For properties with a single vehicle access point, the driveway shall be constructed as required to maintain access at all times. This is not limited to but may include protecting driveways with steel sheets.

Compliance with current ADA Standards is required. Minor modifications to the grades and dimensions shown on the Plans may be required to meet current standards. Prior to pouring concrete at driveway entrance locations, the Contractor shall have each driveway entrance inspected and receive written approval from the on-site inspector that the forms are set in compliance with ADA Standards. Driveway entrances poured without written approval which do not meet the current ADA standards shall be removed and replaced at the Contractors expense, regardless of whether they conform to the dimensions shown on the Plans.

Refer to Section 1-07.23(1) for additional information regarding driveway closure restrictions.

8-06.4 Measurement
Supplement this section with the following:

“Cement Conc. Driveway Entrance” will be measured per square yard regardless of depth and required concrete strength. Driveway entrances will be measured for payment from the back of curb to the back of sidewalk/path along the width of the driveway drop, including transition flares.

8-06.5 Payment
Supplement this section with the following:

“Cement Conc. Driveway Entrance”, per square yard.

The unit Contract price for “Cement Conc. Driveway Entrance”, shall be full compensation for all costs necessary and incidental to complete installation of driveway entrances at the locations identified and to the lines and grades shown on the Plans.
8-09 RAISED PAVEMENT MARKERS

8-09.1 Description

*Supplement this Section with the following:*

This work shall consist of furnishing and installing raised pavement markers (RPMs) at locations designated on the City of Kirkland Standard Plans or as directed by the Engineer.

RPMs shall be installed for longitudinal pavement markings along double yellow center striping and gore stripes per City of Kirkland Standard Plan CK-R.31.

The Contractor shall furnish and install BLUE, Type 2B, RPMs perpendicular to each fire hydrant in the interior channelization of the adjacent lane.

8-10 GUIDE POSTS

8-10.1 Description

*Supplement this Section with the following:*

This work shall consist of furnishing and installing flexible delineator posts at locations designated on the Plans and described herein.

8-10.2 Materials

*Supplement this Section with the following:*

Flexible delineator posts shall be 4-inch wide, 5-foot high white Carsonite Dual Sided Marker, model No. CIB3-060-01, with reflective sheeting on both sides, or approved equal.

8-12 CHAIN LINK FENCE AND WIRE FENCE

8-12.1 Description

*Supplement this section with the following:*

This work shall consist of installing new coated chain link fence as shown on the Plans and described herein.

8-12.2 Materials

*Supplement this section with the following:*

Materials for new fence shall be per City of Kirkland Standard Plan CK-R.51A and per the details on the Plans.

Color shall be black.

8-12.3 Construction Requirements

*Supplement this section with the following:*

**Chain Link Fence Type 4**

This work shall consist of installing 48-inch tall coated chain link fence at back of shared-use path and other locations as shown on the Plans. Fences shall be installed per City of Kirkland Standard Plan CK-
R.51A, except that the fences shall be surface mounted to the vertical face of the back of concrete shoulder/cap per the details provided in the Plans.

8-12.4 Measurement
Supplement this Section with the following:

“Coated Chain Link Fence Type 4” will be measured per linear foot.

8-12.5 Payment
Supplement this Section with the following:

“Coated Chain Link Fence Type 4”, per linear foot.

The unit Contract price for “Coated Chain Link Fence Type 4” shall be full compensation for all costs necessary and incidental to the complete the installation of fencing, including but not limited to surface mounting, fabric, all posts, black thermoplastic coating, and all associated assembly hardware.

8-14 CEMENT CONCRETE SIDEWALKS

8-14.1 Description
Supplement this section with the following:

This work shall also consist of installing concrete stairs, and concrete shoulders/wall caps at back of shared-use path as detailed in the Plans.

Concrete concrete sidewalks shall be constructed per City of Kirkland Standard Plan CK-R.23 unless noted otherwise on the Plans.

Concrete stairs shall be constructed per City of Kirkland Standard Plan CK-R.57 and per the details on the Plans. Should there be any discrepancies, the details on the Plans shall take precedence.

8-14.2 Materials
Supplement this section with the following:

Cement concrete sidewalks, curb ramps, shoulders/wall caps, and steps shall be constructed with Class 4000 Portland Cement Concrete.

8-14.3 Construction Requirements
Replace this Section with the following:

The Contractor shall have the subgrade prepared and the line or formwork for sidewalk placed at least 24 hours prior to installing curbs. Compliance shall be checked by the contractor when forms are set and when concrete is poured. Any modification of grading from that shown on the Plans as required for ADA compliance shall be approved by the Engineer. Minor adjustment shall be considered changes the Plan elevations or offsets of 3 inches or less. The work to revise the lines, formwork and subgrade for minor adjustments shall be considered incidental to the bid price for cement concrete sidewalk. If the lines and formwork are not in conformance with the Plans all adjustments, regardless of size, shall be at the sole expense of the Contractor. Adjustments to the lines and grades shall not constitute a basis for claims for additional contract time or expenses.

Sidewalk cross slope shall be 1.5% maximum. Some sections of sidewalk are to be installed at 1.5% reverse slope as specified on the Plans.
The Contractor shall construct concrete shoulders/wall caps in accordance with Section 6-02 and the details of the Plans. The shoulders/wall caps shall be cured in accordance with the Section 6-02.3(11) requirements specified for all other concrete surfaces. The Contractor shall provide broom finish to the top surface and Class 1 finish to the vertical surfaces of all concrete shoulders/wall caps.

Add the following new sections:

**8-14.3(6) Curb Ramps**
Curb ramps must comply with all current ADA standards; minor modifications to the grades and dimensions shown on the Plans may be required to meet current standards. Ramps which do not meet the current ADA standards shall be removed and replaced at the Contractor’s expense.

Per the Standard Specifications, detectable warning surfaces shall be furnished and installed on each curb ramp. Detectable warning surface shall be per City of Kirkland Standard Plan CK-R.25B.

**8-14.4 Measurement**

*Supplement this Section with the following:*

“Cement Conc. Shoulder” will be measured per linear foot along the top back of shoulder, regardless of depth.

“Cement Conc. Cap for Block Wall” will be measured per linear foot of concrete cap installed on top of Structural Earth Wall and Modular Block Wall, regardless of depth from top of concrete to top of blocks.

“Cement Conc. Cap for Pile Wall” will be measured per linear foot of concrete cap installed on top of soldier pile walls, regardless of depth from top of concrete to top of lagging.

“Cement Conc. Curb Ramp” will be measured per square yard across finished concrete curb ramp surface, including flares and landings.

No specific unit of measurement will be applied to the lump sum bid item “Cement Conc. Stairs STA __+__”. Block walls associated with cement conc. stairs shall be measured and paid as described under Section 6-13.

Cement Concrete Pad at the signal control cabinet shall be measured and paid as “Cement Conc. Sidewalk”, per square yard.

**8-14.5 Payment**

*Supplement this Section with the following:*

“Cement Conc. Shoulder”, per linear foot.

The unit Contract price for “Cement Conc. Shoulder” shall be full compensation for all costs necessary or incidental to the complete installation of concrete shoulder at the back of shared-use path.

“Cement Conc. Cap for Block Wall”, per linear foot.

The unit Contract price for “Cement Conc. Cap for Block Wall” shall be full compensation for all costs necessary or incidental to the complete installation of concrete caps on top of Structural Earth Wall and Modular Block Wall, including but not limited to concrete, rebar, forming and finishing.

“Cement Conc. Cap for Pile Wall”, per linear foot.
The unit Contract price for “Cement Conc. Cap for Pile Wall” shall be full compensation for all costs necessary and incidental to the complete installation of concrete caps on top of soldier pile walls, including but not limited to concrete, rebar, forming and finishing.

“Cement Conc. Curb Ramp”, per square yard.

The unit Contract price for “Cement Conc. Curb Ramp” shall be full compensation for all costs necessary and incidental to the complete installation of cement concrete curb ramps, including but not limited to forms, form adjustments, procuring and placing concrete, joint materials, finishing, excavation, spoils haul and disposal.

“Cement Conc. Stairs STA __+__”, per lump sum.

The lump sum cost shall be full compensation for all costs necessary and incidental to the complete installation of concrete stairs as detailed on the Plans, including but not limited to modification of existing steps and handrail, forming, constructing landings and adjacent curbs, rebar, dowel bars, joint material, handrails, hardware, step nosing treatment, finishing, excavation, spoils haul and disposal.

8-18 MAILBOX SUPPORT

8-18.3 Construction Requirements

Supplement this section with the following:

Mailboxes shall be reinstalled on new wood supports with all new hardware per WSDOT Standard Plan H-70.10 at the locations shown on the Plans or directed by the engineer. Remove and dispose of existing mailbox supports and hardware.

Where property owner elects to provide a new mailbox, the Contractor shall install the new mailbox on new support with new hardware and salvage the existing mailbox to the property owner.

For Parcel address: 12805 141st Ave NE, the mailbox is currently located on Willows Road; this mailbox will be relocated to 141st Ave NE, the final location will be as determined by the Engineer based on coordination with the Postmaster. Relocation of other mailboxes will be within the proposed planter strip on Willows Road.

8-18.4 Measurement

Supplement this section with the following:

“Mailbox Support Type 1” will be measured per each.

8-18.5 Payment

Supplement this section with the following:

“Mailbox Support Type 1”, per each.

The unit Contract price for “Mailbox Support Type 1” shall be full compensation for all costs necessary and incidental to complete the Work, including but not limited to maintaining temporary services, completely reinstalling each existing mailbox (or installing new box if provided by property owner) on a new support, new hardware, excavation, and backfill.
8-20  ILLUMINATION, TRAFFIC SIGNAL SYSTEMS, INTELLIGENT TRANSPORATION SYSTEMS, AND ELECTRICAL

8-20.1  Description
Supplement this Section with the following:

The electrical work includes furnishing, installing and field-testing all materials necessary to provide replacement of existing illumination system and modifications to existing signal system, that include but are not limited to: luminaire poles, luminaires, ppb signal pole, foundations, relocation of push buttons, junction boxes, conduits, wiring, vehicle detection loops and all related work as shown in the Plans and these Special Provisions.

The work shall consist of, but not necessarily be limited to:

- Replacement of existing illumination system;
- Modification of traffic signal system at the intersection of Willows Road NE and NE 124th Street

Unless otherwise noted, the location of poles, cabinets, conduits, junction boxes and appurtenances shown in the Plans are approximate; and the exact location will be verified by the Engineer in the field.

8-20.1(1)  Regulations and Codes
Supplement this Section with the following:

All material and work shall conform to the requirements of:

7. American Standards Association (ASA).

8-20.1(3)  Permitting and Inspections
Supplement this Section with the following:

All inspection and testing shall be paid for by the Contractor. The Contractor shall comply with all laws, ordinances, rules, orders, and regulations relating to the performance of the work, the protection of adjacent property, and the maintenance of all other facilities. The Contractor will be required to comply with all the provisions of these instruments and shall save and hold the City of Kirkland harmless from any damage which may be incurred as a result of the Contractor’s failure to comply with all the terms of these permits.

The Contractor is advised that an Electric Work Permit from the State Department of Labor and Industries shall be required for this project.
Add the following new Sub-Section:

8-20.1(4) Restrictions on the Schedule of Work
All changes to the signal controller setting shall be performed by the City Traffic Maintenance Department Representative.

If any Contractor supplied signal equipment fails then repairs shall be made within 48 hours of failure. Should repairs require more than 48 hours, the Contractor shall make arrangements to furnish substitute signal components.

8-20.2 Materials
Supplement this Section with the following:

General
All materials and methods required under this Section, unless otherwise superseded herein, shall conform to the National Electric Code (NEC) and the Manual on Uniform Traffic Control Devices (MUTCD) as adopted by the State of Washington.

All materials shall be handled in loading, unloading and erecting in such a manner that they will not be damaged. Any parts that are damaged due to the Contractor's operations shall be repaired or replaced at the Contractor's expense. All repairs shall be to the approval of the Engineer.

The Engineer reserves the right to inspect the manufacturing process of all materials. Approval to install materials and equipment must be obtained from the Engineer at the job site before installation. Final inspection and acceptance of the installed materials will not be given until final installation and testing has been completed on the systems.

Materials shall be as specified in Section 9-29 of the Standard Specifications and Section 9-29 of these Special Provisions.

When submitting material lists for approval, the Contractor shall identify all revisions or changes to manufacturer names, component names, and model numbers listed in these Special Provisions. The Contractor shall also include a brief justification for the revision or change.

Guarantees
The supplier shall furnish to the Contracting Agency any guarantee or warranty furnished as a normal trade practice in connection with any equipment supplied for this Contract.

8-20.2(2) Equipment List and Drawings
Remove “If required to do so” from the first sentence of the second paragraph.
After the last paragraph, add the following:

Manufacturer’s technical information shall be submitted for all poles, mast arms, luminaires, wire, conduit, junction boxes and all other items to be used on the Project. All approvals by the Engineer must be received by the Contractor before material will be allowed on the job site. Materials not approved will not be permitted on the job site. Final ground and roadway cross sections at the locations of the standards shall be submitted for approval along with the shop drawings. Submittal shall also include a cable vault installation plan showing the exact proposed installation location by roadway station, offset and the scheduled sequence for each cable vault installation.
A material staging plan, should the Contractor propose Contracting Agency-owned property for staging areas, should be submitted before any materials are allowed on that site.

Final verified dimensions for luminaire standards, signal standards, including pole base to signal mast arm connection point, pole base to light source distances, mast arm length, offset distances to mast arm mounted appurtenances, and orientations of pole mounted appurtenances shall be furnished by the Contractor as part of the final approved shop drawings prior to fabrication.

Manufacturer's data for all materials proposed for use in the Contract which require approval shall be submitted in one complete package.

All shop drawings for poles shall be stamped by a State of Washington registered civil or structural engineer.

The Engineer shall have 14 calendar days to review information for each submittal that is made. The actual time required for approval is dependent upon the completeness and appropriateness of the Shop Drawings as submitted.

Any deficiencies will require additional time for approval based on the degree of the deficiency and the additional review time required. If the Shop Drawings are returned to the Contractor to correct deficiencies, an additional 14 calendar days may be required for the approval process.

If more than 14 calendar days are required for routine approval of Shop Drawings that are completed and accurate, the Contractor will be granted an extension of time equal to the additional review time.

Approval of shop drawings does not constitute final acceptance or guarantee of the material, but is solely to assist the Contractor in providing the specified materials.

8-20.3 Construction Requirements

8-20.3(1) General

Supplement this Section with the following:

The Contractor shall contact City Inspector for all related traffic signal coordination.

All adjacent surfaces damaged by the Contractor's operations shall be repaired at his expense.

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

The Contractor is advised that safe wiring labels required by the State of Washington Department of Labor and Industries shall apply on this project.

8-20.3(2) Excavating and Backfilling

Supplement this Section with the following:

The location of existing underground utilities, when shown on the Plans, is approximate only, and the Contractor shall be responsible for determining their exact location. The Contractor shall check with the utility companies concerning any possible conflict prior to commencing excavation in any area, as not all utilities may be shown on the Plans.
If a conflict is suspected, the Contractor shall contact the Engineer. The Engineer will determine if potholing is required. Potholing will be paid per Section 8-05 of these Special Provisions.

**Conduit Trench Construction**

To avoid conflicts with other utilities, the trench may be sloped or drifted.

Trench construction shall conform to the following:

1. The pavement shall be sawcut full-depth. The cuts shall be parallel to each other and extend 12 inches beyond each edge of the trench.
2. Trench depth shall provide 2 feet minimum cover over conduits.
3. Minimum trench bedding width shall be the conduit diameters plus 2 inches between conduits plus 2 inches on each side of trench.
4. Conduit bedding shall be clean sand. Trench backfill shall be Crushed Surfacing Base Course.

**8-20.3(3) Removing and Replacing Improvements**

Supplement this Section with the following:

Contractor shall salvage luminaire poles, arms, and luminaires. Contractor shall obtain approval from the Engineer prior to removal.

Unless otherwise noted on the Plans, the Contractor shall protect salvage items from damage and shall deliver these items upon their removal to:

City of Kirkland Signal Maintenance Center
915 8th Street
Kirkland, WA 98033

Any existing equipment and material for salvage that is damaged during removal or delivery shall be compensated for by the Contractor to the satisfaction of the City. All material from the existing signal system that will not be reused or salvaged shall become the property of the Contractor and shall be removed from the Project.

The Contractor shall remove all luminaire foundations to a depth of at least 3 feet below finished grade, or removed entirely if in conflict with proposed improvements. The conduits connecting to the foundation shall be cut off and capped or removed as designated by the Engineer. Any such foundation or conduit left below the surface shall be noted on the as-built plans provided to the City by the Contractor.

The Contractor shall be responsible for disposing of all other waste created by the required salvage and removal of items shown on the Plans or specified herein.

Removals associated with the electrical system shall not be stockpiled within the job site without the Engineer’s approval.

All removals associated with an electrical system which are not designated by the Engineer to remain the property of the Contracting Agency, shall become the property of the Contractor and shall be removed from the project.
The Contractor shall:

- Remove all wires for discontinued circuits from the conduit system.
- Remove elbow sections of abandoned conduit entering junction boxes.
- Abandoned conduit encountered during excavation shall be removed to the nearest outlets or as directed by the Engineer.
- Remove foundations as described above.
- Backfill voids created by removal of foundations and junction boxes. Backfilling and compaction shall be performed in accordance with Section 2-09.3(1)E.

8-20.3(4) Foundations

*Supplement this Section with the following:*

Foundations for traffic signal poles, streetlight poles, and cabinets shall be as specified in the Plans, in these Special Provisions, and in the Standard Plans and Specifications.

Concrete shall be placed against undisturbed earth where possible. Prior to placing the concrete, the Contractor shall block out around any other underground utilities that may lie in the excavated base to prevent foundation adherence to the utility line. Concrete foundations shall be troweled, brushed, edged and finished. All concrete on the anchor bolts shall be immediately removed following pouring of the foundation. Conduits shall be temporarily capped during the pour to prevent concrete from entering.

Foundation locations indicated in the Plans may be slightly revised in the field by the Engineer to improve effectiveness or due to unforeseen conflicts with existing facilities. Prior to foundation excavation, all locations shall be approved by the Engineer.

Pole foundations in sidewalks shall be placed flush with the finished surface of the sidewalk unless otherwise shown in the Plans. The foundation and sidewalk shall be separated by a 3/4-inch expansion joint such that the foundation can be removed without damage to the surrounding sidewalk. The top 4 inches of all foundations shall be square with sides equal to the diameter.

The void between the foundation and the pole flange shall be no larger than 4 inches and shall be completely filled around the conduit(s) with dry pack mortar and neatly troweled. A plastic drain, 1/2-inch diameter, shall be placed in the mortar to provide drainage from the interior of the pole to the exterior. The plastic drain pipe shall be neatly trimmed flush with the surfaces.

The dry pack mortar shall consist of a 1:3 cement to fine sand mixture with enough water to allow the mixture to stick together when molded into a ball by hand, but will not exude water when pressed.

8-20.3(5) Conduit

8-20.3(5)A General

*Supplement this Section with the following:*

The size of conduit shall be as shown on the Plans.

All conduit above ground, regardless of contents, shall be galvanized rigid steel conduit. Schedule 80 rigid PVC conduit shall be used at all other locations.

All galvanized conduit in contact with concrete shall be wrapped with 2-inch-wide, 10-mil-thick electrical tape, half-lapped.
Each empty conduit run shall contain a 200-pound breaking strength polyolefin pull cord, which shall
be tied off at both ends.

All conduit installed underground shall have metal detectable Underground Hazard Marking Tape,
6 inches wide, red, legend “Caution-Electric Line Buried Below,” placed approximately 12 inches
above the conduit.

**Damaged or Blocked Conduits**

Damaged or blocked conduits shall be repaired by the Contractor. The Contractor shall attempt to
remove debris in the conduit by blowing in air. The Contractor shall be careful not to blow air towards
the service or controller cabinet. If the blockage doesn’t break free, the Contractor shall identify the
potential blocked/damaged location using a fish tape. Once the blockage location is identified the
Contractor shall attempt to remove the existing cabling (if any) from the conduit. If the cabling is
removed, the Contractor shall attempt to pass a fish tape through the conduit again. If the fish tape
passes through the conduit past the identified blockage point easily, the Contractor shall attempt to
reinstall all existing cabling along with any new cabling called out in the Contract Plans. If the existing
cabling cannot be removed, or reinstalled after removal, the Contractor shall excavate down to the
conduit blockage point and repair the conduit break. The Contractor shall obtain approval from the
Engineer prior to removing existing cabling or beginning excavation. All cabling shall be removed
from the conduit prior to repairing the broken conduit. Once the conduit is repaired, the Contractor
shall restore the disturbed area. The removal of cable, excavation, conduit repair, and surface restoration
will be paid for by force account. The cost for other work needed to identify and remedy blocked
conduits as described in this section shall be incidental to lump sum items for the signal and illumination
work.

**Pull Tape**

Each conduit run shall contain a pull tape meeting the requirements of Section 9-29.27 of these Special
Provisions, which shall be tied off at both ends.

To allow for utility locates to occur in conduit segments that do not contain electrical conductors, the
Contractor shall add a detectable pull tape in one of the conduits in the same trench. All other spare
conduit may utilize non-detectable pull tape.

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

*Supplement this Section with the following:*

The locations of the junction boxes as shown in the Plans are approximate and the exact locations shall
be determined in the field by the contractor and approved by the engineer prior to installation. Junction
boxes shall be located outside the traveled way, curb ramps and landings, and driveways. The new
junction box shall not interfere with any other previous or relocated installation. The lid shall also be
flush with its frame and with the surrounding area whether it is shoulder, sidewalk, or other surface.
All junction boxes installed in pedestrian access routes shall have non-skid, factory-coated lids and
frames per Section 9-29.2(1)A and 9-29.2(2) of these Special Provisions.

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

Adjustments involving raising or lowering the junction boxes shall require conduit modification. The
resultant clearance between top of conduit and the junction box lid shall be no less than 6-inches or no
greater than 10-inches as shown in the WSDOT Standard Plan J-40.10. Wiring shall be replaced if sufficient slack as specified in Section 8-20.3(8) of the Standard Specifications cannot be maintained, as determined by the Engineer, replacement of wiring when not already required by the Contract will be paid by Force Account.

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

Damage to the junction boxes, pull boxes, cable vaults and the associated conduit system, or wiring resulting from the Contractor's operations, shall be replaced at no additional cost to the Contracting Agency.

When using an existing junction box, the Contractor shall modify the junction box such that it will be bonded to the grounding system.

8-20.3(8) Wiring

Supplement this Section with the following:

For installing new cables in existing occupied or empty conduit, the Contractor shall be responsible for the following steps: 1) Install a new pull rope using a rod/fish tape in the conduit for pulling in the new cabling if a pull rope does not already exist. 2) If the Contractor cannot get the rod/fish tape to pass through the conduit, the Contractor shall blow air through the conduit to remove any debris blocking the rod/fish tape path. The Contractor shall be careful not to blow air into controller or service cabinets. 3) If the rod/fish tape still does not pass through the conduit after blowing air, the Contractor shall disconnect a single existing wire as agreed to by the Engineer (if the conduit is occupied) and use that wire to pull the new wiring plus a new cable to replace the existing cable that is being used for pulling. 4) If no existing wire can be used to pull in the new wire, the Contractor shall try another conduit run if one exists, or pull out all existing wiring from the conduit and use to pull in the new wiring plus all new cabling to replace existing cabling. Rodding, fish taping, blowing air, and disconnecting/reconnecting cable shall be the Contractor’s cost responsibility. In an event that none of these steps led to successful wire installation, the Contractor shall install new conduit as directed by the Engineer to be paid by Force Account.

All illumination circuits shall be labeled with a PVC marking sleeve bearing the circuit number at each junction box whether splices are present or not. Terminal strips in cabinets, or when used as a connection device between conductors, shall bear the circuit numbers.

8-20.3(9) Bonding, Grounding

Supplement this Section with the following:

All new and existing junction boxes, cable vaults and pull boxes that an equipment-grounding conductor is pulled to shall be bonded in accordance with Standard Specifications Section 8-20.3(9).

Location wires shall not be connected to the equipment-grounding system.

8-20.3(13) Illumination Systems

8-20.3(13)C Luminaires

Supplement this Section with the following:

Each roadway luminaire shall be installed with a shorting cap on each individual luminaire fixture.
The luminaires as part of the bid item “Illumination System, Complete” shall be terminated in existing service cabinet breaker into a circuit independent of any existing illumination circuits. Coordinate work with City Traffic Maintenance Department Representative.

8-20.3(14) Signal Systems

8-20.3(14)A Signal Controllers
Supplement this Section with the following:

Only journey level work, in the presence of the City Traffic Maintenance Department Representative, is allowed in controller cabinets.

8-20.3(14)C Induction Loop Vehicle Detectors
Supplement this Section with the following:

The Contractor shall disconnect existing system loop vehicle detectors as directed by the Contract Plans. All disconnections shall be done in the presence of the City of Kirkland Traffic Maintenance Representative. System shall be disconnected prior to saw cutting/grinding, Contractor shall label wiring before disconnecting system Loop. System loop can be non-operational during construction, no video detection camera required.

Add the following new Sub-Sections:

8-20.3(14)F Pedestrian Push Button Assembly
The Contractor shall relocate existing APS style pedestrian push buttons to new signal poles and complete conduit/wiring installation as shown on the Plans.

The position of the pedestrian push buttons shall be approved by the Engineer prior to drilling.

8-20.3(17) “As-Built” Plans
Supplement this section with the following:

The Contractor shall keep current “pencil redline” as-built drawings for any installation and/or modification. As-built drawings shall be available to the Engineer upon request.

8-20.4 Measurement
Supplement this section with the following:

All below listed “_______ System, Complete”, shall be per lump sum for a complete system and no specific unit of measurement will apply.

8-20.5 Payment
Supplement this section with the following:

“Illumination System, Complete”, lump sum.

The lump sum Contract price shall be full compensation for the costs of all tools, equipment, materials, and labor necessary and incidental to provide a complete and operational illumination system, including but not limited to: foundations, luminaire poles, arms, luminaires, junction boxes, wiring, conduit, excavation, bedding, backfill, surface restoration for items where a specific bid item is not provided in the proposal, required testing and inspection, salvaging removed equipment, and all other Work and materials as specified and shown in the Plans.

The lump sum Contract price shall be full compensation for the costs of all tools, equipment, materials, and labor necessary and incidental to provide modifications to existing signal system, including but not limited to: foundations, poles, relocation of existing push buttons, vehicle detection loops, junction boxes, adjustment of existing junction boxes, wiring, conduit, excavation, bedding, backfill, surface restoration for items where a specific bid item is not provided in the proposal, required testing and inspection, salvaging removed equipment, and all other Work and materials as specified and shown in the Plans.

8-21 PERMANENT SIGNING

8-21.3 Construction Requirements

Supplement this section with the following:

Existing signs, as shown on the Plans where in conflict with proposed improvements, shall be temporarily removed and reinstalled in their original locations or permanently removed and replaced with new signs as indicated on the Plans. All existing signs noted for reinstallation shall be protected during construction and reinstalled in their original condition. Relocated signs shall be installed on new posts with all new hardware.

Signs noted for reinstallation that become damaged as a result of construction for this project shall be replaced at the Contractor’s expense. Any damage to signs not noted for removal as a result of construction activities shall also be replaced at the Contractor’s expense.

Regulatory signs must remain visible to traffic and pedestrians at all times; temporary placement of regulatory signs may be necessary by portable sign stand or other means. Temporary regulatory signs shall be placed as close to the original sign’s location as practicable. All regulatory sign placement, whether temporary or permanent, shall follow the requirements of the Manual on Uniform Traffic Control Devices (MUTCD), latest version.

All new or relocated signs in the proposed planter shall be installed with 8-foot vertical clearance from bottom of plaque to surface of shared-use path.

8-21.5 Payment

Supplement this section with the following:

“Permanent Signing”, lump sum.

The lump sum Contract price for “Permanent Signing” shall be full compensation for all costs necessary and incidental to complete the work, including but not limited to removing existing signing, temporarily reinstalling signs to accommodate construction activities, and all new sign posts, excavation and backfill, hardware, and foundations.

Modification of existing private signs shall be paid under “Minor Changes”.

8-22 PAVEMENT MARKING

8-22.4 Measurement

Supplement this section with the following:

No specific unit of measurement will apply to the lump sum item “Removal of Pavement Markings”.
8-22.5 Payment

Supplement this section with the following:

“Removal of Pavement Markings”, lump sum.

The lump sum Contract price for “Removal of Pavement Markings” shall be full compensation for all costs necessary and incidental to removing existing markings in conflict with improvements.

END OF DIVISION 8
DIVISION 9
MATERIALS

9-14    EROSION CONTROL AND ROADSIDE PLANTING

9-14.1(1)   Topsoil Type A

Supplement this section with the following:

Topsoil Type A shall be 50% pure organic compost and 50% sand or sandy loam. The soil shall be high in organic content and comprised of fully composted and mature organic materials.

Refer to Section 9-14.4(8) Compost of the Standard Specifications for compost requirements. No fresh sawdust or other fresh wood by-products shall be added to extend the volume after the composting process.

Chemical and physical characteristic of Topsoil Type A shall comply with the following:

<table>
<thead>
<tr>
<th>Screen Size</th>
<th>7/16” Maximum (Approximate Particle Size)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Nitrogen</td>
<td>0.25% Minimum</td>
</tr>
<tr>
<td>Organic Matter</td>
<td>10% Minimum</td>
</tr>
<tr>
<td>pH Range</td>
<td>5.5 to 7.5</td>
</tr>
<tr>
<td>Conductivity</td>
<td>5 mmhos/cm Maximum</td>
</tr>
</tbody>
</table>

The Contractor shall provide a complete analysis of Topsoil Type A with one cubic foot sample for review and approval.

9-14.2   Seed

Supplement this section with the following:

<table>
<thead>
<tr>
<th>Kind and Variety of Seed in Mixture</th>
<th>% By Weight</th>
<th>% Pure Seed</th>
<th>Minimum % Germination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Festuca arundinacea / Tall Fescue</td>
<td>40%</td>
<td>99% weed free</td>
<td>90%</td>
</tr>
<tr>
<td>Festuca rubra / Creeping Red Fescue</td>
<td>25%</td>
<td>99% weed free</td>
<td>90%</td>
</tr>
<tr>
<td>Agrostis capillaris var. ‘Highland’ / Highland Colonia Bentgrass</td>
<td>5%</td>
<td>99% weed free</td>
<td>90%</td>
</tr>
<tr>
<td>Lolimum perenne (blend of two) / Perennial Ryegrass</td>
<td>30%</td>
<td>99% weed free</td>
<td>90%</td>
</tr>
</tbody>
</table>

Seed shall be applied at a rate of 80 pounds per acre on areas requiring seeding, fertilizing and mulching.

All seed mixes must be certified as 99% weed-free and 90% viable seed by germination tests and by age specification by species.

Fertilizer shall be applied at a rate and type per seed supplier’s recommendations, and installed using an approved-type hydro-seeder.
9-14.3 **Fertilizer**  
*Supplement this section with the following:*

Fertilizer for shrubs shall be Agriform slow release 20-10-5 NPK tablets, or approved equal.

9-14.4(3) **Bark or Wood Chip Mulch**  
*Supplement this section with the following:*

Bark mulch shall be medium grade composted ground fir or hemlock bark.

The bark shall be uniform in color, free from weed seeds, sawdust and splinters. The mulch shall not contain resin, tannin, wood fiber or other compounds detrimental to plant life. The moisture content of bagged mulch shall not exceed 22%. The acceptable size range of bark mulch material is ½-inch to 1-inch with maximum of 20% passing the ½-inch screen.

9-14.6 **Plant Materials**

9-14.6(2) **Quality**  
*Supplement this section with the following:*

Plant material shall be free from disfiguring knots, swollen grafts, sunscald injuries, bark abrasions, evidence of improper pruning or other objectionable disfigurement.

Potted and container stock shall be well rooted and vigorous enough to ensure survival and healthy growth. Shrubs shall have full foliage (not leggy). Container stock shall be grown in its delivery container for not less than six (6) months, but not for more than two (2) years. Root bound or broken containers will not be accepted. Bare root, liner and root stock with dried or shriveled roots from exposure will not be accepted.

Measurements, caliper, branching, grading, quality, balling and burlapping shall follow the Code of Standards of the American Associate of Nurserymen in the American Standard for Nursery Stock, ANSI 260.1, latest edition. Measurements shall be taken with all branches in their normal growing position. Plants shall not be pruned prior to delivery to site.

9-14.6(3) **Handling and Shipping**  
*Supplement this section with the following:*

All plant material shall be transported to planting locations with care to prevent damage. Tie back branches as necessary, and protect bark from chafing with burlap bags. Do not drag plant materials along ground without proper protection of roots and branches. Protect rootballs from environmental or mechanical damage and water as necessary to keep roots moist. Do not store plants for more than one week.

9-14.6(4) **Tagging**  
*Supplement this section with the following:*

All plant material shall be legibly tagged. Tagging may be by species or variety with minimum of one tag per ten trees, shrubs, or groundcovers. Remove all tagging prior to final acceptance.
9-14.6(5) Inspection
Supplement this section with the following:

The Contracting Agency shall reserve the option of selecting and inspecting plant material at the nursery. The Contractor shall provide the Contracting Agency with at least one week notice prior to preparing plants for shipping and delivery. The Contractor shall neither deliver to site nor install plant materials until authorized by the Contracting Agency.

9-14.6(7) Temporary Storage
Supplement this section with the following:

Cold storage of plants shall not be permitted.

If planting is delayed more than 24 hours after delivery, set balled and burlapped plants on the ground, well protected with soil or wet peat. Adequately cover all roots of bare root material with soil or wet peat. Protect rootballs from freezing, sun, drying winds or mechanical damage. Water plant material as necessary until planted.

Plants shall not be stored for more than one week. Longer storage period at project site will result in rejection of plant materials by the Contracting Agency.

9-29 ILLUMINATION, SIGNAL, ELECTRICAL
Supplement this section with the following:

General

All bolts, nuts, washers, and other fasteners shall be stainless steel unless otherwise specified herein.

Where applicable, all materials, equipment, and installation procedures shall conform to the current requirements and standards of the State of Washington Department of Labor and Industries.

9-29.2 Junction Boxes, Cable Vaults, and Pull Boxes
Supplement this section with the following:

Type 1 and Type 2 junction boxes shall be concrete and shall be as noted in the Plans and in conformance with WSDOT Standard Plan J-40.10. Type 8 junction boxes (dual lid) shall conform to WSDOT Standard Plan J-40.30.

All junction boxes shall have lockable covers and non-slip surface on the cover and frame. All covers and frames shall be hot-dip galvanized at the factory.

9-29.2(1)A Standard Duty Junction Boxes
Supplement this section with the following:

Junction boxes shall have galvanized metallic lids.

Junction box markings shall conform to Section 9-29.2(4) of the Standard Specifications, except shall be marked per the following schedule:

<table>
<thead>
<tr>
<th>System Type</th>
<th>Legend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illumination</td>
<td>SL</td>
</tr>
<tr>
<td>Traffic Signal</td>
<td>TS</td>
</tr>
</tbody>
</table>
The Non-slip lid and frame shall be made of the following material:

- Non-slip lid: ASTM A36 flat steel
- Non-slip frame: ASTM A36 flat steel

Both the non-slip lid and non-slip frame shall be treated with Mebac1 (their most aggressive surface) as manufactured by IKG industries, or SlipNOT Grade 3-coarse as manufactured by W.S. Molnar Co. The non-slip lid shall be identified with permanent marking on the underside indicating the type of surface treatment (“M1” for Mebac 1; or “S3” for SlipNot3) and the year of manufacturer. The permanent marking shall be 1/8 inch line thickness formed by engraving, stamping or with a stainless steel weld bead.

9-29.6(1) Steel Light and Signal Standards

*Supplement this section with the following:*

**Signal Standards**

The work shall consist of furnishing traffic signal standards of the following types:

**Type PPB**

Pedestrian Push-button Posts

**General**

Traffic signal standards shall conform to these specifications and the following:


All standards shall be furnished complete with end caps, handhole covers and anchor bolts. All standards shall be round.

**Anchor bolts**

Anchor bolts shall be furnished by the Contractor in sets as required by the Standard Plans and WSDOT Standard Specification Section 9-29.6(5) Foundation Hardware or pre-approved plans for traffic signal standards and shall be complete with nuts and washers, strap templates and any required plates.

**Fabrication Requirements**

Traffic signal standards shall be furnished in accordance with the methods and materials noted in the applicable Standard Plans, pre-approved plans and WSDOT Standard Specifications.

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

Traffic signal standard types and applicable characteristics are as follows:

**Type PPB**

Pedestrian push button posts shall conform to Standard Plan J-20.10

Shafts for Type PPB standards will require identification tags. A corrosion resistant metal tag shall be secured with two 0.125 inch rivets located 18 inches above the base of the standard. The tag shall be stamped or embossed with the manufacturer's name, pre-approved drawing number and manufacturer’s production part number.
Anchor bolts, complete with nuts, washers and plates shall be bundled and tagged with the signal standard identification numbers.

All other components for each signal standard, including arm connection hardware and caps shall be delivered in a cloth bag that has been marked with the signal standard identification numbers.

**Documentation**

Approved shop drawings and certification reports, including mill certifications for signal standards, strain pole standards, high strength bolts and anchor bolts and non-destructive testing reports shall be submitted for each signal pole standard and anchor bolt set. All certifications and reports shall be marked with the purchase order number, contract number and signal standard identification numbers. The purchaser and fabrication inspector shall receive copies of the shop drawings through the shop drawing approval process. The certification reports, including mill certifications and non-destructive testing reports and anchor bolt reports shall be sent to the fabrication inspector.

**Finish**

All signal standards, luminaires and all associated sub-components shall be factory surface prepared and galvanized in accordance with the requirements of Section 6-07 and Section 9-08 of the Standard Specifications.

**Steel Light Standards**

Light standards shall be furnished and installed per the Plans and WSDOT Standard Plan J-28.10 and City of Kirkland Standard Plan CK-TS.08 (type 1 arm, breakaway base, 4-anchor bolt configuration).

Light standards shall conform to these specifications and the following:

2. Latest Amendments to the Standard Specifications for Road, Bridge and Municipal Construction
3. WSDOT Standard Plans for Road, Bridge and Municipal Construction
4. Pre-approved plans for light standards

All standards shall be furnished complete with handhole covers and all components shall be furnished complete with all connection hardware.

For light standards that are NOT on the WSDOT pre-approved list, complete calculations for structural design shall be submitted with the shop drawings for approval before fabrication or ordering material. These calculations shall include the stresses in the pole and arms; the deflections at the free end of the arm; and the pole section at handhole, base plate, anchor bolts, and foundation.

**Fabrication Requirements**

Light Standards and Components shall be fabricated in accordance with the methods and material noted in the applicable WSDOT Standard Plans, pre-approved plans, WSDOT Standard Specifications and Amendments. Welding inspection shall comply with Section 6-03.3(25)A of the Standard Specifications.

**Component Identification**

Light standards and luminaire arms will require identification tags. The tags shall conform to the detail shown on the pre-approved drawings. Base assemblies shall be bundled or packaged together complete with nuts, bolts, and washers and marked with the light standard number and contract number or
purchase order number. Anchor bolt sets, complete with nuts, washers plates and templates shall be bundled and tagged with the contract number or purchase order identification numbers.

**Documentation**

All manufacturer certification reports, including mill certifications, non-destructive testing reports, and anchor bolt reports shall be submitted for each light standard, component, and anchor bolt set. All certifications and reports shall be marked with the purchase order number and contract number and shall be sent to the fabrication inspector. The Contractor shall notify the City, in advance, of the arrival of the light standards and components at the delivery site so that inspection can be scheduled.

**Finish**

All light standards, luminaires and all associated sub-components shall be factory surface prepared and galvanized in accordance with the requirements of Section 6-07 and Section 9-08 of the Standard Specifications.

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

*Supplement this section with the following:*

Luminaire fusing shall be SEC Single-Fused Connector Kit, Model SEC 1791-SF. Fuses shall be Bussman Type FNM, Reliance MEN, or Gould-Shawmut TRM, and shall be 10 A.

Fuse connectors shall be installed in the junction box at every traffic signal pole and luminaire pole containing a luminaire. Every conductor above ground potential shall be served by a fused connector.

9-29.10 Luminaires

*Delete paragraphs three and four, and replace with the following:*

All luminaires shall be provided with markers for positive identification of light source type and wattage. Markers shall conform to ANSI C136.15-2011 “American National Standard for Roadway and Area Lighting Equipment – Luminaire Field Identification”

9-29.10(1) Conventional Roadway Luminaires

*Replace this section with the following:*

Conventional LED roadway luminaires shall be furnished and installed by the Contractor and shall meet the general requirements of Section 9-29 Illumination, Signals, and Electrical of the Standard Specifications.

Head module for the Conventional Roadway Luminaires shall be cobra-head configuration with an aluminum housing with universal four-bolt slip fitter mounts to 2” diameter tenon. Electrical components shall be accessed without tools and shall be mounted on a removable power door. Power door shall include quick disconnects to terminal block and LED board. Housing shall be fade and abrasion resistant powder coat per Section 6-07 of these Special Provisions.

LEDs shall produce a minimum of 70% of initial intensity at 70,000 hours of life. LEDs shall be tested in accordance with IESNA LM-80 testing procedures and testing results shall be provided to the Engineer.

Conventional LED roadway luminaires shall be classified as full cutoff with 0% total lumens above 90°.

Nominal color temperature shall be 4000K.
Driver shall contain integral surge protector.

Optical systems shall be IP66 rated.

All furnished Roadway LED luminaires as noted in the plans shall be:

- Leotek GreenCobra Midsize Street Light with 40 LEDs (88 watts), Universal 120-277V Electronic Driver, 4000K Nominal Color Temperature, Type 3R Light Distribution, Gray Finish, Factory Set 700mA Drive Current and field installable House Side Shield (GCM2-40H-MV-NW-3R-GY-700-4B)
- Or Engineer approved equal.

**Conventional Roadway Luminaire Performance Specifications**

If “approved equal” Roadway Luminaire fixture is selected for use in this contract, the Roadway Luminaire manufacturer shall meet the following criteria (in addition to the above listed requirements):

- Luminaire photometric shall meet the project design criteria (minimum average and maximum uniformity) without modifying pole locations as shown on the Plans or altering luminaire mounting height (The design criteria must be met accounting for both Roadway Luminaires and Decorative Luminaires per Section 9-29.10(2) of the Standard Specifications). Luminaires shall be laboratory tested by certified independent testing laboratories in accordance with IES LM-79 testing procedures. The Contractor’s provided illumination calculations (in the form of an AGI-32 file including roadway and pedestrian scale luminaires) shall meet the following requirements and be subject to the Engineer’s approval;

  - Collector Arterial with Medium Pedestrian conflict (Willows Road) 0.5 fc Minimum Average 4:1 Average Uniformity 0.4 Maximum Veiling Ratio
  - Intersection with Collector/ Local Arterial (141st Ave NE) 1.0 fc Minimum Average 4:1 Average Uniformity
  - Walkways/Shared Use Paths 0.3 fc Minimum Average 6:1 Average Uniformity 0.08 Minimum Vertical Illuminance

An AGI-32 file with luminaire locations and calculation areas may be obtained from the Engineer upon request.

These average illuminance and uniformity values were obtained from the IES Roadway Lighting Manual (RP-8-00, June 2000) with a 20% reduction to average maintained footcandles allowed for LED luminaires.

- All furnished Roadway LED luminaires shall be of the same manufacturer. Modifications from the Plans must be clearly outlined and presented to the Engineer.
- Luminaire appearance and size shall be subject to the Engineer’s approval;
- Ease of maintenance, including tool-less entry, and availability of spare components shall be demonstrated to the Engineer.
9-29.11 Control Equipment

Replace this section with the following:

Illumination circuits shall be controlled by a combination of photoelectric controls and lighting contactors as noted in the Plans.

9-29.11(2) Photoelectric Controls

Supplement this section with the following:

The photoelectric control shall have a minimum 1-year warranty.

9-29.12 Electrical Splice Materials

9-29.12(1) Illumination Circuit Splices

Supplement this section with the following:

All splices for the illumination circuit shall be made in the junction box employing an epoxy resin type splice kit as specified in the Standard Specifications.

Add the following new Sections:

9-29.27 Pull Tape

Placement of detectable or non-detectable pull tape shall be determined per Section 8-20.3(5) of these Special Provisions.

For locations with detectable pull tape, the Contractor shall furnish and install a flat polyester woven pre-lubed tape that contains a 22-gauge wire.

All pull tapes (detectable and non-detectable) shall be marked with sequential footage markings and be continuous.

All pull tapes (detectable and non-detectable) shall meet or exceed a breaking strength of 900 lb., with a width of 1/2-inch.

END OF DIVISION 9

END OF SPECIAL PROVISIONS
PREVAILING WAGE RATES
Washington State Prevailing Wage

The PREVAILING WAGES listed here include both the hourly wage rate and the hourly rate of fringe benefits. On public works projects, worker’s wage and benefit rates must add to not less than this total. A brief description of overtime calculation requirements are provided on the Benefit Code Key.

Journey Level Prevailing Wage Rates for the Effective Date: 02/12/2020

<table>
<thead>
<tr>
<th>County</th>
<th>Trade</th>
<th>Job Classification</th>
<th>Wage</th>
<th>Holiday</th>
<th>Overtime</th>
<th>Note</th>
<th>*Risk Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>King</td>
<td>Asbestos Abatement Workers</td>
<td>Journey Level</td>
<td>$50.86</td>
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<td>1H</td>
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<tr>
<td>King</td>
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<tr>
<td>King</td>
<td>Brick Mason</td>
<td>Pointer-Caulker-Cleaner</td>
<td>$58.82</td>
<td>5A</td>
<td>1M</td>
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<tr>
<td>King</td>
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<td>Janitor</td>
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</tr>
<tr>
<td>King</td>
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<td>Traveling Waxer/Shampooer</td>
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<td>5S</td>
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<tr>
<td>King</td>
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<tr>
<td>King</td>
<td>Building Service Employees</td>
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<td>Floor Layer</td>
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<td>Application of all Composition Mastic</td>
<td>$62.97</td>
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<td>Application of Sealing Compound</td>
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<td>Composition or Kalman Floors</td>
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<td>Curb &amp; Gutter Machine</td>
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<td>4U</td>
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<td>Cement Masons</td>
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<td>Cement Masons</td>
<td>Grouting of all Tilt-up Panels</td>
<td>$62.47</td>
<td>7A</td>
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<td>King</td>
<td>Cement Masons</td>
<td>Gunite Nozzleman</td>
<td>$62.97</td>
<td>7A</td>
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<td>King</td>
<td>Cement Masons</td>
<td>Hand Powered Grinder</td>
<td>$62.97</td>
<td>7A</td>
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<td>King</td>
<td>Cement Masons</td>
<td>Journey Level</td>
<td>$62.47</td>
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<tr>
<td>King</td>
<td>Cement Masons</td>
<td>Patching Concrete</td>
<td>$62.47</td>
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<td>King</td>
<td>Cement Masons</td>
<td>Pneumatic Power Tools</td>
<td>$62.97</td>
<td>7A</td>
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<td>King</td>
<td>Cement Masons</td>
<td>Power Chipping &amp; Brushing</td>
<td>$62.97</td>
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<td>King</td>
<td>Cement Masons</td>
<td>Sand Blasting Architectural Finish</td>
<td>$62.97</td>
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<td>King</td>
<td>Cement Masons</td>
<td>Spackling or Skim Coat Concrete</td>
<td>$62.47</td>
<td>7A</td>
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<tr>
<td>King</td>
<td>Cement Masons</td>
<td>Troweling Machine Operator</td>
<td>$62.97</td>
<td>7A</td>
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<td>King</td>
<td>Cement Masons</td>
<td>Tunnel Workers</td>
<td>$62.97</td>
<td>7A</td>
<td>4U</td>
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<tr>
<td>King</td>
<td>Divers &amp; Tenders</td>
<td>Bell/Vehicle or Submersible Operator (Not Under Pressure)</td>
<td>$116.20</td>
<td>7A</td>
<td>4C</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Divers &amp; Tenders</td>
<td>Dive Supervisor/Master</td>
<td>$79.23</td>
<td>7A</td>
<td>4C</td>
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<td>King</td>
<td>Divers &amp; Tenders</td>
<td>Diver</td>
<td>$116.20</td>
<td>7A</td>
<td>4C</td>
<td>8V</td>
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<td>King</td>
<td>Divers &amp; Tenders</td>
<td>Diver On Standby</td>
<td>$74.23</td>
<td>7A</td>
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<td>King</td>
<td>Divers &amp; Tenders</td>
<td>Diver Tender</td>
<td>$67.31</td>
<td>7A</td>
<td>4C</td>
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<tr>
<td>King</td>
<td>Divers &amp; Tenders</td>
<td>Manifold Operator</td>
<td>$67.31</td>
<td>7A</td>
<td>4C</td>
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<td>King</td>
<td>Divers &amp; Tenders</td>
<td>Manifold Operator Mixed Gas</td>
<td>$72.31</td>
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<td>King</td>
<td>Divers &amp; Tenders</td>
<td>Remote Operated Vehicle Operator/Technician</td>
<td>$67.31</td>
<td>7A</td>
<td>4C</td>
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<td>King</td>
<td>Divers &amp; Tenders</td>
<td>Remote Operated Vehicle Tender</td>
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<td>King</td>
<td>Dredge Workers</td>
<td>Assistant Engineer</td>
<td>$56.44</td>
<td>5D</td>
<td>3F</td>
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<tr>
<td>King</td>
<td>Dredge Workers</td>
<td>Assistant Mate (Deckhand)</td>
<td>$56.00</td>
<td>5D</td>
<td>3F</td>
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<tr>
<td>King</td>
<td>Dredge Workers</td>
<td>Boatmen</td>
<td>$56.44</td>
<td>5D</td>
<td>3F</td>
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<td>Occupation</td>
<td>Level</td>
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<td>King Dredge Worker Engineer Welder</td>
<td>$57.51</td>
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<td>King Dredge Worker Mates</td>
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<td>King Dredge Worker Oiler</td>
<td>$56.00</td>
<td>5D</td>
<td>3F</td>
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<tr>
<td>King Drywall Applicator Journey Level</td>
<td>$62.44</td>
<td>5D</td>
<td>1H</td>
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<tr>
<td>King Drywall Tapers Journey Level</td>
<td>$62.94</td>
<td>5P</td>
<td>1E</td>
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<tr>
<td>King Electrical Fixture Maintenance Worker</td>
<td>$30.59</td>
<td>5L</td>
<td>1E</td>
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<tr>
<td>King Electricians - Inside Cable Splicer</td>
<td>$83.17</td>
<td>7C</td>
<td>4E</td>
<td></td>
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<tr>
<td>King Electricians - Inside Cable Splicer (tunnel)</td>
<td>$89.34</td>
<td>7C</td>
<td>4E</td>
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<td>King Electricians - Inside Certified Welder</td>
<td>$80.36</td>
<td>7C</td>
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<td>King Electricians - Inside Certified Welder (tunnel)</td>
<td>$86.25</td>
<td>7C</td>
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<td>King Electricians - Inside Construction Stock Person</td>
<td>$41.48</td>
<td>7C</td>
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<td>King Electricians - Inside Journey Level</td>
<td>$77.55</td>
<td>7C</td>
<td>4E</td>
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<td>King Electricians - Inside Journey Level (tunnel)</td>
<td>$83.17</td>
<td>7C</td>
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<tr>
<td>King Electricians - Motor Shop Journey Level</td>
<td>$45.08</td>
<td>5A</td>
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<td>King Electricians - Powerline Construction Cable Splicer</td>
<td>$79.60</td>
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<tr>
<td>King Electricians - Powerline Construction Certified Line Welder</td>
<td>$72.98</td>
<td>5A</td>
<td>4D</td>
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<tr>
<td>King Electricians - Powerline Construction Groundperson</td>
<td>$47.94</td>
<td>5A</td>
<td>4D</td>
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<tr>
<td>King Electricians - Powerline Construction Heavy Line Equipment Operator</td>
<td>$72.98</td>
<td>5A</td>
<td>4D</td>
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<td>King Electricians - Powerline Construction Journey Level Lineperson</td>
<td>$72.98</td>
<td>5A</td>
<td>4D</td>
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<td>King Electricians - Powerline Construction Line Equipment Operator</td>
<td>$62.06</td>
<td>5A</td>
<td>4D</td>
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<tr>
<td>King Electricians - Powerline Construction Meter Installer</td>
<td>$47.94</td>
<td>5A</td>
<td>4D</td>
<td>8W</td>
<td>View</td>
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<tr>
<td>King Electricians - Powerline Construction Pole Sprayer</td>
<td>$72.98</td>
<td>5A</td>
<td>4D</td>
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<td>King Electricians - Powerline Construction Powderperson</td>
<td>$54.55</td>
<td>5A</td>
<td>4D</td>
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<tr>
<td>King Electronic Technicians Journey Level</td>
<td>$51.07</td>
<td>7E</td>
<td>1E</td>
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<tr>
<td>King Elevator Constructors Mechanic</td>
<td>$94.22</td>
<td>7D</td>
<td>4A</td>
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<td>King Elevator Constructors Mechanic In Charge</td>
<td>$101.73</td>
<td>7D</td>
<td>4A</td>
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<tr>
<td>King Fabricated Precast Concrete Products All Classifications - In-Factory Work Only</td>
<td>$18.25</td>
<td>5B</td>
<td>1R</td>
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<tr>
<td>King Fence Erectors Fence Erector</td>
<td>$43.11</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
<td>View</td>
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<tr>
<td>King Fence Erectors Fence Laborer</td>
<td>$43.11</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
<td>View</td>
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<tr>
<td>King Flaggers Journey Level</td>
<td>$43.11</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
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<td>King Glaziers Journey Level</td>
<td>$66.51</td>
<td>7L</td>
<td>1Y</td>
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<td>King Heat &amp; Frost Insulators And Asbestos Workers Journeyman</td>
<td>$76.61</td>
<td>5J</td>
<td>4H</td>
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<td>King Heating Equipment Mechanics Journey Level</td>
<td>$85.88</td>
<td>7F</td>
<td>1E</td>
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<tr>
<td>King Journey Level</td>
<td>$52.44</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
<td>View</td>
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<tr>
<td>Labor</td>
<td>Department/Position</td>
<td>Skill Level</td>
<td>Hourly Rate</td>
<td>Rate Code</td>
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<tr>
<td>King</td>
<td><strong>Hod Carriers &amp; Mason Tenders</strong></td>
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<tr>
<td>King</td>
<td><strong>Industrial Power Vacuum Cleaner</strong></td>
<td>Journey Level</td>
<td>$13.50</td>
<td>1</td>
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<tr>
<td>King</td>
<td><strong>Inland Boatmen</strong></td>
<td>Boat Operator</td>
<td>$61.41</td>
<td>5B 1K</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Inland Boatmen</strong></td>
<td>Cook</td>
<td>$56.48</td>
<td>5B 1K</td>
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<tr>
<td>King</td>
<td><strong>Inland Boatmen</strong></td>
<td>Deckhand</td>
<td>$57.48</td>
<td>5B 1K</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Inland Boatmen</strong></td>
<td>Deckhand Engineer</td>
<td>$58.81</td>
<td>5B 1K</td>
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<tr>
<td>King</td>
<td><strong>Inland Boatmen</strong></td>
<td>Launch Operator</td>
<td>$58.89</td>
<td>5B 1K</td>
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<td>King</td>
<td><strong>Inland Boatmen</strong></td>
<td>Mate</td>
<td>$57.31</td>
<td>5B 1K</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Inspection/Cleaning/Sealing Of Sewer &amp; Water Systems By Remote Control</strong></td>
<td>Cleaner Operator, Foamer Operator</td>
<td>$31.49</td>
<td>1</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Inspection/Cleaning/Sealing Of Sewer &amp; Water Systems By Remote Control</strong></td>
<td>Grout Truck Operator</td>
<td>$13.50</td>
<td>1</td>
<td>View</td>
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<td>King</td>
<td><strong>Inspection/Cleaning/Sealing Of Sewer &amp; Water Systems By Remote Control</strong></td>
<td>Head Operator</td>
<td>$24.91</td>
<td>1</td>
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<tr>
<td>King</td>
<td><strong>Inspection/Cleaning/Sealing Of Sewer &amp; Water Systems By Remote Control</strong></td>
<td>Technician</td>
<td>$19.33</td>
<td>1</td>
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<td>King</td>
<td><strong>Inspection/Cleaning/Sealing Of Sewer &amp; Water Systems By Remote Control</strong></td>
<td>Tv Truck Operator</td>
<td>$20.45</td>
<td>1</td>
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<td>King</td>
<td><strong>Insulation Applicators</strong></td>
<td>Journey Level</td>
<td>$62.44</td>
<td>7A 4C</td>
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<tr>
<td>King</td>
<td><strong>Ironworkers</strong></td>
<td>Journeyman</td>
<td>$72.18</td>
<td>7N 1O</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Laborers</strong></td>
<td>Air, Gas Or Electric Vibrating Screed</td>
<td>$50.86</td>
<td>7A 4V 8Y</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Laborers</strong></td>
<td>Airtrac Drill Operator</td>
<td>$52.44</td>
<td>7A 4V 8Y</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Laborers</strong></td>
<td>Ballast Regular Machine</td>
<td>$50.86</td>
<td>7A 4V 8Y</td>
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<td>King</td>
<td><strong>Laborers</strong></td>
<td>Batch Weighman</td>
<td>$43.11</td>
<td>7A 4V 8Y</td>
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<td>King</td>
<td><strong>Laborers</strong></td>
<td>Brick Pavers</td>
<td>$50.86</td>
<td>7A 4V 8Y</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Laborers</strong></td>
<td>Brush Cutter</td>
<td>$50.86</td>
<td>7A 4V 8Y</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Laborers</strong></td>
<td>Brush Hog Feeder</td>
<td>$50.86</td>
<td>7A 4V 8Y</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Laborers</strong></td>
<td>Burner</td>
<td>$50.86</td>
<td>7A 4V 8Y</td>
<td>View</td>
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<td>King</td>
<td><strong>Laborers</strong></td>
<td>Caisson Worker</td>
<td>$52.44</td>
<td>7A 4V 8Y</td>
<td>View</td>
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<td>King</td>
<td><strong>Laborers</strong></td>
<td>Carpenter Tender</td>
<td>$50.86</td>
<td>7A 4V 8Y</td>
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<td>King</td>
<td><strong>Laborers</strong></td>
<td>Cement Dumper-paving</td>
<td>$51.80</td>
<td>7A 4V 8Y</td>
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<td>King</td>
<td><strong>Laborers</strong></td>
<td>Cement Finisher Tender</td>
<td>$50.86</td>
<td>7A 4V 8Y</td>
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<td>King</td>
<td><strong>Laborers</strong></td>
<td>Change House Or Dry Shack</td>
<td>$50.86</td>
<td>7A 4V 8Y</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Laborers</strong></td>
<td>Chipping Gun (30 Lbs. And Over)</td>
<td>$51.80</td>
<td>7A 4V 8Y</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Laborers</strong></td>
<td>Chipping Gun (Under 30 Lbs.)</td>
<td>$50.86</td>
<td>7A 4V 8Y</td>
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<tr>
<td>King</td>
<td><strong>Laborers</strong></td>
<td>Choker Setter</td>
<td>$50.86</td>
<td>7A 4V 8Y</td>
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<tr>
<td>King</td>
<td><strong>Laborers</strong></td>
<td>Chuck Tender</td>
<td>$50.86</td>
<td>7A 4V 8Y</td>
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<td>King</td>
<td><strong>Laborers</strong></td>
<td>Clary Power Spreader</td>
<td>$51.80</td>
<td>7A 4V 8Y</td>
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<td>King</td>
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<td>Clean-up Laborer</td>
<td>$50.86</td>
<td>7A</td>
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<td>8Y</td>
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<tr>
<td>King</td>
<td>Laborers</td>
<td>Concrete Dumper/Chute Operator</td>
<td>$51.80</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
<td>View</td>
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<td>King</td>
<td>Laborers</td>
<td>Concrete Form Stripper</td>
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<td>7A</td>
<td>4V</td>
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<td>Concrete Placement Crew</td>
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<td>King</td>
<td>Laborers</td>
<td>Concrete Saw Operator/Core Driller</td>
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<td>7A</td>
<td>4V</td>
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<td>King</td>
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<td>Crusher Feeder</td>
<td>$43.11</td>
<td>7A</td>
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<td>Laborers</td>
<td>Curing Laborer</td>
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<td>4V</td>
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<td>Laborers</td>
<td>Demolition: Wrecking &amp; Moving (Incl. Charred Material)</td>
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<td>Ditch Digger</td>
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<td>Diver</td>
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<td>7A</td>
<td>4V</td>
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<td>Drill Operator (Hydraulic, Diamond)</td>
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<td>7A</td>
<td>4V</td>
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<td>Dry Stack Walls</td>
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<td>Faller &amp; Bucker Chain Saw</td>
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<td>7A</td>
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<td>Fine Graders</td>
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<td>Firewatch</td>
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<td>King</td>
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<td>King</td>
<td>Laborers</td>
<td>Gabian Basket Builders</td>
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<td>General Laborer</td>
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<td>King</td>
<td>Laborers</td>
<td>Grade Checker &amp; Transit Person</td>
<td>$52.44</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
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<td>King</td>
<td>Laborers</td>
<td>Grout Machine Tender</td>
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<td>Laborers</td>
<td>Groutmen (Pressure) Including Post Tension Beams</td>
<td>$51.80</td>
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<td>King</td>
<td>Laborers</td>
<td>Guardrail Erector</td>
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<td>King</td>
<td>Laborers</td>
<td>Hazardous Waste Worker (Level A)</td>
<td>$52.44</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
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<td>King</td>
<td>Laborers</td>
<td>Hazardous Waste Worker (Level B)</td>
<td>$51.80</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
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<td>Laborers</td>
<td>Hazardous Waste Worker (Level C)</td>
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<td>King</td>
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<td>High Scaler</td>
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<td>King</td>
<td>Laborers</td>
<td>Jackhammer</td>
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<td>King</td>
<td>Laborers</td>
<td>Laserbeam Operator</td>
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<td>King</td>
<td>Laborers</td>
<td>Maintenance Person</td>
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<td>King</td>
<td>Laborers</td>
<td>Manhole Builder-Mudman</td>
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<td>7A</td>
<td>4V</td>
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<td>King</td>
<td>Laborers</td>
<td>Material Yard Person</td>
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<td>4V</td>
<td>8Y</td>
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<td>King</td>
<td>Laborers</td>
<td>Motorman-Dinky Locomotive</td>
<td>$51.80</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
<td>View</td>
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<tr>
<td>King Laborers</td>
<td>Nozzleman (Concrete Pump, Green Cutter When Using Combination Of High Pressure Air &amp; Water On Concrete &amp; Rock, Sandblast, Gunit, Shotcrete, Water Blaster, Vacuum Blaster)</td>
<td>$51.80</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
<td>View</td>
<td></td>
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<tr>
<td>King Laborers</td>
<td>Pavement Breaker</td>
<td>$51.80</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
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<tr>
<td>King Laborers</td>
<td>Pilot Car</td>
<td>$43.11</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
<td>View</td>
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<tr>
<td>King Laborers</td>
<td>Pipe Layer Lead</td>
<td>$52.44</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
<td>View</td>
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</tr>
<tr>
<td>King Laborers</td>
<td>Pipe Layer/Tailor</td>
<td>$51.80</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
<td>View</td>
<td></td>
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<tr>
<td>King Laborers</td>
<td>Pipe Pot Tender</td>
<td>$51.80</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
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<tr>
<td>King Laborers</td>
<td>Pipe Reliner</td>
<td>$51.80</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
<td>View</td>
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</tr>
<tr>
<td>King Laborers</td>
<td>Pipe Wrapper</td>
<td>$51.80</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
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</tr>
<tr>
<td>King Laborers</td>
<td>Pot Tender</td>
<td>$50.86</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
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<tr>
<td>King Laborers</td>
<td>Powderman</td>
<td>$52.44</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
<td>View</td>
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<tr>
<td>King Laborers</td>
<td>Powderman's Helper</td>
<td>$50.86</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
<td>View</td>
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<tr>
<td>King Laborers</td>
<td>Power Jacks</td>
<td>$51.80</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
<td>View</td>
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<tr>
<td>King Laborers</td>
<td>Railroad Spike Puller - Power</td>
<td>$51.80</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
<td>View</td>
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<tr>
<td>King Laborers</td>
<td>Raker - Asphalt</td>
<td>$52.44</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
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<tr>
<td>King Laborers</td>
<td>Re-timberman</td>
<td>$52.44</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
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<tr>
<td>King Laborers</td>
<td>Remote Equipment Operator</td>
<td>$51.80</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
<td>View</td>
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</tr>
<tr>
<td>King Laborers</td>
<td>Rigger/Signal Person</td>
<td>$51.80</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
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<tr>
<td>King Laborers</td>
<td>Rip Rap Person</td>
<td>$50.86</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
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<tr>
<td>King Laborers</td>
<td>Rivet Buster</td>
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<td>7A</td>
<td>4V</td>
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<tr>
<td>King Laborers</td>
<td>Rodder</td>
<td>$51.80</td>
<td>7A</td>
<td>4V</td>
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<tr>
<td>King Laborers</td>
<td>Scaffold Erector</td>
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<td>7A</td>
<td>4V</td>
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<td>King Laborers</td>
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<td>4V</td>
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<tr>
<td>King Laborers</td>
<td>Sloper (Over 20&quot;)</td>
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<td>7A</td>
<td>4V</td>
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<td>Sloper Sprayer</td>
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<td>7A</td>
<td>4V</td>
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<tr>
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<td>Spreader (Concrete)</td>
<td>$51.80</td>
<td>7A</td>
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<td>Stake Hopper</td>
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<td>King Laborers</td>
<td>Stock Piler</td>
<td>$50.86</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
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<tr>
<td>King Laborers</td>
<td>Swinging Stage/Boatswain Chair</td>
<td>$43.11</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
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<tr>
<td>King Laborers</td>
<td>Tamper &amp; Similar Electric, Air &amp; Gas Operated Tools</td>
<td>$51.80</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
<td>View</td>
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<tr>
<td>King Laborers</td>
<td>Tamper (Multiple &amp; Self-propelled)</td>
<td>$51.80</td>
<td>7A</td>
<td>4V</td>
<td>8Y</td>
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<tr>
<td>King Laborers</td>
<td>Timber Person - Sewer (Lagger, Shorer &amp; Cribber)</td>
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<td>7A</td>
<td>4V</td>
<td>8Y</td>
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<td>King Laborers</td>
<td>Toolroom Person (at Jobsite)</td>
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<td>7A</td>
<td>4V</td>
<td>8Y</td>
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<td>King Laborers</td>
<td>Topper</td>
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<td>7A</td>
<td>4V</td>
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<td>Track Laborer</td>
<td>$50.86</td>
<td>7A</td>
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<td>Track Liner (Power)</td>
<td>$51.80</td>
<td>7A</td>
<td>4V</td>
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<td>Laborers</td>
<td>Traffic Control Laborer</td>
<td>$46.10</td>
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<td>4V</td>
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<td>Traffic Control Supervisor</td>
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<td>Truck Spotter</td>
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<td>King</td>
<td>Laborers</td>
<td>Tugger Operator</td>
<td>$51.80</td>
<td>7A</td>
<td>4V</td>
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<td>Tunnel Spotter</td>
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<td>Tunnel Work-Compressed Air Worker 30.01-44.00 psi</td>
<td>$125.64</td>
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<td>Tunnel Work-Compressed Air Worker 44.01-54.00 psi</td>
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<td>7A</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>4V</td>
<td>9B</td>
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<tr>
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<td>Laborers</td>
<td>Tunnel Work-Compressed Air Worker 68.01-70.00 psi</td>
<td>$144.14</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>Laborers</td>
<td>Tunnel Work-Gauge and Lock Tender</td>
<td>$52.54</td>
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<td>King</td>
<td>Laborers</td>
<td>Tunnel Work-Miner</td>
<td>$52.54</td>
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<td>4V</td>
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<td>King</td>
<td>Laborers</td>
<td>Vibrator</td>
<td>$51.80</td>
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<td>King</td>
<td>Laborers</td>
<td>Vinyl Seamer</td>
<td>$50.86</td>
<td>7A</td>
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<td>King</td>
<td>Laborers</td>
<td>Watchman</td>
<td>$39.18</td>
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<td>Welder</td>
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<td>Well Point Laborer</td>
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<td>King</td>
<td>Laborers</td>
<td>Window Washer/Cleaner</td>
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<td>King</td>
<td>Laborers - Underground Sewer &amp; Water</td>
<td>General Laborer &amp; Topman</td>
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<td>King</td>
<td>Laborers - Underground Sewer &amp; Water</td>
<td>Pipe Layer</td>
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<td>King</td>
<td>Landscape Construction</td>
<td>Landscape Construction/Landscaping Or Planting Laborers</td>
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<td>7A</td>
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<td>Groundskeeper</td>
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<td>King</td>
<td>Lathers</td>
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<td>$62.44</td>
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<td>Marble Setters</td>
<td>Journey Level</td>
<td>$58.82</td>
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<td>King</td>
<td>Metal Fabrication (In Shop)</td>
<td>Fitter</td>
<td>$15.86</td>
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<td>King</td>
<td>Metal Fabrication (In Shop)</td>
<td>Laborer</td>
<td>$13.50</td>
<td>1</td>
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<td>Metal Fabrication (In Shop)</td>
<td>Machine Operator</td>
<td>$13.50</td>
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<td>King</td>
<td>Metal Fabrication (In Shop)</td>
<td>Painter</td>
<td>$13.50</td>
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<td>Occupation</td>
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<tr>
<td><strong>King Millwright</strong></td>
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<td><strong>Modular Buildings</strong></td>
<td>Cabinet Assembly</td>
<td>$13.50</td>
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<td><strong>Modular Buildings</strong></td>
<td>Electrician</td>
<td>$13.50</td>
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<td><strong>Modular Buildings</strong></td>
<td>Equipment Maintenance</td>
<td>$13.50</td>
<td></td>
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<td>Plumber</td>
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<td><strong>Modular Buildings</strong></td>
<td>Production Worker</td>
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<td><strong>Modular Buildings</strong></td>
<td>Tool Maintenance</td>
<td>$13.50</td>
<td></td>
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<td><strong>Modular Buildings</strong></td>
<td>Utility Person</td>
<td>$13.50</td>
<td></td>
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<td><strong>Modular Buildings</strong></td>
<td>Welder</td>
<td>$13.50</td>
<td></td>
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<tr>
<td><strong>Painters</strong></td>
<td>Journey Level</td>
<td>$43.40</td>
<td>6Z</td>
<td>2B</td>
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<td><strong>Pile Driver</strong></td>
<td>Crew Tender</td>
<td>$67.31</td>
<td>7A</td>
<td>4C</td>
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<tr>
<td><strong>Pile Driver</strong></td>
<td>Crew Tender/Technician</td>
<td>$67.31</td>
<td></td>
<td>7A</td>
<td>4C</td>
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<td><strong>Pile Driver</strong></td>
<td>Hyperbaric Worker - Compressed Air Worker 0-30.00 PSI</td>
<td>$77.93</td>
<td>7A</td>
<td>4C</td>
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<td><strong>Pile Driver</strong></td>
<td>Hyperbaric Worker - Compressed Air Worker 30.01 - 44.00 PSI</td>
<td>$82.93</td>
<td>7A</td>
<td>4C</td>
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<td>Hyperbaric Worker - Compressed Air Worker 44.01 - 54.00 PSI</td>
<td>$86.93</td>
<td>7A</td>
<td>4C</td>
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<td><strong>Pile Driver</strong></td>
<td>Hyperbaric Worker - Compressed Air Worker 54.01 - 60.00 PSI</td>
<td>$91.93</td>
<td>7A</td>
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<td>Hyperbaric Worker - Compressed Air Worker 60.01 - 64.00 PSI</td>
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<td>Hyperbaric Worker - Compressed Air Worker 64.01 - 68.00 PSI</td>
<td>$99.43</td>
<td>7A</td>
<td>4C</td>
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<td>$101.43</td>
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<td><strong>Pile Driver</strong></td>
<td>Hyperbaric Worker - Compressed Air Worker 70.01 - 72.00 PSI</td>
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<td><strong>Pile Driver</strong></td>
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<td><strong>Pile Driver</strong></td>
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<td>7A</td>
<td>4C</td>
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<td><strong>Plasterers</strong></td>
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<td>$59.42</td>
<td>7Q</td>
<td>1R</td>
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<tr>
<td><strong>Playground &amp; Park Equipment Installers</strong></td>
<td>Journey Level</td>
<td>$13.50</td>
<td></td>
<td>1</td>
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<tr>
<td><strong>Plumbers &amp; Pipefitters</strong></td>
<td>Journey Level</td>
<td>$87.69</td>
<td>6Z</td>
<td>1G</td>
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<tr>
<td><strong>Power Equipment Operators</strong></td>
<td>Asphalt Plant Operators</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td><strong>Power Equipment Operators</strong></td>
<td>Assistant Engineer</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td><strong>Power Equipment Operators</strong></td>
<td>Barrier Machine (zipper)</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<td><strong>Power Equipment Operators</strong></td>
<td>Batch Plant Operator: concrete</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td><strong>Power Equipment Operators</strong></td>
<td>Bobcat</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Description</td>
<td>Wage</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<td>King</td>
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<td>Brokk - Remote Demolition Equipment</td>
<td>$65.05</td>
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<td>King</td>
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<td>Brooms</td>
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<td>Bump Cutter</td>
<td>$68.55</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Cableways</td>
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<td>Chipper</td>
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<td>Power Equipment Operators</td>
<td>Concrete Finish Machine - Laser Screed</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure</td>
<td>$68.02</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Concrete Pump: Truck Mount With Boom Attachment Over 42 M</td>
<td>$69.16</td>
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<td>Power Equipment Operators</td>
<td>Concrete Pump: Truck Mount With Boom Attachment Up To 42m</td>
<td>$68.55</td>
<td></td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Conveyors</td>
<td>$68.02</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Cranes friction: 200 tons and over</td>
<td>$71.26</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>$69.85</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Cranes: 20 Tons Through 44 Tons With Attachments</td>
<td>$68.55</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Cranes: 200 tons- 299 tons, or 250’ of boom including jib with attachments</td>
<td>$70.57</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Cranes: 300 tons and over or 300’ of boom including jib with attachments</td>
<td>$71.26</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>$69.16</td>
<td></td>
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<td>Power Equipment Operators</td>
<td>Cranes: A-frame - 10 Tons And Under</td>
<td>$65.05</td>
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<td>Power Equipment Operators</td>
<td>Cranes: Friction cranes through 199 tons</td>
<td>$70.57</td>
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<td>Power Equipment Operators</td>
<td>Cranes: through 19 tons with attachments, A-frame over 10 tons</td>
<td>$68.02</td>
<td></td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Crusher</td>
<td>$68.55</td>
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<td>Power Equipment Operators</td>
<td>Deck Engineer/Deck Winches (power)</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Derricks, On Building Work</td>
<td>$69.16</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Dozers D-9 &amp; Under</td>
<td>$68.02</td>
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<td>View</td>
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<td>King</td>
<td><strong>Power Equipment Operators</strong></td>
<td>Description</td>
<td>Rate</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Drill Oilers: Auger Type, Truck Or Crane Mount</strong></td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<td>King</td>
<td><strong>Drilling Machine</strong></td>
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<td>7A</td>
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<td><strong>Elevator And Man-lift: Permanent And Shaft Type</strong></td>
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<td>7A</td>
<td>3K</td>
<td>8X</td>
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<td>King</td>
<td><strong>Finishing Machine, Bidwell And Gamaco &amp; Similar Equipment</strong></td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td>King</td>
<td><strong>Forklift: 3000 Lbs And Over With Attachments</strong></td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Forklifts: Under 3000 Lbs. With Attachments</strong></td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Grade Engineer: Using Blue Prints, Cut Sheets, Etc</strong></td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Gradechecker/Stakeman</strong></td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Guardrail Punch</strong></td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Hard Tail End Dump Articulating Off-road Equipment 45 Yards. &amp; Over</strong></td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
<td></td>
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<tr>
<td>King</td>
<td><strong>Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards</strong></td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Horizontal/Directional Drill Locator</strong></td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
<td></td>
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<tr>
<td>King</td>
<td><strong>Horizontal/Directional Drill Operator</strong></td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
<td></td>
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<tr>
<td>King</td>
<td><strong>Hydraulics/Boom Trucks Over 10 Tons</strong></td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Hydraulics/Boom Trucks, 10 Tons And Under</strong></td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Loader, Overhead 8 Yards. &amp; Over</strong></td>
<td>$69.85</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Loader, Overhead, 6 Yards. But Not Including 8 Yards</strong></td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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</tr>
<tr>
<td>King</td>
<td><strong>Loaders, Overhead Under 6 Yards</strong></td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td>King</td>
<td><strong>Loaders, Plant Feed</strong></td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<td>King</td>
<td><strong>Loaders: Elevating Type Belt</strong></td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td>King</td>
<td><strong>Locomotives, All</strong></td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<td>King</td>
<td><strong>Material Transfer Device</strong></td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
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<td>King</td>
<td><strong>Mechanics, All (leadmen - $0.50 Per Hour Over Mechanic)</strong></td>
<td>$69.85</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td>King</td>
<td><strong>Motor Patrol Graders</strong></td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td>King</td>
<td><strong>Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield</strong></td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Oil Distributors, Blower Distribution &amp; Mulch Seeding Operator</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Outside Hoists (Elevators And Manlifts), Air Tuggers, Strato</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Overhead, Bridge Type Crane: 20 Tons Through 44 Tons</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Overhead, Bridge Type: 100 Tons And Over</td>
<td>$69.85</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Overhead, Bridge Type: 45 Tons Through 99 Tons</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Pavement Breaker</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Pile Driver (other Than Crane Mount)</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Plant Oiler - Asphalt, Crusher</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Posthole Digger, Mechanical</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Power Plant</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Pumps - Water</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Quad 9, Hd 41, D10 And Over</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Quick Tower - No Cab, Under 100 Feet In Height Based To Boom</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Remote Control Operator On Rubber Tired Earth Moving Equipment</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Rigger and Bellman</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Rigger/Signal Person, Bellman (Certified)</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<td>King</td>
<td>Power Equipment Operators</td>
<td>Rollagon</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Roller, Other Than Plant Mix</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Roller, Plant Mix Or Multi-lift Materials</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Roto-mill, Roto-grinder</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Saws - Concrete</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Scraper, Self Propelled Under 45 Yards</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Scrapers - Concrete &amp; Carry All</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Scrapers, Self-propelled: 45 Yards And Over</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Service Engineers - Equipment</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td>Shotcrete/Gunite Equipment</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators</td>
<td></td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td><strong>Power Equipment Operators</strong></td>
<td>Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
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</tr>
<tr>
<td>King</td>
<td><strong>Power Equipment Operators</strong></td>
<td>Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td><strong>Power Equipment Operators</strong></td>
<td>Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons</td>
<td>$69.85</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td><strong>Power Equipment Operators</strong></td>
<td>Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons</td>
<td>$70.57</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td>King</td>
<td><strong>Power Equipment Operators</strong></td>
<td>Slipform Pavers</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td><strong>Power Equipment Operators</strong></td>
<td>Spreader, Topsider &amp; Screedman</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td><strong>Power Equipment Operators</strong></td>
<td>Subgrader Trimmer</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Power Equipment Operators</strong></td>
<td>Tower Bucket Elevators</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Power Equipment Operators</strong></td>
<td>Tower Crane Up To 175' In Height Base To Boom</td>
<td>$69.85</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td><strong>Power Equipment Operators</strong></td>
<td>Tower Crane: over 175' through 250' in height, base to boom</td>
<td>$70.57</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Power Equipment Operators</strong></td>
<td>Tower Cranes: over 250' in height from base to boom</td>
<td>$71.26</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Power Equipment Operators</strong></td>
<td>Transporters, All Track Or Truck Type</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td><strong>Power Equipment Operators</strong></td>
<td>Trenching Machines</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td><strong>Power Equipment Operators</strong></td>
<td>Truck Crane Oiler/driver - 100 Tons And Over</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td><strong>Power Equipment Operators</strong></td>
<td>Truck Crane Oiler/Driver Under 100 Tons</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td>King</td>
<td><strong>Power Equipment Operators</strong></td>
<td>Truck Mount Portable Conveyor</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Power Equipment Operators</strong></td>
<td>Welder</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Power Equipment Operators</strong></td>
<td>Wheel Tractors, Farmall Type</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td>King</td>
<td><strong>Power Equipment Operators</strong></td>
<td>Yo Yo Pay Dozer</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td>King</td>
<td><strong>Power Equipment Operators- Underground Sewer &amp; Water</strong></td>
<td>Asphalt Plant Operators</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Power Equipment Operators- Underground Sewer &amp; Water</strong></td>
<td>Assistant Engineer</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td>King</td>
<td><strong>Power Equipment Operators- Underground Sewer &amp; Water</strong></td>
<td>Barrier Machine (zipper)</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td><strong>Power Equipment Operators- Concrete</strong></td>
<td>Batch Plant Operator, Concrete</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
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<tr>
<td>Bobcat</td>
<td>King</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<td>Brokk - Remote Demolition Equipment</td>
<td>King</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>Brooms</td>
<td>King</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<td>Bump Cutter</td>
<td>King</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>Cableways</td>
<td>King</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>Chipper</td>
<td>King</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td>Compressor</td>
<td>King</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>Concrete Finish Machine - Laser Screed</td>
<td>King</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
<td></td>
</tr>
<tr>
<td>Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure</td>
<td>King</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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</tr>
<tr>
<td>Concrete Pump: Truck Mount With Boom Attachment Over 42 M</td>
<td>King</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
<td></td>
</tr>
<tr>
<td>Concrete Pump: Truck Mount With Boom Attachment Up To 42m</td>
<td>King</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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</tr>
<tr>
<td>Conveyors</td>
<td>King</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
<td></td>
</tr>
<tr>
<td>Cranes friction: 200 tons and over</td>
<td>King</td>
<td>$71.26</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
<td></td>
</tr>
<tr>
<td>Cranes: 100 tons through 199 tons, or 150’ of boom (including jib with attachments)</td>
<td>King</td>
<td>$69.85</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
<td></td>
</tr>
<tr>
<td>Cranes: 20 Tons Through 44 Tons With Attachments</td>
<td>King</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
<td></td>
</tr>
<tr>
<td>Cranes: 200 tons- 299 tons, or 250’ of boom including jib with attachments</td>
<td>King</td>
<td>$70.57</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
<td></td>
</tr>
<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>$71.26</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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</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>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators - Underground Sewer &amp; Water</td>
<td>Cranes: A-frame - 10 Tons And Under</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</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>$70.57</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators - Underground Sewer &amp; Water</td>
<td>Cranes: through 19 tons with attachments, A-frame over 10 tons</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators - Underground Sewer &amp; Water</td>
<td>Crusher</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators - Underground Sewer &amp; Water</td>
<td>Deck Engineer/Deck Winches (power)</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators - Underground Sewer &amp; Water</td>
<td>Derricks, On Building Work</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators - Underground Sewer &amp; Water</td>
<td>Dozers D-9 &amp; Under</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators - Underground Sewer &amp; Water</td>
<td>Drill Oilers: Auger Type, Truck Or Crane Mount</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators - Underground Sewer &amp; Water</td>
<td>Drilling Machine</td>
<td>$69.85</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators - Underground Sewer &amp; Water</td>
<td>Elevator And Man-lift: Permanent And Shaft Type</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators - Underground Sewer &amp; Water</td>
<td>Finishing Machine, Bidwell And Gamaco &amp; Similar Equipment</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators - Underground Sewer &amp; Water</td>
<td>Forklift: 3000 Lbs And Over With Attachments</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators - Underground Sewer &amp; Water</td>
<td>Forklifts: Under 3000 Lbs. With Attachments</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators - Underground Sewer &amp; Water</td>
<td>Grade Engineer: Using Blue Prints, Cut Sheets, Etc</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<td>King</td>
<td>Power Equipment Operators - Underground Sewer &amp; Water</td>
<td>Gradechecker/Stakeman</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td>King</td>
<td>Guardrail Punch</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<td></td>
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<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Hard Tail End Dump Articulating Off-road Equipment 45 Yards &amp; Over</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Horizontal/Directional Drill Locator</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Horizontal/Directional Drill Operator</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Hydralifts/Boom Trucks Over 10 Tons</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Hydralifts/Boom Trucks, 10 Tons And Under</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Loader, Overhead 8 Yards &amp; Over</td>
<td>$69.85</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Loader, Overhead, 6 Yards. But Not Including 8 Yards</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Loaders, Overhead Under 6 Yards</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Loaders, Plant Feed</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Loaders: Elevating Type Belt</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Locomotives, All</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Material Transfer Device</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Mechanics, All (leadmen - $0.50 Per Hour Over Mechanic)</td>
<td>$69.85</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Motor Patrol Graders</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<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>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Loader, Overhead Under 6 Yards</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Loaders: Elevating Bucket</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Material Transfer Device</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Mechanics, All (leadmen - $0.50 Per Hour Over Mechanic)</td>
<td>$69.85</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Motor Patrol Graders</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<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>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Loader, Overhead Under 6 Yards</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Loaders: Elevating Bucket</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Material Transfer Device</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Mechanics, All (leadmen - $0.50 Per Hour Over Mechanic)</td>
<td>$69.85</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Motor Patrol Graders</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<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>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Oil Distributors, Blower Distribution &amp; Mulch Seeding Operator</td>
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<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Outside Hoists (Elevators And Manlifts), Air Tuggers, Strato</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Overhead, Bridge Type Crane: 20 Tons Through 44 Tons</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Overhead, Bridge Type: 100 Tons And Over</td>
<td>$69.85</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Overhead, Bridge Type: 45 Tons Through 99 Tons</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Pavement Breaker</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Pile Driver (other Than Crane Mount)</td>
<td>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Plant Oiler - Asphalt, Crusher</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Posthole Digger, Mechanical</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Power Plant</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Pumps - Water</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Quad 9, Hd 41, D10 And Over</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<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>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Remote Control Operator On Rubber Tired Earth Moving Equipment</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Rigger and Bellman</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Rigger/Signal Person, Bellman (Certified)</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Rollagon</td>
<td>$69.16</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Roller, Other Than Plant Mix</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Roller, Plant Mix Or Multi-lift Materials</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</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>$68.55</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
<td>View</td>
</tr>
<tr>
<td>King</td>
<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Saws - Concrete</td>
<td>$68.02</td>
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<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Scraper, Self Propelled Under 45 Yards</td>
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<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
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<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
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<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons</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>
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<td>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Shovel, Excavator, Backhoes: Over 90 Metric Tons</td>
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<td>Tower Bucket Elevators</td>
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<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>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Tower Crane: over 175' through 250' in height, base to boom</td>
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<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>Power Equipment Operators- Underground Sewer &amp; Water</td>
<td>Truck Crane Oiler/driver - 100 Tons And Over</td>
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<td>Truck Crane Oiler/Driver Under 100 Tons</td>
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<td>Truck Mount Portable Conveyor</td>
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<td>King</td>
<td>Residential Brick Mason</td>
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<td>Residential Cement Masons</td>
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<td>$46.43</td>
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<td>Residential Drywall Tapers</td>
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<td>Residential Electricians</td>
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<td>7L</td>
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<td>Residential Insulation Applicators</td>
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<td>Residential Laborers</td>
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<td>Residential Marble Setters</td>
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<td>Residential Plumbers &amp; Pipefitters</td>
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<td>Residential Sheet Metal Workers</td>
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<td>Residential Soft Floor Layers</td>
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<td>Residential Sprinkler Fitters (Fire Protection)</td>
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<td>Residential Stone Masons</td>
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<td>Residential Terrazzo Workers</td>
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<td>Roofers</td>
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<td>Sheet Metal Workers</td>
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<td>Shipbuilding &amp; Ship Repair</td>
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<td>7V</td>
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<td>Shipbuilding &amp; Ship Repair</td>
<td>New Construction Heat &amp; Frost Insulator</td>
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<td>5J</td>
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<td>Ship Repair Boilermaker</td>
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<td>7X</td>
<td>4J</td>
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<tr>
<td>Ship Repair Carpenter</td>
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<td>Ship Repair Crane Operator</td>
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<td>Ship Repair Heat &amp; Frost Insulator</td>
<td>$76.61</td>
<td>5J</td>
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<tr>
<td>Ship Repair Rigger</td>
<td>$46.15</td>
<td>7X</td>
<td>4J</td>
<td>View</td>
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<tr>
<td>Ship Repair Sheet Metal</td>
<td>$46.15</td>
<td>7X</td>
<td>4J</td>
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<tr>
<td>Ship Repair Shipwright</td>
<td>$44.95</td>
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<td>4J</td>
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<td></td>
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<tr>
<td>Ship Repair Warehouse / Teamster</td>
<td>$45.06</td>
<td>7Y</td>
<td>4K</td>
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<tr>
<td>Sign Makers &amp; Installers (Electrical)</td>
<td>Journey Level</td>
<td>$50.90</td>
<td>0</td>
<td>1</td>
<td>View</td>
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<tr>
<td>Sign Makers &amp; Installers (Non-Electrical)</td>
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<td>0</td>
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<tr>
<td>Soft Floor Layers</td>
<td>Journey Level</td>
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<td>5A</td>
<td>3J</td>
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<tr>
<td>Solar Controls For Windows</td>
<td>Journey Level</td>
<td>$13.50</td>
<td>1</td>
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<tr>
<td>Sprinkler Fitters (Fire Protection)</td>
<td>Journey Level</td>
<td>$81.39</td>
<td>5C</td>
<td>1X</td>
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<td>Stage Rigging Mechanics (Non Structural)</td>
<td>Journey Level</td>
<td>$13.50</td>
<td>1</td>
<td>View</td>
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<tr>
<td>Stone Masons</td>
<td>Journey Level</td>
<td>$58.82</td>
<td>5A</td>
<td>1M</td>
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<tr>
<td>Street And Parking Lot Sweeper Workers</td>
<td>Journey Level</td>
<td>$19.09</td>
<td>1</td>
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<tr>
<td>Surveyors</td>
<td>Assistant Construction Site Surveyor</td>
<td>$68.02</td>
<td>7A</td>
<td>3K</td>
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<tr>
<td>Surveyors</td>
<td>Chainman</td>
<td>$65.05</td>
<td>7A</td>
<td>3K</td>
<td>8X</td>
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</tr>
<tr>
<td>Surveyors</td>
<td>Construction Site Surveyor</td>
<td>$69.16</td>
<td>7A</td>
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<tr>
<td>Telecommunication Technicians</td>
<td>Journey Level</td>
<td>$51.07</td>
<td>7E</td>
<td>1E</td>
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<tr>
<td>Telephone Line Construction - Outside</td>
<td>Cable Splicer</td>
<td>$41.81</td>
<td>5A</td>
<td>2B</td>
<td>View</td>
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</tr>
<tr>
<td>Telephone Line Construction - Outside</td>
<td>Hole Digger/Ground Person</td>
<td>$23.53</td>
<td>5A</td>
<td>2B</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Telephone Line Construction - Outside</td>
<td>Installer (Repairer)</td>
<td>$40.09</td>
<td>5A</td>
<td>2B</td>
<td>View</td>
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<tr>
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<tr>
<td>King</td>
<td>Telephone Line Construction - Outside</td>
<td>Special Aparatus Installer I</td>
<td>$41.81</td>
<td>5A</td>
<td>2B</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Telephone Line Construction - Outside</td>
<td>Special Aparatus Installer II</td>
<td>$40.99</td>
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<tr>
<td>King</td>
<td>Telephone Line Construction - Outside</td>
<td>Telephone Equipment Operator (Heavy)</td>
<td>$41.81</td>
<td>5A</td>
<td>2B</td>
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<tr>
<td>King</td>
<td>Telephone Line Construction - Outside</td>
<td>Telephone Equipment Operator (Light)</td>
<td>$38.92</td>
<td>5A</td>
<td>2B</td>
<td>View</td>
<td></td>
</tr>
<tr>
<td>King</td>
<td>Telephone Line Construction - Outside</td>
<td>Telephone Lineperson</td>
<td>$38.92</td>
<td>5A</td>
<td>2B</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Telephone Line Construction - Outside</td>
<td>Television Groundperson</td>
<td>$22.32</td>
<td>5A</td>
<td>2B</td>
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<tr>
<td>King</td>
<td>Telephone Line Construction - Outside</td>
<td>Television Lineperson/Installer</td>
<td>$29.60</td>
<td>5A</td>
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<tr>
<td>King</td>
<td>Telephone Line Construction - Outside</td>
<td>Television System Technician</td>
<td>$35.20</td>
<td>5A</td>
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<td>King</td>
<td>Telephone Line Construction - Outside</td>
<td>Television Technician</td>
<td>$31.67</td>
<td>5A</td>
<td>2B</td>
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<tr>
<td>King</td>
<td>Telephone Line Construction - Outside</td>
<td>Tree Trimmer</td>
<td>$38.92</td>
<td>5A</td>
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<tr>
<td>King</td>
<td>Terrazzo Workers</td>
<td>Journey Level</td>
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<td>5A</td>
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<tr>
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<td>Journey Level</td>
<td>$54.06</td>
<td>5A</td>
<td>1M</td>
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<tr>
<td>King</td>
<td>Tile, Marble &amp; Terrazzo Finishers</td>
<td>Finisher</td>
<td>$44.89</td>
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<td>King</td>
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<tr>
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<td>Truck Drivers</td>
<td>Asphalt Mix Over 16 Yards</td>
<td>$61.59</td>
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<td>4Y</td>
<td>8L</td>
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<td>King</td>
<td>Truck Drivers</td>
<td>Asphalt Mix To 16 Yards</td>
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<td>4Y</td>
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<td>View</td>
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<td>Dump Truck</td>
<td>$60.75</td>
<td>5D</td>
<td>4Y</td>
<td>8L</td>
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</tr>
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<td>King</td>
<td>Truck Drivers</td>
<td>Dump Truck &amp; Trailer</td>
<td>$61.59</td>
<td>5D</td>
<td>4Y</td>
<td>8L</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Truck Drivers</td>
<td>Other Trucks</td>
<td>$61.59</td>
<td>5D</td>
<td>4Y</td>
<td>8L</td>
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<tr>
<td>King</td>
<td>Truck Drivers - Ready Mix</td>
<td>Transit Mix</td>
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<td>5D</td>
<td>4Y</td>
<td>8L</td>
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<tr>
<td>King</td>
<td>Well Drillers &amp; Irrigation Pump Installers</td>
<td>Irrigation Pump Installer</td>
<td>$17.71</td>
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<tr>
<td>King</td>
<td>Well Drillers &amp; Irrigation Pump Installers</td>
<td>Oiler</td>
<td>$13.50</td>
<td>1</td>
<td>1</td>
<td>View</td>
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<tr>
<td>King</td>
<td>Well Drillers &amp; Irrigation Pump Installers</td>
<td>Well Driller</td>
<td>$18.00</td>
<td>1</td>
<td>1</td>
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</table>
Washington State Department of Labor and Industries  
Policy Statement  
(Regarding the Production of "Standard" or "Non-standard" Items)  

Below is the department's (State L&I's) list of criteria to be used in determining whether a prefabricated item is "standard" or "non-standard". For items not appearing on WSDOT's predetermined list, these criteria shall be used by the Contractor (and the Contractor's subcontractors, agents to subcontractors, suppliers, manufacturers, and fabricators) to determine coverage under RCW 39.12. The production, in the State of Washington, of non-standard items is covered by RCW 39.12, and the production of standard items is not. The production of any item outside the State of Washington is not covered by RCW 39.12.

1. Is the item fabricated for a public works project? If not, it is not subject to RCW 39.12. If it is, go to question 2.

2. Is the item fabricated on the public works jobsite? If it is, the work is covered under RCW 39.12. If not, go to question 3.

3. Is the item fabricated in an assembly/fabrication plant set up for, and dedicated primarily to, the public works project? If it is, the work is covered by RCW 39.12. If not, go to question 4.

4. Does the item require any assembly, cutting, modification or other fabrication by the supplier? If not, the work is not covered by RCW 39.12. If yes, go to question 5.

5. Is the prefabricated item intended for the public works project typically an inventory item which could reasonably be sold on the general market? If not, the work is covered by RCW 39.12. If yes, go to question 6.

6. Does the specific prefabricated item, generally defined as standard, have any unusual characteristics such as shape, type of material, strength requirements, finish, etc? If yes, the work is covered under RCW 39.12.

Any firm with questions regarding the policy, WSDOT's Predetermined List, or for determinations of covered and non-covered workers shall be directed to State L&I at (360) 902-5330.
Below is a list of potentially prefabricated items, originally furnished by WSDOT to Washington State Department of Labor and Industries, that may be considered non-standard and therefore covered by the prevailing wage law, RCW 39.12. Items marked with an X in the "YES" column should be considered to be non-standard and therefore covered by RCW 39.12. Items marked with an X in the "NO" column should be considered to be standard and therefore not covered. Of course, exceptions to this general list may occur, and in that case shall be evaluated according to the criteria described in State and L&I's policy statement.

<table>
<thead>
<tr>
<th>ITEM DESCRIPTION</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Metal rectangular frames, solid metal covers, herringbone grates, and bi-directional vaned grates for Catch Basin Types 1, 1L, 1P, and 2 and Concrete Inlets. See Std. Plans</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>2. Metal circular frames (rings) and covers, circular grates, and prefabricated ladders for Manhole Types 1, 2, and 3, Drywell Types 1, 2, and 3 and Catch Basin Type 2. See Std. Plans</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>3. Prefabricated steel grate supports and welded grates, metal frames and dual vaned grates, and Type 1, 2, and 3 structural tubing grates for Drop Inlets. See Std. Plans.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>4. Concrete Pipe - Plain Concrete pipe and reinforced concrete pipe Class 2 to 5 sizes smaller than 60 inch diameter.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>5. Concrete Pipe - Plain Concrete pipe and reinforced concrete pipe Class 2 to 5 sizes larger than 60 inch diameter.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>6. Corrugated Steel Pipe - Steel lock seam corrugated pipe for culverts and storm sewers, sizes 30 inch to 120 inches in diameter. May also be treated, 1 thru 5.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>7. Corrugated Aluminum Pipe - Aluminum lock seam corrugated pipe for culverts and storm sewers, sizes 30 inch to 120 inches in diameter. May also be treated, #5.</td>
<td></td>
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</tr>
<tr>
<td>ITEM DESCRIPTION</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>------------------</td>
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<td>----</td>
</tr>
<tr>
<td>8. Anchor Bolts &amp; Nuts - Anchor Bolts and Nuts, for mounting sign structures, luminaries and other items, shall be made from commercial bolt stock. See Contract Plans and Std. Plans for size and material type.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>9. Aluminum Pedestrian Handrail - Pedestrian handrail conforming to the type and material specifications set forth in the contract plans. Welding of aluminum shall be in accordance with Section 9-28.14(3).</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>10. Major Structural Steel Fabrication - Fabrication of major steel items such as trusses, beams, girders, etc., for bridges.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>11. Minor Structural Steel Fabrication - Fabrication of minor steel items such as special hangers, brackets, access doors for structures, access ladders for irrigation boxes, bridge expansion joint systems, etc., involving welding, cutting, punching and/or boring of holes. See Contact Plans for item description and shop drawings.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>12. Aluminum Bridge Railing Type BP - Metal bridge railing conforming to the type and material specifications set forth in the Contract Plans. Welding of aluminum shall be in accordance with Section 9-28.14(3).</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>13. Concrete Piling--Precast-Prestressed concrete piling for use as 55 and 70 ton concrete piling. Concrete to conform to Section 9-19.1 of Std. Spec..</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>14. Precast Manhole Types 1, 2, and 3 with cones, adjustment sections and flat top slabs. See Std. Plans.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>15. Precast Drywell Types 1, 2, and with cones and adjustment Sections. See Std. Plans.</td>
<td>X</td>
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</tr>
<tr>
<td>ITEM DESCRIPTION</td>
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<td>NO</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------------------------</td>
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<td>----</td>
</tr>
<tr>
<td>17. Precast Concrete Inlet - with adjustment sections, See Std. Plans</td>
<td></td>
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</tr>
<tr>
<td>18. Precast Drop Inlet Type 1 and 2 with metal grate supports. See Std. Plans.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>19. Precast Grate Inlet Type 2 with extension and top units. See Std. Plans</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>20. Metal frames, vaned grates, and hoods for Combination Inlets. See Std. Plans</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>21. Precast Concrete Utility Vaults - Precast Concrete utility vaults of various sizes. Used for in ground storage of utility facilities and controls. See Contract Plans for size and construction requirements. Shop drawings are to be provided for approval prior to casting</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>22. Vault Risers - For use with Valve Vaults and Utilities</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>23. Valve Vault - For use with underground utilities. See Contract Plans for details.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>24. Precast Concrete Barrier - Precast Concrete Barrier for use as new barrier or may also be used as Temporary Concrete Barrier. Only new state approved barrier may be used as permanent barrier.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>25. Reinforced Earth Wall Panels – Reinforced Earth Wall Panels in size and shape as shown in the Plans. Fabrication plant has annual approval for methods and materials to be used. See Shop Drawing. Fabrication at other locations may be approved, after facilities inspection, contact HQ. Lab.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>26. Precast Concrete Walls - Precast Concrete Walls - tilt-up wall panel in size and shape as shown in Plans. Fabrication plant has annual approval for methods and materials to be used</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>ITEM DESCRIPTION</td>
<td>YES</td>
<td>NO</td>
</tr>
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<td>---------------------------------------------------------------------------------</td>
<td>-----</td>
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</tr>
<tr>
<td>27. Precast Railroad Crossings - Concrete Crossing Structure Slabs.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>28. 12, 18 and 26 inch Standard Precast Prestressed Girder – Standard Precast Prestressed Girder for use in structures.  Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>29. Prestressed Concrete Girder Series 4-14 - Prestressed Concrete Girders for use in structures.  Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>30. Prestressed Tri-Beam Girder - Prestressed Tri-Beam Girders for use in structures.  Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>31. Prestressed Precast Hollow-Core Slab – Precast Prestressed Hollow-core slab for use in structures.  Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A</td>
<td>X</td>
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<tr>
<td>32. Prestressed-Bulb Tee Girder - Bulb Tee Prestressed Girder for use in structures.  Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A</td>
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<td>X</td>
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<tr>
<td>33. Monument Case and Cover</td>
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</tr>
<tr>
<td>See Std. Plan.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITEM DESCRIPTION</td>
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<td>NO</td>
</tr>
<tr>
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<td>----</td>
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<tr>
<td>34. Cantilever Sign Structure - Cantilever Sign Structure fabricated from steel tubing meeting AASHTO-M-183. See Std. Plans, and Contract Plans for details. The steel structure shall be galvanized after fabrication in accordance with AASHTO-M-111.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>35. Mono-tube Sign Structures - Mono-tube Sign Bridge fabricated to details shown in the Plans. Shop drawings for approval are required prior to fabrication.</td>
<td></td>
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</tr>
<tr>
<td>36. Steel Sign Bridges - Steel Sign Bridges fabricated from steel tubing meeting AASHTO-M-138 for Aluminum Alloys. See Std. Plans, and Contract Plans for details. The steel structure shall be galvanized after fabrication in accordance with AASHTO-M-111.</td>
<td></td>
<td>X</td>
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<tr>
<td>37. Steel Sign Post - Fabricated Steel Sign Posts as detailed in Std Plans. Shop drawings for approval are to be provided prior to fabrication</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>38. Light Standard-Prestressed - Spun, prestressed, hollow concrete poles.</td>
<td></td>
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</tr>
<tr>
<td>39. Light Standards - Lighting Standards for use on highway illumination systems, poles to be fabricated to conform with methods and materials as specified on Std. Plans. See Special Provisions for pre-approved drawings.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>40. Traffic Signal Standards - Traffic Signal Standards for use on highway and/or street signal systems. Standards to be fabricated to conform with methods and material as specified on Std. Plans. See Special Provisions for pre-approved drawings</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>41. Precast Concrete Sloped Mountable Curb (Single and DualFaced) See Std. Plans.</td>
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</tr>
<tr>
<td>ITEM DESCRIPTION</td>
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<td>NO</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>-----</td>
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</tr>
<tr>
<td>42. Traffic Signs - Prior to approval of a Fabricator of Traffic Signs, the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sources of the following materials must be submitted and approved for</td>
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</tr>
<tr>
<td>reflective sheeting, legend material, and aluminum</td>
<td></td>
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</tr>
<tr>
<td>sheeting. <strong>NOTE:</strong> *** Fabrication inspection required. Only signs tagged</td>
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<tr>
<td>&quot;Fabrication Approved&quot; by WSDOT Sign Fabrication Inspector to be installed</td>
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<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>43. Cutting &amp; bending reinforcing steel</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>44. Guardrail components</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Custom Message</td>
<td>Std Signing Message</td>
</tr>
<tr>
<td>45. Aggregates/Concrete mixes</td>
<td></td>
<td>Covered by WAC 296-127-018</td>
</tr>
<tr>
<td>46. Asphalt</td>
<td></td>
<td>Covered by WAC 296-127-018</td>
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<tr>
<td>47. Fiber fabrics</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>48. Electrical wiring/components</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>49. treated or untreated timber pile</td>
<td></td>
<td>X</td>
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<tr>
<td>50. Girder pads (elastomeric bearing)</td>
<td></td>
<td>X</td>
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<tr>
<td>51. Standard Dimension lumber</td>
<td></td>
<td>X</td>
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<tr>
<td>52. Irrigation components</td>
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<td>X</td>
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<tr>
<td>ITEM DESCRIPTION</td>
<td>YES</td>
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<tr>
<td>53. Fencing materials</td>
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<td>X</td>
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<tr>
<td>54. Guide Posts</td>
<td></td>
<td>X</td>
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<tr>
<td>55. Traffic Buttons</td>
<td></td>
<td>X</td>
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<tr>
<td>56. Epoxy</td>
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<td>X</td>
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<tr>
<td>57. Cribbing</td>
<td></td>
<td>X</td>
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<tr>
<td>58. Water distribution materials</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>59. Steel &quot;H&quot; piles</td>
<td></td>
<td>X</td>
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<tr>
<td>60. Steel pipe for concrete pile casings</td>
<td></td>
<td>X</td>
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<tr>
<td>61. Steel pile tips, standard</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>62. Steel pile tips, custom</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Prefabricated items specifically produced for public works projects that are prefabricated in a county other than the county wherein the public works project is to be completed, the wage for the offsite prefabrication shall be the applicable prevailing wage for the county in which the actual prefabrication takes place.

It is the manufacturer of the prefabricated product to verify that the correct county wage rates are applied to work they perform.

See RCW 39.12.010
(The definition of "locally" in RCW 39.12.010(2) contains the phrase "wherein the physical work is being performed." The department interprets this phrase to mean the actual work site.)
WSDOT’s  List of State Occupations not applicable to Heavy and Highway Construction Projects

This project is subject to the state hourly minimum rates for wages and fringe benefits in the contract provisions, as provided by the state Department of Labor and Industries. The following list of occupations, is comprised of those occupations that are not normally used in the construction of heavy and highway projects. When considering job classifications for use and / or payment when bidding on, or building heavy and highway construction projects for, or administered by WSDOT, these Occupations will be excepted from the included "Washington State Prevailing Wage Rates For Public Work Contracts" documents.

- Building Service Employees
- Electrical Fixture Maintenance Workers
- Electricians - Motor Shop
- Heating Equipment Mechanics
- Industrial Engine and Machine Mechanics
- Industrial Power Vacuum Cleaners
- Inspection, Cleaning, Sealing of Water Systems by Remote Control
- Laborers - Underground Sewer & Water
- Machinists (Hydroelectric Site Work)
- Modular Buildings
- Playground & Park Equipment Installers
- Power Equipment Operators - Underground Sewer & Water
- Residential *** ALL ASSOCIATED RATES ***
- Sign Makers and Installers (Non-Electrical)
- Sign Makers and Installers (Electrical)
- Stage Rigging Mechanics (Non Structural)

The following occupations may be used only as outlined in the preceding text concerning "WSDOT's list for Suppliers - Manufacturers - Fabricators"

- Fabricated Precast Concrete Products
- Metal Fabrication (In Shop)

Definitions for the Scope of Work for prevailing wages may be found at the Washington State Department of Labor and Industries web site and in WAC Chapter 296-127.
WAC 296-127-018 Agency filings affecting this section

Coverage and exemptions of workers involved in the production and delivery of gravel, concrete, asphalt, or similar materials.

(1) The materials covered under this section include but are not limited to: Sand, gravel, crushed rock, concrete, asphalt, or other similar materials.

(2) All workers, regardless of by whom employed, are subject to the provisions of chapter 39.12 RCW when they perform any or all of the following functions:

(a) They deliver or discharge any of the above-listed materials to a public works project site:

   (i) At one or more point(s) directly upon the location where the material will be incorporated into the project; or

   (ii) At multiple points at the project; or

   (iii) Adjacent to the location and coordinated with the incorporation of those materials.

(b) They wait at or near a public works project site to perform any tasks subject to this section of the rule.

(c) They remove any materials from a public works construction site pursuant to contract requirements or specifications (e.g., excavated materials, materials from demolished structures, clean-up materials, etc.).

(d) They work in a materials production facility (e.g., batch plant, borrow pit, rock quarry, etc.,) which is established for a public works project for the specific, but not necessarily exclusive, purpose of supplying materials for the project.

(e) They deliver concrete to a public works site regardless of the method of incorporation.

(f) They assist or participate in the incorporation of any materials into the public works project.
(3) All travel time that relates to the work covered under subsection (2) of this section requires the payment of prevailing wages. Travel time includes time spent waiting to load, loading, transporting, waiting to unload, and delivering materials. Travel time would include all time spent in travel in support of a public works project whether the vehicle is empty or full. For example, travel time spent returning to a supply source to obtain another load of material for use on a public works site or returning to the public works site to obtain another load of excavated material is time spent in travel that is subject to prevailing wage. Travel to a supply source, including travel from a public works site, to obtain materials for use on a private project would not be travel subject to the prevailing wage.

(4) Workers are not subject to the provisions of chapter 39.12 RCW when they deliver materials to a stockpile.

   (a) A "stockpile" is defined as materials delivered to a pile located away from the site of incorporation such that the stockpiled materials must be physically moved from the stockpile and transported to another location on the project site in order to be incorporated into the project.

   (b) A stockpile does not include any of the functions described in subsection (2)(a) through (f) of this section; nor does a stockpile include materials delivered or distributed to multiple locations upon the project site; nor does a stockpile include materials dumped at the place of incorporation, or adjacent to the location and coordinated with the incorporation.

(5) The applicable prevailing wage rate shall be determined by the locality in which the work is performed. Workers subject to subsection (2)(d) of this section, who produce such materials at an off-site facility shall be paid the applicable prevailing wage rates for the county in which the off-site facility is located. Workers subject to subsection (2) of this section, who deliver such materials to a public works project site shall be paid the applicable prevailing wage rates for the county in which the public works project is located.

[Statutory Authority: Chapter 39.12 RCW, RCW 43.22.051 and 43.22.270. 08-24-101, § 296-127-018, filed 12/2/08, effective 1/2/09. Statutory Authority: Chapters 39.04 and 39.12 RCW and RCW 43.22.270. 92-01-104 and 92-08-101, § 296-127-018, filed 12/18/91 and 4/1/92, effective 8/31/92.]
**Overtime Codes**

**Overtime calculations** are based on the hourly rate actually paid to the worker. On public works projects, the hourly rate must be not less than the prevailing rate of wage minus the hourly rate of the cost of fringe benefits actually provided for the worker.

1. **ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.**

   B. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

   C. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

   D. The first two (2) hours before or after a five-eight (8) hour workweek day or a four-ten (10) hour workweek day and the first eight (8) hours worked the next day after either workweek shall be paid at one and one-half times the hourly rate of wage. All additional hours worked and all worked on Sundays and holidays shall be paid at double the hourly rate of wage.

   E. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

   F. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours worked, except Labor Day, shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.

   G. The first ten (10) hours worked on Saturdays and the first ten (10) hours worked on a fifth calendar weekday in a four-ten hour schedule, shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

   H. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions or equipment breakdown) shall be paid at one and one-half times the hourly rate of wage. All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

   I. All hours worked on Sundays and holidays shall also be paid at double the hourly rate of wage.

   J. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over ten (10) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage.

   K. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.

   M. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

   N. All hours worked on Saturdays (except makeup days) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
Overtime Codes Continued

1. **O.** The first ten (10) hours worked on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays, holidays and after twelve (12) hours, Monday through Friday and after ten (10) hours on Saturday shall be paid at double the hourly rate of wage.

P. All hours worked on Saturdays (except makeup days if circumstances warrant) and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.

Q. The first two (2) hours after eight (8) regular hours Monday through Friday and up to ten (10) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays (except Christmas day) shall be paid at double the hourly rate of wage. All hours worked on Christmas day shall be paid at two and one-half times the hourly rate of wage.

R. All hours worked on Sundays and holidays shall be paid at two times the hourly rate of wage.

S. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays and all other overtime hours worked, except Labor Day, shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.

U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays (except Labor Day) shall be paid at two times the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.

V. All hours worked on Sundays and holidays (except Thanksgiving Day and Christmas day) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Thanksgiving Day and Christmas day shall be paid at double the hourly rate of wage.

W. All hours worked on Saturdays and Sundays (except make-up days due to conditions beyond the control of the employer) shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.

X. The first four (4) hours after eight (8) regular hours Monday through Friday and the first twelve (12) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over twelve (12) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage. When holiday falls on Saturday or Sunday, the day before Saturday, Friday, and the day after Sunday, Monday, shall be considered the holiday and all work performed shall be paid at double the hourly rate of wage.

Y. All hours worked outside the hours of 5:00 am and 5:00 pm (or such other hours as may be agreed upon by any employer and the employee) and all hours worked in excess of eight (8) hours per day (10 hours per day for a 4 x 10 workweek) and on Saturdays and holidays (except labor day) shall be paid at one and one-half times the hourly rate of wage. (except for employees who are absent from work without prior approval on a scheduled workday during the workweek shall be paid at the straight-time rate until they have worked 8 hours in a day (10 in a 4 x 10 workweek) or 40 hours during that workweek.) All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and Labor Day shall be paid at double the hourly rate of wage.

Z. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid the straight time rate of pay in addition to holiday pay.
Overtime Codes Continued

2. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

   B. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.

   C. All hours worked on Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at two times the hourly rate of wage.

   F. The first eight (8) hours worked on holidays shall be paid at the straight hourly rate of wage in addition to the holiday pay. All hours worked in excess of eight (8) hours on holidays shall be paid at double the hourly rate of wage.

   G. All hours worked on Sunday shall be paid at two times the hourly rate of wage. All hours worked on paid holidays shall be paid at two and one-half times the hourly rate of wage including holiday pay.

   H. All hours worked on Sunday shall be paid at two times the hourly rate of wage. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.

   O. All hours worked on Sundays and holidays shall be paid at one and one-half times the hourly rate of wage.

   R. All hours worked on Sundays and holidays and all hours worked over sixty (60) in one week shall be paid at double the hourly rate of wage.

   U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked over 12 hours in a day or on Sundays and holidays shall be paid at double the hourly rate of wage.

   W. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage. On a four-day, ten-hour weekly schedule, either Monday thru Thursday or Tuesday thru Friday schedule, all hours worked after ten shall be paid at double the hourly rate of wage. The first eight (8) hours worked on the fifth day shall be paid at one and one-half times the hourly rate of wage. All other hours worked on the fifth, sixth, and seventh days and on holidays shall be paid at double the hourly rate of wage.

3. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

   A. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal shift, and all work on Saturdays shall be paid at time and one-half the straight time rate. Hours worked over twelve hours (12) in a single shift and all work performed after 6:00 pm Saturday to 6:00 am Monday and holidays shall be paid at double the straight time rate of pay. Any shift starting between the hours of 6:00 pm and midnight shall receive an additional one dollar ($1.00) per hour for all hours worked that shift. The employer shall have the sole discretion to assign overtime work to employees. Primary consideration for overtime work shall be given to employees regularly assigned to the work to be performed on overtime situations. After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

   C. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage. All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays shall be paid at double the hourly rate of wage. After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.
3. **E.** All hours worked Sundays and holidays shall be paid at double the hourly rate of wage. Each week, once 40 hours of straight time work is achieved, then any hours worked over 10 hours per day Monday through Saturday shall be paid at double the hourly wage rate.

**F.** All hours worked on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sunday shall be paid at two times the hourly rate of wage. All hours worked on paid holidays shall be paid at two and one-half times the hourly rate of wage including holiday pay.

**H.** All work performed on Sundays between March 16th and October 14th and all Holidays shall be compensated for at two (2) times the regular rate of pay. Work performed on Sundays between October 15th and March 15th shall be compensated at one and one half (1-1/2) times the regular rate of pay.

**J.** All hours worked between the hours of 10:00 pm and 5:00 am, Monday through Friday, and all hours worked on Saturdays shall be paid at a one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

**K.** Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage. All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.

After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more. When an employee returns to work without at least eight (8) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until he/she shall have the eight (8) hours rest period.

4. **ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.**

**A.** All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at double the hourly rate of wage. All hours worked on Saturdays, Sundays and holidays shall be paid at double the hourly rate of wage.

**B.** All hours worked over twelve (12) hours per day and all hours worked on holidays shall be paid at double the hourly rate of wage.

**C.** On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay. On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay, except that if the job is down on Monday through Friday due to weather conditions or other conditions outside the control of the employer, the first ten (10) hours on Saturday may be worked at the straight time rate of pay. All hours worked over twelve (12) hours in a day and all hours worked on Sunday and Holidays shall be paid at two (2) times the straight time rate of pay.
4. D. All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at double the hourly rate of wage. All hours worked on Saturday, Sundays and holidays shall be paid at double the hourly rate of pay. Rates include all members of the assigned crew.

EXCEPTION: On all multipole structures and steel transmission lines, switching stations, regulating, capacitor stations, generating plants, industrial plants, associated installations and substations, except those substations whose primary function is to feed a distribution system, will be paid overtime under the following rates:

The first two (2) hours after eight (8) regular hours Monday through Friday of overtime on a regular workday, shall be paid at one and one-half times the hourly rate of wage. All hours in excess of ten (10) hours will be at two (2) times the hourly rate of wage. The first eight (8) hours worked on Saturday will be paid at one and one-half (1-1/2) times the hourly rate of wage. All hours worked in excess of eight (8) hours on Saturday, and all hours worked on Sundays and holidays will be at the double the hourly rate of wage.

All overtime eligible hours performed on the above described work that is energized, shall be paid at the double the hourly rate of wage.

E. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

On a four-day, ten-hour weekly schedule, either Monday thru Thursday or Tuesday thru Friday schedule, all hours worked after ten shall be paid at double the hourly rate of wage. The Monday or Friday not utilized in the normal four-day, ten hour work week, and Saturday shall be paid at one and one half (1½) times the regular shift rate for the first eight (8) hours. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

F. All hours worked between the hours of 6:00 pm and 6:00 am, Monday through Saturday, shall be paid at a premium rate of 20% over the hourly rate of wage. All hours worked on Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.

G. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

H. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours worked, except Labor Day, and all hours on Sunday shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.

I. The First eight (8) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of eight (8) per day on Saturdays shall be paid at double the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

J. The first eight (8) hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of eight (8) hours on a Saturday shall be paid at double the hourly rate of wage. All hours worked over twelve (12) in a day, and all hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.

K. All hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage, so long as Saturday is the sixth consecutive day worked. All hours worked over twelve (12) in a day Monday through Saturday, and all hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.
Overtime Codes Continued

4. L. The first twelve (12) hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on a Saturday in excess of twelve (12) hours shall be paid at double the hourly rate of pay. All hours worked over twelve (12) in a day Monday through Friday, and all hours worked on Sundays shall be paid at double the hourly rate of wage. All hours worked on a holiday shall be paid at one and one-half times the hourly rate of wage, except that all hours worked on Labor Day shall be paid at double the hourly rate of pay.

M. All hours worked on Sunday and Holidays shall be paid at double the hourly rate. Any employee reporting to work less than nine (9) hours from their previous quitting time shall be paid for such time at time and one-half times the hourly rate.

N. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays, and all work performed between the hours of midnight (12:00 AM) and eight AM (8:00 AM) every day shall be paid at double the hourly rate of wage.

O. All hours worked between midnight Friday to midnight Sunday shall be paid at one and one-half the hourly rate of wage. After an employee has worked in excess of eight (8) continuous hours in any one or more calendar days, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of six (6) hours or more. All hours worked on Holidays shall be paid at double the hourly rate of wage.

P. All hours worked on Holidays shall be paid at one and one-half times the hourly rate of wage.

Q. The first four (4) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over twelve (12) hours Monday through Saturday shall be paid at double the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

R. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage, so long as Saturday is the sixth consecutive day worked. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

S. All hours worked on Saturdays and Holidays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays shall be paid at double the hourly rate of wage.

T. The first two (2) hours of overtime for hours worked Monday-Friday shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day shall be paid at double the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage. For work on Saturday which is scheduled prior to the end of shift on Friday, the first six (6) hours work shall be paid at one and one-half times the hourly rate of wage, and all hours over (6) shall be paid double the hourly rate of wage. For work on Saturday which was assigned following the close of shift on Friday, all work shall be paid at double the hourly rate of wage.

U. The first four (4) hours after eight (8) regular hours Monday through Friday and the first twelve (12) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. (Except on makeup days if work is lost due to inclement weather, then the first eight (8) hours on Saturday may be paid the regular rate.) All hours worked over twelve (12) hours Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
Overtime Codes Continued

4. V. Work performed in excess of ten (10) hours of straight time per day when four ten (10) hour shifts are established or outside the normal shift (5 am to 6pm), and all work on Saturdays, except for make-up days shall be paid at time and one-half (1 ½) the straight time rate.

In the event the job is down due to weather conditions, then Saturday may, be worked as a voluntary make-up day at the straight time rate. However, Saturday shall not be utilized as a make-up day when a holiday falls on Friday. All work performed on Sundays and holidays and work in excess of twelve (12) hours per day shall be paid at double (2x) the straight time rate of pay.

After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

When an employee returns to work without a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

W. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

When an employee returns to work without at least eight (8) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

X. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage. Work performed outside the normal shift of 6 am to 6pm shall be paid at one and one-half the straight time rate, (except for special shifts or three shift operations). All work performed on Sundays and holidays shall be paid at double the hourly rate of wage. Shifts may be established when considered necessary by the Employer.

The Employer may establish shifts consisting of eight (8) or ten (10) hours of work (subject to WAC 296-127-022), that shall constitute a normal forty (40) hour work week. The Employer can change from a 5-eight to a 4-ten hour schedule or back to the other. All hours of work on these shifts shall be paid for at the straight time hourly rate. Work performed in excess of eight hours (or ten hours per day (subject to WAC 296-127-022) shall be paid at one and one-half the straight time rate.

When due to conditions beyond the control of the Employer, or when contract specifications require that work can only be performed outside the regular day shift, then by mutual agreement a special shift may be worked at the straight time rate, eight (8) hours work for eight (8) hours pay. The starting time shall be arranged to fit such conditions of work.

When an employee returns to work without a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.
4. Y. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal shift, and all work on Saturdays shall be paid at time and one-half the straight time rate. All work performed after 6:00 pm Saturday to 6:00 am Monday and holidays shall be paid at double the straight time rate of pay.

Any shift starting between the hours of 6:00 pm and midnight shall receive an additional one dollar ($1.00) per hour for all hours worked that shift.

After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

**Holiday Codes**


Holiday Codes Continued


Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (7). If a holiday falls on Saturday, the preceding Friday shall be considered as the holiday. If a holiday falls on Sunday, the following Monday shall be considered as the holiday.

7. A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any Holiday Which Falls On A Sunday Shall Be Observed As A Holiday On The Following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.

B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

C. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
Holiday Codes Continued


E. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

F. Holidays: New Year’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the last working day before Christmas day and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.


H. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

I. Holidays: New Year's Day, President’s Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Day Before Christmas Day And Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

J. Holidays: New Year's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day and Christmas Day (6). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

K. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

L. Holidays: New Year's Day, Memorial Day, Labor Day, Independence Day, Thanksgiving Day, the Last Work Day before Christmas Day, and Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

M. Paid Holidays: New Year's Day, The Day after or before New Year's Day, President’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and The Day after or before Christmas Day (10). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

N. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. When Christmas falls on a Saturday, the preceding Friday shall be observed as a holiday.

7. Q. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.

R. Paid Holidays: New Year's Day, the day after or before New Year's Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and the day after or before Christmas Day (10). If any of the listed holidays fall on Saturday, the preceding Friday shall be observed as the holiday. If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.

S. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Day after Christmas, and A Floating Holiday (9). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.

T. Paid Holidays: New Year's Day, the Day after or before New Year's Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and The Day after or before Christmas Day. (10). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

V. Holidays: New Year's Day, President's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, the day before or after Christmas, and the day before or after New Year's Day. If any of the above listed holidays falls on a Sunday, the day observed by the federal government shall be considered a holiday and compensated accordingly.

W. Holidays: New Year's Day, Day After New Year’s, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Eve Day, Christmas Day, the day after Christmas, the day before Christmas, and a Floating Holiday.

X. Holidays: New Year's Day, Day before or after New Year’s Day, President’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and the day before or after Christmas Day. If a holiday falls on a Saturday or on a Friday that is the normal day off, then the holiday will be taken on the last normal workday. If the holiday falls on a Monday that is the normal day off or on a Sunday, then the holiday will be taken on the next normal workday.

Y. Holidays: New Year's Day, President’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day. (8) If the holiday falls on a Sunday, then the day observed by the federal government shall be considered a holiday and compensated accordingly.

Z. Holidays: New Year's Day, President’s Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

15. A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the day before Christmas Day and Christmas Day. (8) Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.


**Holiday Codes Continued**


**Note Codes**

8. **D.** Workers working with supplied air on hazmat projects receive an additional $1.00 per hour.

   **L.** Workers on hazmat projects receive additional hourly premiums as follows - Level A: $0.75, Level B: $0.50, And Level C: $0.25.

   **M.** Workers on hazmat projects receive additional hourly premiums as follows: Levels A & B: $1.00, Levels C & D: $0.50.

   **N.** Workers on hazmat projects receive additional hourly premiums as follows - Level A: $1.00, Level B: $0.75, Level C: $0.50, And Level D: $0.25.

   **P.** Workers on hazmat projects receive additional hourly premiums as follows - Class A Suit: $2.00, Class B Suit: $1.50, Class C Suit: $1.00, And Class D Suit $0.50.

   **Q.** The highest pressure registered on the gauge for an accumulated time of more than fifteen (15) minutes during the shift shall be used in determining the scale paid.

   **S.** Effective August 31, 2012 – A Traffic Control Supervisor shall be present on the project whenever flagging or spotting or other traffic control labor is being utilized. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. This classification is only effective on or after August 31, 2012.

   **T.** Effective August 31, 2012 – A Traffic Control Laborer performs the setup, maintenance and removal of all temporary traffic control devices and construction signs necessary to control vehicular, bicycle, and pedestrian traffic during construction operations. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. This classification is only effective on or after August 31, 2012.

   **U.** Workers on hazmat projects receive additional hourly premiums as follows – Class A Suit: $2.00, Class B Suit: $1.50, And Class C Suit: $1.00. Workers performing underground work receive an additional $0.40 per hour for any and all work performed underground, including operating, servicing and repairing of equipment. The premium for underground work shall be paid for the entire shift worked. Workers who work suspended by a rope or cable receive an additional $0.50 per hour. The premium for work suspended shall be paid for the entire shift worked. Workers who do “pioneer” work (break open a cut, build road, etc.) more than one hundred fifty (150) feet above grade elevation receive an additional $0.50 per hour.
8. V. In addition to the hourly wage and fringe benefits, the following depth and enclosure premiums shall be paid. The premiums are to be calculated for the maximum depth and distance into an enclosure that a diver reaches in a day. The premiums are to be paid one time for the day and are not used in calculating overtime pay.

Depth premiums apply to depths of fifty feet or more. Over 50’ to 100’ - $2.00 per foot for each foot over 50 feet. Over 101’ to 150’ - $3.00 per foot for each foot over 101 feet. Over 151’ to 220’ - $4.00 per foot for each foot over 220 feet. Over 221’ - $5.00 per foot for each foot over 221 feet.

Enclosure premiums apply when divers enter enclosures (such as pipes or tunnels) where there is no vertical ascent and is measured by the distance travelled from the entrance. 25’ to 300’ - $1.00 per foot from entrance. 300’ to 600’ - $1.50 per foot beginning at 300’. Over 600’ - $2.00 per foot beginning at 600’.

W. Meter Installers work on single phase 120/240V self-contained residential meters. The Lineman/Groundmen rates would apply to meters not fitting this description.

X. Workers on hazmat projects receive additional hourly premiums as follows - Class A Suit: $2.00, Class B Suit: $1.50, Class C Suit: $1.00, and Class D Suit: $0.50. Special Shift Premium: Basic hourly rate plus $2.00 per hour.

When due to conditions beyond the control of the Employer or when an owner (not acting as the contractor), a government agency or the contract specifications requires that work can only be performed outside the normal 5 am to 6pm shift, then the special shift premium will be applied to the basic hourly rate. When an employee works on a special shift, they shall be paid a special shift premium for each hour worked unless they are in OT or Double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

Y. Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay.

Swinging Stage/Boatswains Chair: Employees working on a swinging state or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents ($0.75) per hour above the classification rate.

Z. Workers working with supplied air on hazmat projects receive an additional $1.00 per hour.

Special Shift Premium: Basic hourly rate plus $2.00 per hour. When due to conditions beyond the control of the Employer or when an owner (not acting as a contractor), a government agency or the contract specifications require that more than (4) hours of a special shift can only be performed outside the normal 6 am to 6pm shift, then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they will be paid a special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)
Workers working with supplied air on hazmat projects receive an additional $1.00 per hour.

Special Shift Premium: Basic hourly rate plus $2.00 per hour. When due to conditions beyond the control of the Employer or when an owner (not acting as the contractor), a government agency or the contract specifications require that more than four (4) hours of a special shift can only be performed outside the normal 6 am to 6pm shift, then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they shall be paid a special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

Certified Crane Operator Premium: Crane operators requiring certifications shall be paid $0.50 per hour above their classification rate.

Boom Pay Premium: All cranes including tower shall be paid as follows based on boom length:

(A) – 130’ to 199’ – $0.50 per hour over their classification rate.
(B) – 200’ to 299’ – $0.80 per hour over their classification rate.
(C) – 300’ and over – $1.00 per hour over their classification rate.

The highest pressure registered on the gauge for an accumulated time of more than fifteen (15) minutes during the shift shall be used in determining the scale paid.

Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay. Swinging Stage/Boatswains Chair: Employees working on a swinging stage or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents ($0.75) per hour above the classification rate.

Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay. Swinging Stage/Boatswains Chair: Employees working on a swinging stage or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents ($0.75) per hour above the classification rate.

Effective August 31, 2012 – A Traffic Control Supervisor shall be present on the project whenever flagging or spotting or other traffic control labor is being utilized. A Traffic Control Laborer performs the setup, maintenance and removal of all temporary traffic control devices and construction signs necessary to control vehicular, bicycle, and pedestrian traffic during construction operations. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. These classifications are only effective on or after August 31, 2012.

Industrial Painter wages are required for painting within industrial facilities such as treatment plants, pipelines, towers, dams, bridges, power generation facilities and manufacturing facilities such as chemical plants, etc., or anywhere abrasive blasting is necessary to prepare surfaces, or hazardous materials encapsulation is required.

Heavy Construction includes construction, repair, alteration or additions to the production, fabrication or manufacturing portions of industrial or manufacturing plants, hydroelectric or nuclear power plants and atomic reactor construction. Workers on hazmat projects receive additional hourly premiums as follows -Level A: $1.00, Level B: $0.75, Level C: $0.50, And Level D: $0.25.
Standard Plans

The State of Washington Standard Plans for Road, Bridge and Municipal Construction M21-01 transmitted under Publications Transmittal No. PT 16-048, effective September 3, 2019 is made a part of this contract.

The Standard Plans are revised as follows:

A-50.10
Sheet 2 of 2, Plan, with Single Slope Barrier, reference C-14a is revised to C-70.10

A-50.20
Sheet 2 of 2, Plan, with Anchored Barrier, reference C-14a is revised to C-70.10

A-50.30
Sheet 2 of 2, Plan (top), reference C-14a is revised to C-70.1

B-10.60
DELETED

B-82.20
DELETED

B-90.40
Valve Detail – DELETED

C-1
Delete Note 1.

Revise Note 2 to read “Remove all rail washers, also called “Snow Load Rail Washers”, when encountered during raising beam guardrail work and the guardrail raising work requires removal of the rail.

C-4b
DELETED

C-4e
DELETED

C-8a
Delete “Section A-A, Type 4 Detail

C-20.11
Delete Notes 1 & 2. Re-Number all notes.

Delete “ Snow Load Post Washer” and “Snow Load Rail Washer” details.

C-22.14
DELETED
C-22.16
Note 3, formula, was: “Elevation \( G = (Elevation \ S - D \times (0.1)) + 31 \)” is revised to read:
“Elevation \( G = (Elevation \ S - D \times (0.1)) + \frac{31}{12} \)”

C-40.14
DELETED

C-70.10
Sheet 1, Note 1 was - “1. PERMANENT INSTALLATION requirements: Embed barrier 3”
(in) minimum; …” is revised to read: “1. Installation requirements: Embed barrier 3” (in)
minimum in asphalt or concrete; embed barrier 10” (in) minimum in soil; …”

Sheet 1, existing Notes 2 and 4 are deleted. Existing Note 3 is renumbered to Note 2.

Sheet 1, add new Note 3, “3. See Sheet 2 for barrier with a 2'-10” reveal installed in asphalt
or concrete. See Sheet 3 for barrier with a 3'-6” reveal installed in asphalt or concrete.”

Sheet 2, the detail titled “3’ – 6” BARRIER FOR USE WITH A 0” (IN) TO 5” (IN) MAX.
GRADE SEPARATION” has the following changes:
1. The detail title is changed to “3’ – 6” BARRIER FOR USE WITH A 0” (IN) TO 4” (IN)
MAX. GRADE SEPARATION”.
2. The callout “GRADE SEPARATION–5” MAX.” is changed to “GRADE SEPARATION–4”
MAX.”

C-85.11
Add new Note 3 “3. Contact the HQ Bridge traffic barrier specialist before using this barrier
placement plan for projects involving new or reconstructed bridges.”

C-90.10
DELETED

D-10.10
Wall Type 1 may be used if no traffic barrier is attached on top of the wall. Walls with traffic
barriers attached on top of the wall are considered non-standard and shall be designed in
accordance with the current WSDOT Bridge Design Manual (BDM) and the revisions stated
in the 11/3/15 Bridge Design memorandum.

D-10.15
Wall Type 2 may be used if no traffic barrier is attached on top of the wall. Walls with traffic
barriers attached on top of the wall are considered non-standard and shall be designed in
accordance with the current WSDOT BDM and the revisions stated in the 11/3/15 Bridge
Design memorandum.

D-10.30
Wall Type 5 may be used in all cases.

D-10.35
Wall Type 6 may be used in all cases.

D-10.40
Wall Type 7 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed in accordance with the current WSDOT BDM and the revisions stated in the 11/3/15 Bridge Design memorandum.

D-10.45
Wall Type 8 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed in accordance with the current WSDOT BDM and the revisions stated in the revisions stated in the 11/3/15 Bridge Design memorandum.

D-15.10
STD Plans D-15 series “Traffic Barrier Details for Reinforced Concrete Retaining Walls” are withdrawn. Special designs in accordance with the current WSDOT BDM are required in place of these STD Plans.

D-15.20
STD Plans D-15 series “Traffic Barrier Details for Reinforced Concrete Retaining Walls” are withdrawn. Special designs in accordance with the current WSDOT BDM are required in place of these STD Plans.

D-15.30
STD Plans D-15 series “Traffic Barrier Details for Reinforced Concrete Retaining Walls” are withdrawn. Special designs in accordance with the current WSDOT BDM are required in place of these STD Plans.

F-10.12
Section Title, was – “Depressed Curb Section” is revised to read: “Depressed Curb and Gutter Section”

F-10.40
“EXTRUDED CURB AT CUT SLOPE”, Section detail - Deleted

F-10.42
DELETE – “Extruded Curb at Cut Slope” View

G-25.10
Key Note 3, second sentence, was – “For single-post installations, divide the (#2w/diamond shape symbol) post MAX. XYZ in half.” Is revised to read: “For single-post installations, divide the two-post MAX. XYZ in half.”

G-60.10
DELETED

G-60.20
DELETED

G-60.30
DELETED

G-70.10
H-70.20
Sheet 2, Spacing Detail, Mailbox Support Type 1, reference to Standard Plan I-70.10 is revised to H-70.10

J-10.21
Note 18, was – “When service cabinet is installed within right of way fence, see Standard Plan J-10.22 for details.” Is revised to read; “When service cabinet is installed within right of way fence, or the meter base is mounted on the exterior of the cabinet, see Standard Plan J-10.22 for details.”

J-10.22
Key Note 1, was – “Meter base per serving utility requirements ~ as a minimum, the meter base shall be safety socket box with factory-installed test bypass facility that meets the requirements of EUSERC drawing 305.” Is revised to read; “Meter base per serving utility requirements ~ as a minimum, the meter base shall be safety socket box with factory-installed test bypass facility that meets the requirements of EUSERC drawing 305. When the utility requires meter base to be mounted on the side or back of the service cabinet, the meter base enclosure shall be fabricated from type 304 stainless steel.”

Key Note 4, “Test with (SPDT Snap Action, Positive close 15 Amp ~ 120/277 volt “T” rated). Is revised to read: “Test Switch (SPDT snap action, positive close 15 amp ~ 120/277 volt “T” rated).”

Key Note 14, was – “Hinged dead front with ¼ turn fasteners or slide latch.” Is revised to read; “Hinged dead front with ¼ turn fasteners or slide latch. ~ Dead front panel bolts shall not extend into the vertical limits of the breaker array(s).”

Key Note 15, was – “Cabinet Main Bonding Jumper. Buss shall be 4 lug tinned copper. See Cabinet Main bonding Jumper detail, Standard Plan J-3b.” is revised to read; “Cabinet Main Bonding Jumper Assembly ~ Buss shall be 4 lug tinned copper ~ See Standard Plan J-10.20 for Cabinet Main Bonding Jumper Assembly details.”

Note 1, was – “...socket box mounting detail, see Standard Plan J-3b.” is revised to read to read: “...socket box mounting detail, see Standard Plan J-10.20.”

Note 6, was – “...See door hinge detail, Standard Plan J-3b.” is revised to read: “...See door hinge detail, Standard Plan J-10.20.”

J-20.26
Add Note 1, “1. One accessible pedestrian pushbutton station per pedestrian pushbutton post.”

J-20.16
View A, callout, was – LOCK NIPPLE, is revised to read; CHASE NIPPLE

J-21.10
Sheet 1, Elevation View, Round Concrete Foundation Detail, callout – “ANCHOR BOLTS ~ ¾” (IN) x 30” (IN) FULL THREAD ~ THREE REQ’D. PER ASSEMBLY” IS REVISED TO READ: “ANCHOR BOLTS ~ ¾” (IN) x 30” (IN) FULL THREAD ~ FOUR REQ’D. PER ASSEMBLY”
Sheet 1 of 2, Elevation view (Round), add dimension depicting the distance from the top of
the foundation to find 2 #4 reinforcing bar shown, to read; 3” CLR.. Delete “(TYP.)” from the
2 ½” CLR. dimension, depicting the distance from the bottom of the foundation to find 2 #4
reinf. Bar.

Sheet 1 of 2, Elevation view (Square), add dimension depicting the distance from the top of
the foundation to find 1 #4 reinforcing bar shown, to read; 3” CLR. Delete “(TYP.)” from the
2 ½” CLR. dimension, depicting the distance from the bottom of the foundation to find 1 #4
reinf. Bar.

Sheet 2 of 2, Elevation view (Round), add dimension depicting the distance from the top of
the foundation to find 2 #4 reinforcing bar shown, to read; 3” CLR. Delete “(TYP.)” from the
2 ½” CLR. dimension, depicting the distance from the bottom of the foundation to find 2 #4
reinf. Bar.

Sheet 2 of 2, Elevation view (Square), add dimension depicting the distance from the top of
the foundation to find 1 #4 reinforcing bar shown, to read; 3” CLR. Delete “(TYP.)” from the
2 ½” CLR. dimension, depicting the distance from the bottom of the foundation to find 1 #4
reinf. Bar.

Detail F, callout, “Heavy Hex Clamping Bolt (TYP.) ~ 3/4” (IN) Diam. Torque Clamping Bolts
(see Note 3)” is revised to read; “Heavy Hex Clamping Bolt (TYP.) ~ 3/4” (IN) Diam. Torque
Clamping Bolts (see Note 1)”

Detail F, callout, “3/4” (IN) x 2’ – 6” Anchor Bolt (TYP.) ~ Four Required (See Note 4)” is
revised to read; “3/4” (IN) x 2’ – 6” Anchor Bolt (TYP.) ~ Three Required (See Note 2)”

J-21.15
Partial View, callout, was – LOCK NIPPLE ~ 1 ½” DIAM., is revised to read; CHASE
NIPPLE ~ 1 ½” (IN) DIAM.

J-21.16
Detail A, callout, was – LOCK NIPPLE, is revised to read; CHASE NIPPLE

J-22.15
Ramp Meter Signal Standard, elevation, dimension 4’ - 6” is revised to read; 6’-0”
(2x) Detail A, callout, was – LOCK NIPPLE ~ 1 ½” DIAM. is revised to read; CHASE
NIPPLE ~ 1 ½” (IN) DIAM.

J-40.10
Sheet 2 of 2, Detail F, callout, “12 – 13 x 1 ½” S.S. PENTA HEAD BOLT AND 12” S. S.
FLAT WASHER” is revised to read; “12 – 13 x 1 ½” S.S. PENTA HEAD BOLT AND 1/2”
(IN) S. S. FLAT WASHER”

J-75.20
Key Notes, note 16, second bullet point, was: “1/2” (IN) x 0.45” (IN) Stainless Steel Bands”,
add the following to the end of the note: “Alternate: Stainless steel cable with stainless steel
ends, nuts, bolts, and washers may be used in place of stainless steel bands and
associated hardware.”

J-81.10
Power Distribution Block Diagram, lower left corner, Sheet 1 of 3; Switch Pack 2; circuit 623
(T4-5) [middle ckt] is revised to read; circuit 622 (T4-5).

K-80.30
DELETED
K-80.35
Add New Note 1 – “1. The intended use of this plan is for the temporary installation of Type 2 concrete barrier (See Standard Plan C-8) on cement concrete pavement, bridge decks, or hot mix asphalt pavement.”

Re-number all notes.

Remove all references to Type F barrier shown on the Standard Plan.

K-80.37
Revise Note 1 to read: “1. The intended use of this plan is for the temporary installation of F-Shape NARROW BASE concrete barrier (See Standard Plan C-60.10) on cement concrete pavement, bridge decks.”

Replace all references stating “NARROW BASE, ALTERNATIVE TEMPORARY CONCRETE BARRIER SEGMENT” with “F-Shape NARROW BASE concrete barrier segment.”

M-3.50
Double-Left Turn Channelization (with Right Turn Pocket) view, dimension, upper left corner, “taper” dimension; callout – was “40’ if Posted Speed is 40 MPH or less 100’ if Posted Speed is more than 40 MPH” is revised to read; “See Contract”

M-5.10
Right-Turn Channelization view, dimension, upper right corner, “taper” dimension; callout – was “50’ MIN.” is revised to read; “See Contract”

M-24.50
DELETED

The following are the Standard Plan numbers applicable at the time this project was advertised. The date shown with each plan number is the publication approval date shown in the lower right-hand corner of that plan. Standard Plans showing different dates shall not be used in this contract.

A-10.10-00........8/7/07 A-40.00-00........8/11/09 A-50.30-00........11/17/08
A-10.20-00........10/5/07 A-40.10-04........7/31/19 A-50.40-00........11/17/08
A-10.30-00........10/5/07 A-40.15-00........8/11/09 A-60.10-03........12/23/14
A-20.10-00........8/31/07 A-40.20-04........1/18/17 A-60.20-03........12/23/14
A-30.10-00........11/8/07 A-40.50-02........12/23/14 A-60.30-01........6/28/18
A-30.30-01........6/16/11 A-50.10-00........11/17/08 A-60.40-00........8/31/07
A-30.35-00........10/12/07 A-50.20-01........9/22/09

B-5.20-02........1/26/17 B-30.50-03........2/27/18 B-75.20-02........2/27/18
B-5.40-02........1/26/17 B-30.70-04........2/27/18 B-75.50-01........6/10/08
B-5.60-02........1/26/17 B-30.80-01........2/27/18 B-75.60-00........6/8/06
B-10.20-02........3/2/18 B-30.90-02........1/26/17 B-80.20-00........6/8/06
B-10.40-01........1/26/17 B-35.20-00........6/8/06 B-80.40-00........6/1/06
B-10.70-00........1/26/17 B-35.40-00........6/8/06 B-85.10-01........6/10/08
B-15.20-01........2/7/12 B-40.20-00........6/1/06 B-85.20-00........6/1/06
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NOTES
1. Wood posts for all guardrail placement plans shall be 6 x 8 except where noted otherwise.
2. Lower hole is for Rub Rail of Type 2 and Type 3 Beam Guardrail.
3. W8 x 8.5 or W8 x 9 steel posts and timber blocks are alternates for 6 x 8 timber posts and blocks. W8 x 15 steel posts and timber blocks are alternates for 10 x 10 timber posts and blocks.
4. Holes shall be located on approaching traffic side of web.
5. When "Beam Guardrail Type _ _ Ft. Long Post" is specified in the Contract, the post length shall be stamped with numbers, 1 1/2" (38 mm) min. high and 3/4" (19 mm) wide at the location where the letter "Y" is shown in the ASSEMBLY DETAIL. For wood post applications, the letter shall be stamped to a minimum depth of 1/4" (6 mm). For steel post applications, the letter shall be legible after the post is galvanized. After post installation, it shall be the Contractor's responsibility to ensure the stamped numbers remain visible.
6. Soil plate may be welded to foundation tube. If so, holes in soil plate and foundation tube may be omitted.
NOTES
1. End Section Design G shall be used except where noted on other plans or contracts.
2. Attach guardrail to bridge rail or concrete barrier with 7/8" diameter bolt (size minimum) stainless steel, A312 (SS), with thin disk female hexagon or hex bolt anchor. See the Contract Plans.
3. A simple place having similar dimensional shape to Design G and making with the W-beam guardrail is an alternative.
4. In areas where Design G and section D is installed on the outside of the guardrail, a galvanized 1 1/4", 3/4 OD, 1/4" thick, narrow Type A Plate Washer or a similar rail washer shall be placed under the splice bolt head.
NOTES
1. When required by the Contract, a Snow Load Post Washer shall be used on the backside of the post (in lieu of the 1 3/4" (in) Post Bolt Washer) and a Snow Load Rail Washer shall be placed on the face side of Beam Guardrail Types 1 and 2. Snow Load Rail Washers shall not be installed on terminals.

2. Rail Washers, also called "Snow Load Rail Washers", are not required on new installation, except as called for in Note 1. Unnecessary Rail washers need not be removed from existing installations, except those on posts 2 through 8 of a BCT installation shall be removed.

3. Timber blocks shall be toe-nailed to the post with a 16d galvanized nail to prevent block rotation.

4. For post and block details, see Standard Plan C-1b.

5. When "Beam Guardrail Type - ______ FT Long Post" is specified in the Contract, the post length shall be stamped with numbers, T 1/2" (in) min. high and 3/4" (in) wide at the location where the letter "H" is shown in the ASSEMBLY DETAIL. For wood post attachments, the letter shall be stamped to a minimum depth of 1/4" (in). For steel post attachments, the letter shall be legible after the post is galvanized. After post installation, it shall be the Contractor's responsibility to ensure the stamped numbers remain visible.

6. Existing posts shall not be raised. Replace posts as necessary to achieve required guardrail height.

7. Holes shall be located on approaching traffic side of web.

BEAM GUARDRAIL TYPE 31
COMPONENTS
STANDARD PLAN C-20.11-00
SHEET 1 OF 1 SHEET

Approved For Publication
Washington State Department of Transportation

DRC: 0399805

2017.11.28 11:11 AM

ECCO DESIGN ENGINEERS
NOTES

1. For use on the end of guardrail runs where a crashworthy terminal is not required.
2. For additional details not shown, see Sheet 2 of this Plan.
3. For end section details, see Standard Plans C-7 and C-7a.
4. Use details for Wood Breakaway post shown on this plan and components shown on Standard Plan C-1b.
5. Fasten the Anchor Cable using two 1" (in) nuts and washer, at both ends of cable.
6. Wood blocks shown. Blocks of alternate material may be used. See Standard Specification, Section 9-16.3(2).
7. Posts shall match those of the connecting run: timber or steel.
8. Anchor plate may be constructed from 1/4" (in) plates welded to equal strength and dimensions as shown.
9. Eight 5/8" (in) x 1/2" (in) machine bolts with hex nut and washer. Place washer on face sides of rail.

ELEVATION VIEW
W-BEAM

ELEVATION VIEW
THREE BEAM

ISOMETRIC VIEW
WOOD BREAKAWAY POST DETAIL

STATE OF WASHINGTON
PROFESSIONAL ENGINEER

BEAM GUARDRAIL (TYPE 31)
ANCHOR TYPE 10

STANDARD PLAN C-23.60-04

APPROVED FOR PUBLICATION
STATE DESIGN ENGINEER
Washington State Department of Transportation
NOTES

1. At marked crosswalks, the connection between the curb ramp and the roadway must be contained within the width of the crosswalk markings.

2. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.

3. Do not place gratings, Junction Boxes, Access Covers, or other appurtenances on any part of the Curb Ramp or Landing, in front of the Curb Ramp where it connects to the roadway.


6. The Bid Item "Cement Concrete Curb Ramp Type..." does not include the adjacent Curb, Curb and Gutter, Depressed Curb and Gutter, Pedestrian Curb, or Sidewalks.

7. The Curb Ramp length is not required to exceed 1.5 feet (unless shown otherwise in the Contract Plans). When applying the 15-foot max length, the running slope of the Curb Ramp is allowed to exceed 0.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the landing over a horizontal distance of 15 feet. Do not include the abutting landing in the 15-foot max measurement.


9. Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or Landing will be at the same elevation as the Curb Ramp or Landing and there will be no material to retain.

LEGEND

SLOPE IN EITHER DIRECTION

1.5 OR FLATTER RECOMMENDED FOR DESIGN/WORK (2% MAX.)

7.5% OR FLATTER RECOMMENDED FOR DESIGN/WORK (5% MAX.)

5.0% OR FLATTER RECOMMENDED FOR DESIGN/WORK (3% MAX.)

3.5% OR FLATTER RECOMMENDED FOR DESIGN/WORK (1% MAX.)

PERPENDICULAR CURB RAMP

STANDARD PLAN F-40.15-03

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Washington State Department of Transportation

Scott Haller

Approved:

Date: 02/03/2015

7:20 AM

Engr. Jeff

3/29/2015, 2:11 PM
NOTES
1. The Detectable Warning Surface (DWS) shall extend the full width of the curb ramp, landing, or other roadway entrance as applicable. Exceptions: If the manufacturer of the DWS requires a concrete border around the DWS, a variance of up to 2 inches on each side of the DWS is permitted.
2. The Detectable Warning Surface (DWS) shall be placed at the back of curb, with the two leading corners of the DWS panel placed adjacent to the back of the curb, and with no more than a 2-inch gap between the DWS and the back of the curb measured at the center of the DWS panel. Exception: If the manufacturer of the selected DWS requires a concrete border around the DWS, a variance of up to 2 inches from the back of the curb is permitted (measured at the leading corners of the DWS panel).
3. The rows of truncated domes shall be aligned to be perpendicular to the grade break at the back of curb.
4. The rows of truncated domes shall be aligned to be parallel to the direction of travel.
5. If curbs and gutter are not present, such as a shared-use path connection, the Detectable Warning Surface shall be placed at the pavement edge.
7. If a curb ramp is required, the location of the Detectable Warning Surface must be at the bottom of the ramp and within the required distance from the rail.
8. When the grade break between the curb ramp and the landing is less than or equal to 5 ft, from the back of curb at all points, place the Detectable Warning Surface on the bottom of the curb ramp directly above the grade break.
1. When the driveway width exceeds 15' (ft), construct a full depth expansion joint with 3/8" (in) joint filler along the driveway centerline. See Standard Plan F-30.10. Construct expansion joints parallel with the centerline as required at 15' (ft) maximum spacing when driveway widths exceed 30' (ft).


3. Curb and Gutter shown; see the Contract Plans for the curb design specified. See Standard Plan F-10.12 for Curb Details.

4. Avoid placing drainage structures, junction boxes or other obstructions in front of driveway entrances.

5. Where "GRADE BREAK" is called out, the entire length of the line between the two adjacent surface planes shall be flush.

6. The Pedestrian Ramp length is not required to exceed 15 feet (unless otherwise shown in the Contract Plans). When applying the 15-foot max. length (measured from back of sidewalk) the running slope of the pedestrian ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the sidewalk over a horizontal distance of 15 feet.

7. Beyond limits shown. Pay Item does not include driveway. See Contract Plans.
NOTES
2. Where shown in the plan, install plaque (R10-333) "PUSH BUTTON FOR 2 SECONDS FOR EXTRA CROSSING TIME" above the Accessible Pedestrian Signal (APS) assembly. Add 14" (in) to post height to accommodate plaque and leave a 2" (in) space between signs.
4. Junction Box serving the Standard shall preferably be located 5" - 0' (10" - 0' Max.) from the Standard.
NOTES

1. This plan depicts the Steel Light Standard types and terms currently referred to in the Contract. All Steel Light Standards are fabricated in accordance with the Standard Specifications and the Contract Provisions.

2. The Luminaire Pole height shall not exceed 60' (18.28).

3. Slip Boxes shall not be installed on 60' (18.28) poles with Double Mast Arms, nor on poles weighing more than 1000 lbs.

4. The optimal location of the Luminaire head is over the edge of the traveled way. Based on the placement of the Steel Light Standard foundation, the position of the Luminaire head may vary. See Standard Plan J-28.25.

5. Light Standard mast arm orientation is typically perpendicular to roadway centerline.


STEEL LIGHT STANDARD
STANDARD PLAN J-28.10-01
SHEET 1 OF 2 SHEETS
APPROVED FOR PUBLICATION
Pierce Baldwin Rd 04-11-11
Washington State Department of Transportation
**MAXIMUM CONCRETE EXPOSURE TABLE (CASE F ONLY)**

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**NOTES**

3. Values listed in the Table were determined using a 3" - 0" diameter foundation. For design parameters between the values listed, exposure requirements may be interpolated between the values provided.
4. Fill material for Maintenance Pad shall be granular material. Alternately, Crushed Surfacing (Base Course or Top Course) per Standard Specification 9-03.9(3) may be used.

**CASE E**
SLOPES 2H : 1V OR FLATTER BEHIND TRAFFIC BARRIER

**CASE E & CASE F**
MAINTENANCE PAD

**EMBANKMENTS**

**CASE F**
SLOPES STEEPER THAN 2H : 1V BEHIND TRAFFIC BARRIER (SPECIAL DESIGN FOUNDATION)

**CASE G**
ROADSIDE DITCH WITH FORE SLOPE STEEPER THAN 4H : 1V (2H : 1V MAX.)

**CASE G & CASE H**
MAINTENANCE PAD

**BACK SLOPES**
NOTES
2. The Strap Templates shall be held in place by nuts, 6" (in) from the top of the foundation and 3" (in) from the bottom of the anchor bolts. Eighteen heavy duty hex nuts and six round washers are required for a slip base assembly. Eighteen heavy duty hex nuts and six plate washers are required for a fixed base assembly.
3. Use Steel Light Standard Foundation Type A on level ground or slopes not exceeding 4H : 1V. Use Type B for slopes steeper than 4H:1V, but not exceeding 2H:1V. Slopes steeper than 2H:1V shall require a special design.
4. These foundations are designed for a minimum of 2000 PSF (TYPE A) or 1500 PSF (TYPE B) allowable lateral bearing pressure for the soil. A special foundation shall be required for soil with allowable lateral bearing pressure lower than 1500 PSF.
5. The Luminaire Pole height shall not exceed 50' (ft) (H1).
6. Slip bases shall not be installed on 50' (ft) (H1) poles with Double Mast Arms, nor on poles weighing more than 1000 lbs.
7. Slip bases are required on poles installed inside the Design Clear Zone, and on poles installed behind traffic barrier that are within the traffic barrier deflection zone.
8. Foundations constructed within Media Filter Drains shall be increased in depth by the depth of the Media Filter Drain.
9. Exposed portions of the foundation shall be formed to create a Class 2 surface finish. All forms shall be removed upon completion of foundation construction.
10. For excavation, concrete placement, and backfill operations, see METHOD 1 and METHOD 2 on Sheet 2 of 2.
11. The anchor bolts shall be high-strength steel, manufactured from ASTM F1554 Grade 105, with heavy hex nuts and hardened washers. Galvanize the anchor bolts according to ASTM F2329.
12. The foundation shall be grounded in accordance with the requirements of Standard Specification 8-20.3.4.
METHOD 1
NO SUBSURFACE FORM

This option is used only when the existing soil in the hole will remain standing and the cement concrete can be placed without causing the soil to collapse. Concrete shall be cast directly against undisturbed soil.

Auger the hole for the foundation. Use a paper or cardboard form to achieve a smooth finish on the final exposed cement concrete. Support the form as necessary to remain plumb.


Place the concrete foundation.

After concrete has cured, remove the paper or cardboard form portion.

Construct the embankment widening (if required).

CONSTRUCTION METHODS

METHOD 2
METAL (SUBSURFACE) FORM REQUIRED

When the existing soil will not retain a vertical face, over-excavate the foundation area and install a 36" (in) diameter corrugated metal (pipe) form. The corrugated metal form shall not extend more than 5" (in) +/- 1" (in) below any portion of the foundation that will remain exposed upon final grading. Continue forming to full height using a paper or cardboard form to achieve a smooth finish on final exposed cement concrete. Support the form as necessary to remain plumb.


Place the concrete foundation.

After concrete has cured, remove the paper or cardboard form portion.

Backfill with controlled-density fill or compacted borrow in accordance with Standard Specification 8-20.3(2).

Construct the embankment widening (if required).
NOTES

1. 50’ (ft) (H1) poles with double mast arms or poles weighing in excess of 1000 LBS shall not be installed on a slip base.

2. Galvanizing shall be in accordance with AASHTO M 111.

3. See Standard Plans C-8b, C-85.15, and J-28.60 for foundation and base plate requirements when light standards are mounted on cement concrete traffic barrier.

4. See Standard Specification Sections 8-03.33(33) and 8-20.3(4) for the torque requirements for all of the anchor bolt installations. Install 1” (in) diameter clamping bolts in all slip bases to a torque of 95 Foot-Pounds. See Standard Specification Section 8-20.3 (13A). DO NOT OVERTIGHTEN. After state inspection, burr threads to prevent nut rotation.

STEEL LIGHT STANDARD WIRING DETAILS

STANDARD PLAN J-28.70-03

TYPICAL LOCATION OF JUNCTION BOX AND FOUNDATION
NOTES

1. Each wire shall be physically separated by at least 1/4" (10 mm) so that seating material can fill in between the wires; where heat shrink tubing is used for the outer splice enclosure, it shall meet one of the following requirements:
   a. Have separate ports for each conductor ("Y" or "T" shaped tubing).
   b. Have rubber electrical mastic tape wrapped around each conductor to ensure a weatherproof seal. See Rubber Electrical Mastic Tape Installation Detail, Standard Plan J-60.05.

2. Heat shrink tubing shall extend a minimum of one inch onto the original wire insulation of each wire in the splice. Rigid splice enclosures shall be centered over the crimped connection.

3. Electrical taps used in splicing applications shall be 3/4" (19 mm) wide, be UL listed under UL 510, and be CSA Certified under C22.2 No. 197-M1993.

4. Crimp splices shall be installed with an approved crimping tool for the type and size of crimp splice used. Pilfers and similar multi-purpose tools may not be used.

CONNECTOR AND INTERNAL SEALING DETAILS

STEEL LIGHT STANDARD WIRING DETAILS

STANDARD PLAN J-28.70-03

SHEET 2 OF 2 SHEETS

APPROVED FOR PUBLICATION

Washington State Department of Transportation

DESIGNER:

DATE:

REV.

DRAFTS: 30-31
1. Each wire shall be physically separated by at least 1/4" (1/4") so that sealing material can fill between the wires where heat shrink tubing is used for the outer splice enclosure. It shall meet one of the following requirements:

   a. Have separate ports for each conductor ("WYE" or "X" shaped tubing).
   b. Have rubber electrical mastic tape wrapped around each conductor to ensure a weatherproof seal. See Rubber Electrical Mastic Tape Installation Detail, Standard Plan J-60.05.

2. Heat shrink tubing shall extend a minimum of one inch onto the original wire insulation of each wire in the splice. Rigid splice enclosures shall be centered over the cramped connection.

3. Electrical tape used in splicing applications shall be 3/4" (3/16") wide, be UL listed under UL 510, and be CSA Certified under C22.2 No. 197-M1983.

4. Crimp splices shall be installed with an approved crimping tool for the type and size of crimp splice used. Pilfer and similar multi-purpose tools may not be used.

**NOTES**
1. 3/8" (in) × 2" (in) × 2" (in) Frame Bonding Stud Plate with 1/4 NC × 1" Stainless Steel Bonding Stud.  
   • Weld Bonding Stud to Frame Bonding Plate.  
   • Weld to lid support frame.  
   • 1/4" (in) weld = 3 sides.  
   • Grind lid bearing surface flat after welding.  
   • All corners rounded. Corners along exposed sheared or cut edges shall be broken by light grinding to achieve an approximate 1/16" (in) chamfer or rounding.  
   • Protect conductors with fireproof cloth prior to welding.  
   • Omit Frame Bonding Stud Plate if the Frame Bonding point already exists.

2. Weld all around lid bonding stud – 1/4 NC × 1" stainless steel – liberally coat entire assembly w/ anti-seize compound.
NOTES

1. All box dimensions are approximate. Exact configurations vary among manufacturers.

2. Minimum lid thicknesses are shown. Junction Boxes installed in sidewalks, walkways, and shared-use paths shall have a slip-resistant coating on the lid and lip cover plate and shall be installed with the surface flush with and matched to the grade of the sidewalk, walkway, or shared-use path. The non-slip lid shall be identified with permanent markings on the underside, indicating the type of surface treatment (see Contract Documents for details) and the year of manufacture. The permanent marking shall be 1/16" (1.6 mm) thickness formed with a mild steel weld bead and shall be placed prior to hot-dip galvanizing.

3. Lid support members shall be 3/16" (4.8 mm) thick steel C, L, or T shape, welded to the frame. Exact configurations vary among manufacturers.

4. A 1/4-20 NC x 3/4" (19 mm) S.S. ground stud shall be welded to the bottom of each lid; include (2) S.S. nuts and (2) S.S. flat washers.

5. The hinges shall allow the lids to open 180°.

6. Bolts and nuts shall be liberally coated with anti-seize compound.

7. Connect Equipment Bonding Jumper to ground stud on lid. As an alternative to the ground stud connection, the Equipment Bonding Jumper shall be attached to the front face of the hinge pocket with a 5/16-20 NC x 3/4" (19 mm) S.S. bolt, (2) each S.S. nuts, and (2) each S.S. flat washers. Equipment Bonding Jumper shall be #8 AWG min. x 4' (1.2 m) of tinned bared copper.

8. The System Identification letters shall be 1/8" (3.2 mm) line thickness formed by a mild steel weld bead See Cover Marking detail. Grind off diamond pattern before forming letters. See Standard Specification 8-29.2(4) for details.

9. See the Standard Specifications for alternative reinforcement and class of concrete.


11. Capacity - conduit diameter = 2¼" (57 mm)

12. Lid Bolt Down Attachment Tab provides a method of retrofitting by using a mechanical process in lieu of welding. Attachment Tab shown depicts a typical component arrangement; actual configurations of assembly will vary among manufacturers. See approved manufacturers’ shop drawing for specifics.

13. Unless otherwise noted in the plans or approved by the Engineer, Junction Boxes, Cable Vaults and Pull Boxes shall not be placed within the sidewalk, walkway, shared use path, traveled way or paved shoulders. All Junction Boxes, Cable Vaults, and Pull Boxes shall be placed within the traveled way or paved shoulders shall be Heavy-Duty.

14. Distance between the top of the conduit and the bottom of the Junction Box lid shall be 6" (152 mm) to 8" (203 mm) max, for final grade of new construction only. See Standard Specification 8-20.3(8). Where adjustments are to be made to existing Junction Boxes, or for interim construction stages during the contract, the limits shall be from 6" (152 mm) to 10" (254 mm) max. See Standard Specification 8-20.3(8).

LOCKING LID STANDARD DUTY JUNCTION BOX

TYPE 8

STANDARD PLAN J-40.30-04

SHEET 1 OF 2 SHEETS

APPROVED FOR PUBLICATION

Carpenter, Jeff

State Design Engineer

Washington State Department of Transportation

J. Hood

Apr 25, 2016 3:09 PM

Sheet A of 1 Sheets

Sheet B of 2 Sheets

Sheet C of 2 Sheets

Sheet D of 2 Sheets
NOTES

1. Each wire shall be physically separated by at least 1/4" (6 mm) so that sealing material can fill in between the wires; where heat shrink tubing is used for the outer splice enclosures, it shall meet one of the following requirements:

   a. Have separate ports for each conductor ("WYE" or "X" shaped tubing), or -

   b. Have rubber electrical mastic tape wrapped around each conductor to ensure a weatherproof seal. See Rubber Electrical Mastic Tape Installation Detail.

2. Heat shrink tubing shall extend a minimum of one inch onto the original wire insulation of each wire in the splice. Right splice enclosures shall be centered over the crimped connection(s).

3. Electrical tape used in splicing applications shall be 3/4" (19 mm) wide, be UL listed under UL 510, and be CSA certified under C22.2 No. 107-M983.

4. No more than two splices may be installed in the same splice enclosure.

5. Crimp splice shall be installed with an approved crimping tool for the type and size of crimp splice used. Pliers and similar multi-purpose tools may not be used.
NOTES
1. For Installation Notes and Details see Standard Plan J-50.15.
2. For Sections A, B, C, and D, see Standard Plan J-50.16.
3. All of the loop lead-in wires shall return to the Junction Box.
4. For Splice Detail, see Standard Plan J-50.05.
5. For Loop numbering Layout Details, see sheet 3.
6. For additional Induction Loop Details, see Standard Plan J-50.15.
TYPE 3 STOP LINE LOOP WIRING DIAGRAM
SERIES SPlice SHOWN

TYPE 3 ADVANCE LOOP WIRING DIAGRAM

TYPE 3 SAMPLING LOOP WIRING DIAGRAM
SERIES SPlice SHOWN

NOTES
Loop numbering layout will be similar to Loop Numbering Layout Detail, Sheet 3.

THEODORE JOSEPH BAZLEY
WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
NOTES
1. For Installation Notes and Details see Standard Plan J-50.15.
3. All of the loop lead-in wires shall return to the Junction Box.
4. For Splice Detail, see Standard Plan J-50.05.
5. For Loop numbering Layout Details, see sheet 3.
6. For additional Induction Loop Details, see Standard Plan J-50.15.
NOTES
Loop numbering layout will be similar to Loop Numbering Layout Detail, Sheet 3.

TYPE 3 STOP LINE LOOP WIRING DIAGRAM
SERIES SPLICE SHOWN

TYPE 3 ADVANCE LOOP WIRING DIAGRAM

TYPE 3 SAMPLING LOOP WIRING DIAGRAM
SERIES SPLICE SHOWN
1. If parallel circuits of different sizes are contained in one conduit, the size of the grounding conductor shall be determined on the basis of the largest conductor. Only one grounding conductor is required for each conduit, regardless of the number of circuits contained.

2. Service ground per serving utility requirement. If the utility uses aluminum service conductors, an approved Al-Cu pressure-type ground connector shall be used to secure the service neutral to the copper neutral bar in the service enclosure. Except for the above, all grounding conductors shall be copper.

3. Equipment grounding conductors and grounding electrode conductors shall be sized in accordance with the National Electrical Code (No. 8 minimum).
TYPICAL GROUNDING DETAILS

STANDARD PLAN J-60.05-01

SHEET 3 OF 3 SHEETS

APPROVED FOR PUBLICATION

Washington State Department of Transportation

Suited to supplement equipment grounding for luminaires standards with direct burial aerial feeds, or when required in the plans.

Required at all service and separately derived systems.

Type D service cabinet shown. Use this concept for "Type E" cabinet or transformer. Type D service cabinet shall be installed on lower surface of foundation only. Type B service cabinet shown and transformer cabinet shall be installed on raised surface of foundation only.

Type B modified service cabinet.

Grounding electrode conductor and equipment grounding conductor shall not be routed through lug on grounding bushing.

RIGID PVC CONDUIT (PVC) APPLICATION

GALVANIZED STEEL RIGID METAL CONDUIT (RMC) APPLICATION

SEE KEY ON SHEET 1 FOR PARTS
NOTE

Use the dimensions shown on this plan for each type of Traffic Arrow being placed on roadways with a posted speed limit of 40 mph or lower.
APPENDIX C

CITY OF KIRKLAND & WOODINVILLE WATER DISTRICT
STANDARD PLANS
UNPAVED AREAS

1. MAXIMUM WIDTH OF TRENCH AT TOP OF PIPE
   * 30" FOR PIPE UP TO AND INCLUDING 12" NOMINAL DIAMETER.
   * OD PLUS 16" FOR PIPE LARGER THAN 12" NOMINAL DIAMETER.

2. WHERE TRENCH IS PERPENDICULAR TO TRAVELED LANES, BACKFILL FULL DEPTH WITH CRUSHED SURFACING—TOP COURSE. WHERE TRENCH IS PARALLEL TO TRAVELED LANES, BACKFILL THE TOP 4' OF TRENCH TO SUBGRADE WITH CRUSHED SURFACING—TOP COURSE. SUITABLE EXCAVATED MATERIAL MAY BE USED PROVIDED 95% MAX. COMPACTION DENSITY (ASTM D1557) CAN BE ACHIEVED.


PAVED AREAS

NOTES:

SAWCUT (TYP) APPLY JOINT SEALANT PG 64-22 TO TOP AND TACK COAT TO SIDES

EXIST. PAVEMENT SURFACE

NEAT-LINE TRENCH (TYP) WHEN DEPTH IS LESS THAN 4 FT.

"CRUSHED SURFACING-TOP COURSE" PER WSDOT STD SPEC 9-03.9(3). COMPACT TO 95% MAX DENSITY, SEE NOTE 2

SELECT OR NATIVE TRENCH BACKFILL COMPACT TO 95% OF MAX. DRY DENSITY (PER ASTM D1557) IN PAVED AREA

STORM DRAIN PIPE

SELECT OR NATIVE TRENCH BACKFILL COMPACT TO 90% OF MAX. DRY DENSITY (PER ASTM D1557) IN UNPAVED AREA

PEA GRAVEL FOR 6' OR GREATER FROM SURFACE TO CROWN OF PIPE. FOR LESS THAN 6', CRUSHED SURFACING TOP COURSE (CSTC) PER WSDOT STD SPEC 9-03.9[3].

SURFACE RESTORATION AS SPECIFIED

REQUIRED PAVEMENT RESTORATION. SEE STD. PLAN NO. CK-R.12.
NOTES:

1. CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C478 (AASHTO M 199) & C890 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE STANDARD SPECIFICATIONS.
2. AS AN ACCEPTABLE ALTERNATIVE TO REBAR, WELDED WIRE FABRIC HAVING A MIN. AREA OF 0.12 SQUARE INCHES PER FOOT MAY BE USED. WELDED WIRE FABRIC SHALL COMPLY TO ASTM A497 (AASHTO M 221). WIRE FABRIC SHALL NOT BE PLACED IN KNOCKOUTS.
3. ALL REINFORCED CAST-IN-PLACE CONCRETE SHALL BE CLASS 4000.
4. PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MIN. ALL PIPE SHALL BE INSTALLED IN FACTORY PROVIDED KNOCKOUTS. UNUSED KNOCKOUTS NEED NOT BE GROUTED IF WALL IS LEFT INTACT.
5. KNOCKOUT OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIAM. PLUS CATCH BASIN WALL THICKNESS.
6. ROUND KNOCKOUTS MAY BE ON ALL 4 SIDES, WITH MAX. DIAM. OF 20". KNOCKOUTS MAY BE EITHER ROUND OR "D" SHAPE.
7. THE MAX. DEPTH FROM THE FINISHED GRADE TO THE PIPE INVERT IS 5'-0".
8. THE TAPER ON THE SIDES OF THE PRECAST BASE SECTION AND RISER SECTION SHALL NOT EXCEED 1/2" FT.
9. CATCH BASIN FRAME AND GRATE SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS. MATING SURFACES SHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER POSITION.
10. FRAME AND GRATE SHALL BE INSTALLED WITH FLANGE DOWN.
11. EDGE OF RISER OR BRICK SHALL NOT BE MORE THAN 2" FROM VERTICAL EDGE OF CATCH BASIN WALL.
12. ACCEPTABLE PIPE SIZES ARE 6", 8", 12" OR 15".
13. ROUND SOLID LOCKING LIDS REQUIRED IN SIDEWALK AND PLANTER AREAS.
NOTES

1. CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C478 (AASHTO M 199) & C890 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE STANDARD SPECIFICATIONS.

2. AS AN ACCEPTABLE ALTERNATIVE TO REBAR, WELDED WIRE FABRIC HAVING A MIN. AREA OF 0.12 SQUARE INCHES PER FOOT MAY BE USED. WELDED WIRE FABRIC SHALL COMPLY TO ASTM A497 (AASHTO M 221). WIRE FABRIC SHALL NOT BE PLACED IN KNOCKOUTS.

3. ALL REINFORCED CAST-IN-PLACE CONCRETE SHALL BE CLASS 4000.

4. PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MIN. ALL PIPE SHALL BE INSTALLED IN FACTORY PROVIDED KNOCKOUTS. UNUSED KNOCKOUTS NEED NOT BE GROUTED IF WALL IS LEFT INTACT.

5. KNOCKOUT OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIAM. PLUS CATCH BASIN WALL THICKNESS.

6. KNOCKOUTS MAY BE ON ALL 4 SIDES WITH MAX. DIAM. OF 28". KNOCKOUTS MAY BE EITHER ROUND OR "D" SHAPE.

7. THE TAPER ON THE SIDES OF THE PRECAST BASE SECTION AND RISER SECTION SHALL NOT EXCEED 1/2"/FT.

8. CATCH BASIN FRAME AND GRATE SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS. MATING SURFACES SHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER POSITION.

9. FRAME AND GRATE SHALL BE INSTALLED WITH FLANGE DOWN.

10. MAX. DEPTH FROM FINISHED GRADE TO PIPE INVERT SHALL BE 5'-0".

11. EDGE OF REDUCING SECTION OR BRICK SHALL NOT BE MORE THAN 2" FROM VERTICAL EDGE OF CATCH BASIN WALL.

12. ACCEPTABLE PIPE SIZES ARE 6", 8", 12", 15" OR 18".

13. ROUND SOLID LOCKING LIDS REQUIRED IN SIDEWALK AND PLANTER AREAS.
NOTES:

1. Catch basins shall be constructed in accordance with ASTM C478 (AASHTO M199) and ASTM C890 unless otherwise shown on plans or noted in the standard specifications.

2. Handholds in adjustment section shall have 3" min. clearance. Steps in catch basin shall have 6" min. clearance. See std. DTL No. CK-D.12, Catch Basin Details. Handholds shall be placed in alternating grade rings or leveling brick course with a min. of one handhold between the last step and top of the finished grade.

3. All reinforced cast-in-place concrete shall be class 4000. All precast concrete shall be class 4000.

4. Precast bases shall be furnished with cutouts or knockouts. Knockouts shall have wall thickness of 2" min. Unused knockouts need not be grouted if wall is left intact. Pipes shall be installed only in factory knockouts unless otherwise approved by the engineer.

5. Catch basin frames and grates or covers shall be in accordance with Sec. 7.05 of the standard specifications. Mating surfaces shall be finished to assure non-rocking fit with any cover position.

6. All base reinforcing steel shall have a min. yield strength of 60,000 PSI and be placed in the upper half of the base with 1" min. clearance.

7. Min. soil bearing value shall equal 3,300 pounds per square foot.

8. For details showing ladder, steps, handrails and top slabs, see std. DTLs. No. CK-D.12 and CK-S.14.

9. All manhole joints shall use a confined rubber gasket and grouted (inside and out) to meet ASTM C-443 specifications.

10. Round solid locking lids required in sidewalk and planter areas.

ACCEPTABLE PIPE SIZES:

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>Acceptable Pipe Sizes</th>
</tr>
</thead>
</table>
| 48" DIAM. | 6" MAX.
| 54" DIAM. | 8" MAX.
| 60" DIAM. | 8" MAX.
| 72" DIAM. | 8" MAX.
| 96" DIAM. | 12" MAX.

REINFORCING STEEL (FOR PRECAST BASE & INTEGRAL RISER ONLY):

- 0.15 SQ. IN./FT. IN EACH DIRECTION FOR 48" DIAM.
- 0.24 SQ. IN./FT. IN EACH DIRECTION FOR 60" DIAM.
- 0.29 SQ. IN./FT. IN EACH DIRECTION FOR 96" DIAM.

REINFORCING STEEL (FOR PRECAST BASE ONLY):

- 0.13 SQ. IN./FT. IN EACH DIRECTION FOR 48" DIAM.
- 0.25 SQ. IN./FT. IN EACH DIRECTION FOR 60" DIAM.
- 0.35 SQ. IN./FT. IN EACH DIRECTION FOR 96" DIAM.
ELBOW RESTRICTOR DETAIL

NOTES:
1. USE A MINIMUM OF A 54" DIAMETER TYPE-II CATCH BASIN.
2. OUTLET CAPACITY: 100-YEAR DEVELOPED PEAK FLOW.
3. METAL PARTS: CORROSION RESISTANT, ALUMINUM AND STAINLESS STEEL ARE REQUIRED.
4. FRAME & LADDER OR STEPS TO OFFSET SO:
   A. CLEANOUT GATE IS VISIBLE FROM TOP.
   B. CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE.
   C. FRAME IS CLEAR OF CURB.
5. IF METAL OUTLET PIPE CONNECTS TO CEMENT CONCRETE PIPE: OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D. LESS 1/4".
6. PROVIDE TWO 3" X 0.100 GAGE SUPPORT BRACKET BOLTED OR EMBEDDED 2" INTO CONCRETE WALL.
7. LOCATE ELBOW RESTRICTOR(S) AS NECESSARY TO PROVIDE MINIMUM CLEARANCE AS SHOWN.
8. LOCATE ADDITIONAL LADDER RUNGS IN STRUCTURES USED AS ACCESS TO TANKS OR VAULTS TO ALLOW ACCESS WHEN CATCH BASIN IS FILLED WITH WATER.
9. SHEAR GATE SHALL BE PRODUCT MADE OF CAST ALUMINUM (NO CAST IRON).
10. GATE SHALL BE 8" OR LARGER IN DIAMETER FOR OUTLET PIPE SMALLER THAN 23" DIAMETER. GATE SHALL BE 12" OR LARGER DIAMETER FOR OUTLET PIPE 24" DIAMETER AND LARGER.
11. LIFT ROD: AS SPECIFIED BY MANUFACTURER, WITH HANDLE TENDING TO WITHIN ONE FOOT OF COVER AND ADJUSTABLE HOOK LOCK FASTENED TO FRAME OR UPPER HANDHOLD.
12. FILL CATCH BASIN TO INVERT LEVEL OF OUTFLOW PIPE TO PREVENT ANY OIL ESCAPING.
13. REMOVABLE BASKET OR SCREEN REQUIRED REGARDLESS OF BOTTOM ORIFICE SIZE. ALUMINUM MESH, 8" DEPTH, MIN. 3 STAINLESS STEEL SCREWS, 0.5" EXPANDED SHEET MESH TYPICAL.
14. CITY OF KIRKLAND REQUIRES ELBOW AND FERNO, INDIANA SEAL OR EQUIVALENT TO BE REMOVABLE.
NOTES:
1. WHERE DEPTH OF NECK EXCEEDS 18 INCHES, ADJUST MANHOLE/CATCH BASIN TO GRADE BY INSERTING NEW BARREL SECTION BETWEEN THE CONE/SLAB AND EXISTING BARREL.
2. GRADE RINGS, RISERS, BRICK AND FRAME SHALL BE SET IN 3/4" NON-SHRINK GROUT, GROUT BETWEEN ALL JOINTS. ALL SURFACES MUST BE CLEAN OF DEBRIS AND DIRT, AND WETTED PRIOR TO GROUTING. GROUT SMOOTH INSIDE AND OUTSIDE SURFACES.
3. STEPS OR HAND HOLDS SHALL BE ADDED AS NEEDED.
4. PRECAST GRADE RINGS AND RISERS MUST BE CAST WITH GROOVE TO ALLOW FIELD INSTALLATION OF SAFETY STEP.
5. REPLACE EXISTING FRAME AND COVER/GRATE IF NON-STANDARD.
6. IF REQUIRED: LOCKING MH SHALL BE POSITIONED WITH ONE LUG CENTERED OVER STEPS.
7. IF LEVELING BRICKS ARE USED, GROUT IS REQUIRED ON THE OUTSIDE OF THE BRICKS UNLESS ENCASED IN CONCRETE BY THE ADJUSTMENT COLLAR. IF THE ADJUSTMENT IS OFFSET, THE RINGS SHALL BE GROUTED FLUSH. NO LEDGES.
NOTES:

1. PROPRIETARY CATCH BASIN HANDHOLDS AND STEPS ARE ACCEPTABLE, PROVIDED THAT THEY CONFORM TO SEC. R, ASTM C478, AASHTO M-199 AND MEET ALL WISHA REQUIREMENTS.

2. CATCH BASIN STEP/HANDHOLD LEGS SHALL BE PARALLEL OR APPROXIMATELY RADIAL AT THE OPTION OF THE MANUFACTURER, EXCEPT THAT ALL STEPS IN ANY CATCH BASIN SHALL BE SIMILAR. PENETRATION OF OUTER WALL BY A LEG IS PROHIBITED.

3. HANDHOLDS AND STEPS SHALL HAVE "DROP" RUNGS AS SHOWN ON DETAIL OR PROTRUBANCES TO PREVENT SIDWAYS SLIP.

4. SLAB OPENING MAY BE 24" X 20" OR 24" DIAM.

5. AS AN ACCEPTABLE ALTERNATIVE TO REBAR, WELDED WIRE FABRIC HAVING A MIN. AREA OF 0.12 SQUARE INCHES PER FOOT MAY BE USED. WELDED WIRE FABRIC SHALL COMPLY TO ASTM A497.

6. LADDERS OR STEPS SHALL EXTEND TO WITHIN 18" OF BOTTOM OF CATCH BASIN.

7. HANGING LADDERS SHALL BE PERMANENTLY FASTENED AT TOP BY HANGING ON STEP AND BY BOLTING OR EMBEDDING IN CONCRETE. EACH SHALL BE EMBEDDED AT BOTTOM IN BASE.

8. ADDITIONAL SAFETY FEATURES MAY BE REQUIRED IN VERY DEEP OR UNUSUAL STRUCTURES.
NOTES:

1. USE EAST JORDAN IRON WORKS OR EQUAL TWO BOLT LOCK CAPABILITY THAT MEETS WSDOT SPEC. MANUFACTURER SUBJECT TO APPROVAL BY CITY.
2. USE WITH TWO LOCKING BOLTS 5/8"-11 NC STAINLESS TYPE 304 STEEL SOCKET HEAD (ALLEN HEAD) BOLTS, 2" LONG. NOTE SLOT DETAIL.
3. MATERIAL IS DUCTILE IRON ASTM A536 GRADE 80-55-06.
4. "OUTFALL TO STREAM DUMP NO POLLUTANTS" MAY BE LOCATED ON BORDER AREA.
5. SHALL CONFORM TO SEC. 7.05 OF THE STANDARD SPECIFICATIONS.
6. WELDING IS NOT PERMITTED.
7. EDGES SHALL HAVE 0.125" RADIUS, 0.125" CHAMBER OR COMPLETE DEBURRING.
8. USE A BI-DIRECTIONAL VANED GRATE AT ANY LOW POINT OR WHEN FLOWS COME FROM MULTIPLE DIRECTIONS.
9. NO EXPANSION MATERIAL IN THE FLOW LINE, WHERE CONCRETE COMES TO FRAME.
10. FRAME AND COVER SHALL BE H-20 LOADING RATED IF INSTALLED IN ROADWAY.
NOTES:

1. FRAME AND COVER SHALL BE EAST JORDAN IRON WORKS OR EQUAL, SUBJECT TO APPROVAL BY CITY. MATERIAL SHALL CONFORM TO SECTION 9-05.15(2) OF THE STANDARD SPECIFICATION.

2. PATTERN ON TOP SURFACE SHALL SPECIFY THE FISH LOGO AND DUMP NO POLLUTANTS (NO DIAMOND PATTERN).

3. BOLT, WASHER, AND NUT SHALL BE GALVANIZED OR CORROSION RESISTANT. BOLTS SHALL BE INSERTED INTO THE FACE OF THE HOOD WITH WASHER AND NUT SECURED TO THE BACK SIDE OF THE HOOD.

4. USE APPROPRIATE GRATE DEPENDING ON THE DIRECTION OF FLOW.

5. NO HORIZONTAL CROSS BAR IN THE OPENING.

6. 18" X 24" VANED OR BI-VANED.
1. FRAME AND COVER SHALL BE EAST JORDAN IRON WORKS OR EQUAL, SUBJECT TO APPROVAL BY CITY.
2. PATTERN ON TOP SHALL SPECIFY FISH LOGO AND DUMP NO POLLUTANTS (NO DIAMOND PATTERN).
3. SET TO GRADE AND CONSTRUCT ROAD AND GUTTER TO BE FLUSH WITH FRAME.
4. HOOD SHALL MATCH TOP OF CURB ELEVATION.
5. NO HORIZONTAL CROSS BAR IN THE OPENING.

CITY OF KIRKLAND
PLAN NO. CK-D.16
THROUGH-CURB INLET FRAME AND GRATE WITH VERTICAL CURB INSTALLATION
NOTE:
1. FRAME MATERIAL IS CAST IRON PER ASTM A48 CLASS 30.
2. SET FRAME TO GRADE AND CONSTRUCT ROAD AND GUTTER TO BE FLUSH WITH FRAME.
3. BACK OF FRAME SHALL BE IN FLOWLINE OF GUTTER.

CITY OF KIRKLAND
PLAN NO. CK-D.16A
STANDARD FRAME WITH CURB INSTALLATION
NOTES:

1. VERIFY SLOTTED FRAMES ARE THOROUGHLY FILLED IN WITH MORTAR FOR EFFICIENT INTERACTION WITH IRON AND STRUCTURE.

2. VERIFY BEDDING MORTAR IS NOT IN CONTACT WITH AREA UNDER LID FLANGE THAT WILL INTERFERE WITH CAMLOCK.

3. INSTALL PLUG IN LOCK HOLE TO KEEP LOCK FREE OF FOREIGN MATERIAL.

4. 24 INCH MANHOLE LID IS FITTED WITH AN INFILTRATION PLUG LOCATED IN THE HINGE HOUSING OF THE FRAME. VERIFY PLUG IS PROPERLY INSTALLED BEFORE INSTALLING THE FRAME.

5. REQUIRED ON ALL ARTERIALS, COLLECTORS OR ANY TIME THAT THE IRON WILL BE WITHIN THE TRAVEL LANE.

6. LID SHALL BE MARKED "STORM" OR "DRAINAGE".

7. CITY OF KIRKLAND LOGO REQUIRED.

8. LID MUST BE COVERED WITH TAR PAPER BEFORE OVERLAY.

9. PRODUCT SUPPLIED BY EAST JORDAN IRON WORKS, OR APPROVED EQUAL.

10. FRAME AND COVER SHALL BE H-20 LOADING RATED IF INSTALLED IN ROADWAY.
1. ALL METAL PARTS CORROSION RESISTANT. CONTROL STRUCTURE AND FASTENING HARDWARE ARE STAINLESS STEEL OR ALUMINIZED STEEL. GRATE IS GALVANIZED STEEL.

2. PROVIDE WATER STOP AT ALL CAST-IN-PLACE CONSTRUCTION JOINTS.

3. PREFABRICATED VAULT SECTIONS MAY REQUIRE STRUCTURAL MODIFICATIONS TO SUPPORT 5' X 10' OPENING OVER MAIN VAULT. ALTERNATELY, ACCESS CAN BE PROVIDED VIA A SIDE VESTIBULE AS SHOWN.

4. 30" DIAMETER MANHOLE SECTION REQUIRED (SEE CK - D.35A).

5. ACCESS MANHOLES SHALL BE POSITIONED 50' MAX FROM ANY POINT WITHIN THE STRUCTURE.

6. PROVIDE WATER STOP AT ALL CAST-IN-PLACE CONSTRUCTION POINTS. PRECAST VAULTS SHALL HAVE APPROVED RUBBER GASKET SYSTEMS, WITH JOINTS GROUTED AFTER INSTALL.

7. DEPTH MAY BE REDUCED ON 4 LOT PLATS OR LESS.
NEWLY GRADED OR DISTURBED SIDE SLOPE

FILTER FABRIC MATERIAL

NO FILL WITHIN 4" OF FENCE

BURY BOTTOM OF FILTER FABRIC MATERIAL WITH NATIVE SOIL

TYPICAL CROSS SECTION

FILTER FABRIC MATERIAL MIRAFI 100X OR EQUIVALENT

STAPLES OR WIRE RINGS, TYP

ELEVATION

BURY BOTTOM OF FILTER FABRIC MATERIAL IN 4 IN. X 4 IN. TRENCH.

NOTES
1. PREFAB FENCE ALLOWED IF REINFORCED AND APPROVED BY CITY INSPECTOR.
2. FENCE SHALL NOT BE INSTALLED ON SLOPES STEEPER THAN 2:1.
3. JOINTS IN FILTER FABRIC SHALL BE OVERLAPPED 6 INCHES AT POST.
4. USE STAPLES, WIRE RINGS, OR EQUIVALENT TO ATTACH FABRIC TO FENCE.
5. REMOVE SEDIMENT WHEN IT REACHES 1/3 FENCE HEIGHT.
6. LOCATION OF FENCING SHALL BE AS SHOWN ON APPROVED PLANS OR AS DIRECTED BY THE CITY.
7. MAXIMUM 100' SHEET OR OVERLAND FLOW PATH LENGTH TO SILT FENCE.
8. DO NOT DIRECT FLOWS GREATER THAN 0.5 CFS TO FENCE.
9. SILT FENCE SHOULD NOT BE INSTALLED IN STREAMS OR V-SHAPED DITCHES.
GEOTEXTILE FABRIC

FRAME

GRATE

PROTECTION INSERT WITH OUTER FLAP (NOT ALLOWED)
PLAN VIEW - NTS

NO FLAP ALLOWED OUTSIDE OF CASTING

WIRE RING INSIDE OF THE FRAME BELOW LID

CONCRETE STRUCTURE

FILTERED WATER

FRAME

OVERFLOW BYPASS

STORM DRAIN PROTECTION INSERT SECTION A-A

CITY OF KIRKLAND

PLAN NO. CK- E.11

STORM DRAIN PROTECTION INSERT

TWO RETRIEVAL STRAPS BELOW GRATE

GEOTEXTILE FABRIC FOR SEDIMENT REMOVAL

STORM DRAIN PROTECTION INSERT ISOMETRIC VIEW (TYP.)

NTS
NOTES:

1. FORMS SHALL BE STEEL AND SET TRUE TO LINE AND GRADE (INSPECTION IS REQUIRED PRIOR TO PLACEMENT OF CONCRETE) UNLESS SPECIFIED DIFFERENTLY BY CITY PROJECT ENGINEER.

2. CONCRETE SHALL BE CEMENT CONCRETE CLASS 4000.

3. BASE COURSE SHALL BE 4" OF 5/8" MINUS CRUSHED ROCK.
NOTE:
The adhesive shall meet the requirements of Section 9-26.1 for Type-II epoxy bonding agent.
EXPANSION JOINTS WHERE SIDEWALK MEETS PRIVATE CONCRETE.

EXPANSION JOINTS
10' OC

EDGES ON ALL SIDES OF
5' OC

TOOL JOINT
3/16"X1-1/2" THRU CURB JOINT 10' OC

5'x5' POURS, PERPENDICULAR TO CURB, OR AS DIRECTED BY PW INSPECTOR.

EXPANSION JOINT MAY BE REQUIRED, SEE NOTE 1.

5' WIDE CONCRETE SIDEWALK
4" MIN THICKNESS (6" AT DRIVEWAYS)
BROOM FINISH

COLD JOINT
2% MAX

EXISTING CURB & GUTTER

PAVEMENT

4" MINIMUM 3/4" OR 1-1/4"
GRAVEL AS DETERMINED
BY THE ENGINEER

95% COMPACTED SUBGRADE

THICKEN EDGE FOR CURB RADIUS ONLY

CONTRACTION JOINT
1/8" TO 1/4"

EXPANSION JOINTS

5' OC

4" WIDE, SMOOTH TROELED SURFACE.

BROOM FINISH WITH SHINNER EDGES ON ALL SIDES OF 5'x5' POURS, PERPENDICULAR TO CURB, OR AS DIRECTED BY PW INSPECTOR.

5' OC

THRU CURB JOINT 10' OC

NOTES:

1. SIDEWALK AND CURB & GUTTER CANNOT BE POURED MONOLITHICALLY. EXPANSION JOINT WILL BE REQUIRED WHEN CONCRETE SIDEWALK IS SURROUNDED BY OTHER HARD SURFACES (E.G., DRIVEWAY); OR AS DIRECTED BY PW INSPECTOR.

2. CONCRETE SHALL BE CEMENT CONCRETE CLASS 4000 PSI MINIMUM, WITH AIR ENTRAINMENT. NO COLOR OR TINT SHALL BE ADDED.

3. FORMS SHALL BE SET TRUE TO LINE AND GRADE AND SHALL BE STEEL UNLESS OTHERWISE APPROVED BY INSPECTOR.

4. SIDEWALK SHALL NOT BE POURED IN THE RAIN. SEE POLICY R-8, PLACING CONCRETE OR ASPHALT IN ADVERSE WEATHER CONDITIONS.

CITY OF KIRKLAND

PLAN NO. CK- R.23

SIDEWALK SECTION

CITY OF KIRKLAND
WASHINGTON
NOTE:
The detectable warning pattern may be formed by adding a manufactured material either before or after the concrete has cured. The two-foot wide detectable warning pattern area on the ramp shall be yellow and shall match the color of "standard interstate yellow" paint as specified in formula K-2-83. Embossing the wet concrete of installing masonry of ceramic tiles must be approved by city engineer.
NOTE: RAMP PORTION OF WHEELCHAIR CURB RAMP TO BE LOCATED WITHIN CROSSWALK

18"

STOP BAR
(AT CONTROLLED INTERSECTIONS)

4' MIN

CENTERLINE

MARKING TO BE PARALLEL TO AND CENTERED ON EACH TRAVEL LANE (SEE DETAIL).

CURB OR EDGE OF PAVEMENT

VARYING (AS DIRECTED BY ENGINEER)

TYP.

NOTE
1. MARKINGS SHALL BE THERMOPLASTIC.
SKIP CENTER & LANE STRIPE DETAIL

TWO-WAY LEFT TURN DETAIL

GORE STRIPE DETAIL

DOUBLE YELLOW CENTER DETAIL

NOTES
1. MATCH EXISTING PAVEMENT MARKING DIMENSIONS.
2. SEE CK-R.30 FOR TWO-WAY LEFT TURN ARROW PLACEMENT.
3. RAISED PAVEMENT MARKER COLOR SHALL CONFORM TO THE COLOR OF THE MARKING FOR WHICH THEY SUPPLEMENT, SUBSTITUTE FOR, OR SERVE AS A POSITIONING GUIDE FOR.
SIGN INSTALLED WITH HAWKINS U-BRACKET MODEL NO. M2G-C2B OR EQUIVALENT

2" SCHEDULE 40 GALV. PIPE THREADED ONE END

WHEN SIDEWALK IS PRESENT, EDGE OF SIGN SHALL BE LOCATED ADJACENT TO BACK OF SIDEWALK. WHEN THERE IS NO SIDEWALK OR WHEN THERE IS A PLANTING STRIP BETWEEN CURB AND SIDEWALK, EDGE OF SIGN SHALL BE LOCATED 1.5 FEET FROM FACE CURB.

7" MIN CLEARANCE

2'-2" SCHEDULE 40 GALV. PIPE (EXTENSION) THREADED ON ONE END

2" THREADED COUPLING SET FLUSH WITH FINISH GRADE 1/16"±

CONCRETE

CRIMP END

NOTE:
IF SIGN MUST BE PLACED IN EXISTING CONCRETE, CORE HOLE SHALL BE 8" DIAMETER.

CITY OF KIRKLAND
PLAN NO. CK-R.43
STANDARD SIGN INSTALLATION
1. **Minimum Six (6) Foot High Temporary Chainlink Fence** shall be placed at the Critical Root Zone or designated limit of disturbance of the tree to be saved. Fence shall completely encircle tree(s). Install fence posts using pier block only. Avoid post or stakes into major roots. Modifications to fencing material and location must be approved by planning official.

2. **Treatment of Roots Exposed During Construction:** For roots over one (1) inch diameter damaged during construction, make a clean straight cut to remove damaged portion of root. All exposed roots shall be temporarily covered with damp burlap to prevent drying, and covered with soil as soon as possible.

3. **No Stockpiling of Materials, Vehicular Traffic, or Storage of Equipment or Machinery** shall be allowed within the limit of the fencing. Fencing shall not be moved or removed unless approved by the city planning official. Work within protection fence shall be done manually under the supervision of the on-site arborist and with prior approval by the city planning official.

4. **Fencing Signage as Detailed Above** must be posted every fifteen (15) feet along the fence. Sign to be minimum 11”x17”, and made of weatherproof material.
NOTES

1. ALL FENCING MATERIALS SHALL COMPLY WITH THE WSDOT/APWA STANDARD SPECIFICATIONS SECTION 9–16 CLASS 1 MATERIAL. INSTALLATIONS PER MANUFACTURER’S RECOMMENDATIONS.

2. SHOP DRAWINGS OF RAILING SHALL BE SUBMITTED FOR APPROVAL SHOWING COMPLETE DIMENSIONS AND DETAILS OF FABRICATION AND INCLUDING AN ERECTION DIAGRAM. MATERIALS BEING USED SHALL BE SPECIFIED IN THE SHOP DRAWINGS.

3. ALL STEEL PARTS SHALL BE GIVEN A BLACK ULTRAVIOLET–INSSENSITIVE THERMOPLASTIC POWDER COATING AT LEAST 3 MILS THICK AND SHALL HAVE A UNIFORM FINISH.

4. CUTTING SHALL BE DONE BY SAWING OR MILLING AND ALL CUTS SHALL BE TRUE AND SMOOTH. FLAME CUTTING WILL NOT BE PERMITTED.

5. ALL MATERIALS SHALL BE ADEQUATELY WRAPPED TO ENSURE SURFACE PROTECTION DURING HANDLING AND TRANSPORTATION TO THE JOB SITE.

6. ANY WELDING OF STEEL SHALL BE IN ACCORDANCE WITH THE LATEST AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS.

7. PANEL HEIGHT: 3 FEET FOR PEDESTRIAN USES
   4 FEET FOR COMBINED BICYCLE AND PEDESTRIAN USES
NOTES

1. STEPS SHALL BE 4'-0" WIDE, CURB TO CURB, PLUS 6" CURBS ON EACH SIDE.

2. CEMENT CONCRETE SHALL BE CLASS 4000 TROWEL FINISH.

3. NUMBER OF STEPS SHALL SUIT INDIVIDUAL CONDITIONS, WITH TREAD AND RISER DIMENSIONS TO SUIT THE GRADE.

4. RISERS SHALL BE 5" MINIMUM, 7" MAXIMUM; TREAD SHALL BE 11" MINIMUM, 12" MAXIMUM.

5. HANDRAIL REQUIRED ON BOTH SIDES PER BUILDING CODE STANDARDS.
SPECIFICATIONS:
1. ALL STEPS SHALL MEET THE REQUIREMENTS OF ASTM C-478, AASHTO M-199, WISHA AND ALL ASHA SPECIFICATION.
2. THE POLYPROPYLENE SHALL CONFORM TO ASTM D-4101.
3. THE 1/2" GRADE 60 DEFORMED REINFORCING BAR SHALL MEET ASTM A-615.
4. STEP REFLECTORS OR BRIGHT COLORED STEPS REQUIRED.

INSTALLATION:
1. THE STEP CAN BE CAST IN PLACE.
2. DRIVEN INTO PREFORMED HOLES WITH CONCRETE CURED TO 3,000 PSI MINIMUM.
3. DRIVEN INTO 2 PARALLEL 1" DIAMETER HOLES DRILLED 13" OR 10" ON CENTER, 3-1/2" DEEP.
4. DRILL 2 1-1/8" OR 1-1/4" HOLES, 3-1/2" DEEP, APPLY CURRENT WSDOT EPOXY SPECIFICATION IN THE HOLE AND AROUND THE BARBS OF THE STEP, PUSH THE STEP INTO THE HOLES ALLOWING THE EPOXY TO FLOW OUT TO THE SQUARE SHOULDER OF THE STEP.

ANY OF THE ABOVE METHODS WILL RESIST A PULLOUT FORCE OF OVER 1,500 LBS.
PHOTOCILL OR SHORTING CAP (WHEN REQUIRED)

LUMINAIRE ARM LENGTH

M AST ARM CONNECTION VARIES PER POLE TYPE / MAST ARM, SEE PROJECT SPECIALS

SEE LUMINAIRE SCHEDULE FOR POLE LOCATION AND OFFSET

PLANTING AREA OR SIDEWALK

3' MIN.

HANDHOLE

TYPE 2 JUNCTION BOX WITH NON-SKID ON 6" FREE DRAINING GRAVEL.

SEC FUSE KIT

CONDUIT

1"X36" ANCHOR BOLTS

CLASS 3000 CONCRETE

8 #5

5 #4 TIE

CITY OF KIRKLAND

PLAN NO. CK-TS.08

ROADWAY LIGHTING DETAIL
1. SINGLE STRAP SADDLE
2. CORP STOP
3. ANGLE STOP
4. INSERTS
5. POLY PIPE
6. METER BOX
7. TRACER WIRE
8. CHECK VALVE
9. METER
10. 1" x 3/4" METER ADAPTOR (FOR 5/8" x 3/4" MTR)
11. 1" METER
   3/4" METER

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<tr>
<td>1. SINGLE STRAP SADDLE</td>
<td>STAINLESS ROMAC OR EQUAL</td>
<td>101 1PT</td>
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<tr>
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<td>FORD OR EQUAL</td>
<td>F-1101-4G IPT X PACK JOINT</td>
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<td>#72 STAINLESS STEEL</td>
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<td>7. TRACER WIRE</td>
<td>CU SOLID WIRE</td>
<td>14 GAUGE</td>
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<td>8. CHECK VALVE</td>
<td>-------</td>
<td>CITY TO INSTALL*</td>
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<tr>
<td>9. METER</td>
<td>-------</td>
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<td>FORD OR EQUAL #A24</td>
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NOTES:
1. ALL FITTINGS MUST BE FORD OR EQUAL.
2. TRACER WIRE FROM MAIN TO SERVICE METER MUST BE INSTALLED IN ALL INSTALLATIONS. WIRE MUST BE WRAPPED AROUND ANGLE STOP AND THE CORPORATION STOP, WITH LAST 8" STRIPPED.
3. POLY SERVICE LINE IS TO BE CONTINUOUS FROM MAIN TO METER-NO SPLICES OF ANY KIND.
4. POLY PIPE TO BE 1" FROM MAIN TO METER.
5. METERS SHALL NOT BE LOCATED IN CONCRETE OR ASPHALT PAVING UNLESS UNAVOIDABLE.
6. THE ANGLE STOP SHALL BE IN A POSITION THAT RESULTS IN THE METER BEING CENTERED DIRECTLY BENEATH THE METER READING LID.

CITY OF KIRKLAND
PLAN NO. CK–W.18
5/8”x3/4” & 1” WATER METER SERVICE INSTALLATION
WATER SERVICE STANDARDS
1-1/2" & 2" Copper Services

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<td>11. New Construction Must Have Check Valve</td>
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<td>12. Distance Between Flanges</td>
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NOTES:
1. THREAD SEALANT AND TEFLOM TAPE MUST BE USED ON ALL FITTINGS.
2. METERS SHALL NOT BE LOCATED IN CONCRETE OR ASPHALT PAVING.
NOTES:

1. USE — CARSON MODEL 1220–12 WITH METER READING COVER OR EQUAL.
2. COVER MUST DISPLAY "W.M." OR EQUAL.
3. METER READING FLIP-UP LID SHALL BE PLASTIC.
MANHOLE CASTING ADJUSTMENT IN ASPHALT OVERLAY

1. MH CASTING AND FRAME SHALL BE ADJUSTED THROUGH THE ASPHALT. ADJUSTMENT RINGS NOT ALLOWED.

2. EXISTING FLOWS SHALL BE PROTECTED WITH PLYWOOD CHANNEL BOARDS. ALL CLEANUP SHALL BE COMPLETED, INCLUDING LADDERS PRIOR TO REMOVAL OF THE PLYWOOD.


4. REMOVE ALL ASPHALT FROM MH LIDS AFTER ADJUSTMENT. DO NOT USE HEAT (TORCH) TO REMOVE THE ASPHALT.

WOODINVILLE WATER DISTRICT

SEWER STD. PLAN NO.

REVISION DATE: 1-17
REPORT OF GEOTECHNICAL ENGINEERING SERVICES

City of Kirkland
CKC to RCC Regional Connector and NE 128th Street Sidewalk
Kirkland, Washington

For
KPG, P.S.
September 4, 2019

GeoDesign Project: KPG-94-01
September 4, 2019

KPG, P.S.
2502 Jefferson Avenue
Tacoma, WA 98402

Attention: Terry Wright, P.E.

Report of Geotechnical Engineering Services
City of Kirkland
CKC to RCC Regional Connector and NE 128th Street Sidewalk
Kirkland, Washington
GeoDesign Project: KPG-94-01

GeoDesign, Inc. is pleased to submit this report of geotechnical engineering services to support the City of Kirkland’s CKC to RCC Regional Connector and NE 128th Street Sidewalk project. This report has been prepared in accordance with our proposal dated March 26, 2018.

We appreciate the opportunity to be of service to you. Please contact us if you have questions regarding this report.

Sincerely,

GeoDesign, Inc.

Kevin J. Lamb, P.E.
Principal Engineer

cc: Erick Olson, KPG, P.S. (via email only)

BGW:KJL:kt
Attachments
One copy submitted (via email only)
Document ID: KPG-94-01-090419-geor-rev2.docx
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ACRONYMS AND ABBREVIATIONS

AC  asphalt concrete
AOS  apparent opening size
ASTM  American Society for Testing and Materials
BGS  below ground surface
BNSF  Burlington Northern Santa Fe
CMU  concrete masonry unit
g  gravitational acceleration (32.2 feet/second²)
GDM  Geotechnical Design Manual
H:V  horizontal to vertical
HMA  hot mix asphalt
ksf  kips per square foot
LID  low-impact development
LiDAR  light detection and ranging
MSE  mechanically stabilized earth
OSHA  Occupational Safety and Health Administration
pcf  pounds per cubic foot
PGA  peak ground acceleration
psf  pounds per square foot
psi  pounds per square inch
PVC  polyvinyl chloride
ROW  right-of-way
SFZ  Seattle Fault Zone
SPT  standard penetration test
WSDOT  Washington State Department of Transportation
1.0 INTRODUCTION

This report presents the results of GeoDesign’s geotechnical engineering services to support the City of Kirkland’s (City’s) CKC to RCC Regional Connector and NE 128th Street Sidewalk project. The project extends north along Willows Road NE from the intersection with NE 124th Street, turns west and south along 139th Avenue NE transitioning to the west along NE 128th Street, and ends at the intersection with NE 126th Place (Figure 1). In this area Willows Road NE and 139th Avenue NE are located on an east-facing slope on the west side of the Sammamish River Valley.

The existing pavement surface within the project limits consists of HMA with a gravel shoulder. Several commercial properties border the project area along Willows Road NE and residential properties exist along the west side of 139th Avenue NE.

Proposed improvements include a traffic-separated, shared-use path along the east side of Willows Road NE, as well as sidewalk, curb and gutter, and a bike lane along the west side of 139th Avenue NE, connecting to the existing sidewalk on NE 128th Street. Widening will require sidehill embankment construction and installation of retaining walls to accommodate grade changes. Stormwater management improvements may include the construction of detention vaults and LID elements, depending on site conditions.

The site location relative to the surrounding physical features is shown on Figure 1. Acronyms and abbreviations used herein are defined above, immediately following the Table of Contents.

2.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this study was to gather and review available subsurface information, evaluate subsurface conditions, and provide geotechnical recommendations to support the design and construction of the planned improvements. Specifically, we performed the following:

- Reviewed preliminary plans for the project.
- Collected and reviewed readily available geotechnical and geologic data for the project area.
- Completed an exploration program that included the following:
  - Prepared traffic control plans
  - Obtained a ROW permit
  - Marked exploration locations
  - Drilled 10 borings along the project alignment
  - Installed a standpipe piezometer to monitor groundwater levels in one of the borings
- Conducted laboratory testing for geotechnical parameters
- Prepared this report summarizing our findings, conclusions, and recommendations

3.0 SITE CONDITIONS

The project alignment is approximately 2,800 feet in length extending along Willows Road NE from the intersection with NE 124th Street, turns west and south along 139th Avenue NE
transitioning to the west along NE 128th Street, and ends at the intersection with NE 126th Place (Figure 2). We observed the existing conditions during site visits to mark the boring locations, to check utility locates, and to complete the subsurface explorations.

3.1 SURFACE CONDITIONS

The roads along the project alignment have generally been benched into the east-facing slope overlooking the Sammamish River Valley. The pavement surfacing along the alignment consists of HMA with a gravel shoulder. The HMA pavement is generally in good condition.

The road extends downhill from the high point at the west end of the project at the intersection of NE 126th Place and NE 128th Street down to the south end of the project at the intersection of Willows Road NE and NE 124th Street, with a change in elevation of approximately 130 feet. Cut slopes are present on both sides of NE 128th Street at the upper (west) end of the project alignment. The cut slopes transition to a fill embankment where NE 128th Street turns to the north and becomes 139th Avenue NE. The east side of Willows Road NE and 139th Avenue NE appear to be primarily constructed on sidehill fill embankments. The west side of Willows Road NE appears to have been benched into the hillside using cut slopes.

3.1.1 Slopes

The slope along the west side of Willows Road NE appears to be a cut slope that varies in inclination up to approximately 60 percent and varies up to approximately 20 feet in height. The slope along the east side of Willows Road slopes down to the adjacent commercial properties at inclinations up to approximately 60 percent with a vertical height up to approximately 15 to 20 feet. A rockery is present along the toe of the slope east of Willows Road NE between approximately Stations 28+25 and 33+75.

The CKC trail (historical BNSF Railroad alignment) extends across Willows Road NE at the north end of the project area, east of and generally parallel with 139th Avenue NE. South of the crossing, the trail is constructed on a fill embankment that elevates it above the adjacent east-facing slope on both sides of the trail, based on the 2016 LiDAR imagery (Figure 3). The ground surface slopes down from 139th Avenue NE to the CKC trail embankment where a drainage swale is located along the west side of the trail embankment. On the west side of the CKC trail the ground surface slopes down to Willows Road NE or to private commercial properties.

Figure 4 presents a slope map of the area with the slopes separated into slopes between 15 percent and 40 percent and slopes 40 percent or greater in accordance with the City of Kirkland Zoning Code Chapter 85 Definitions 5.20.178.5. The slopes adjacent to the project alignment generally are mapped as meeting the City’s definition for “Moderate” or “High” Landslide Hazard Areas.

Landslide areas are mapped adjacent to the project area as shown on Figure 3. A landslide is mapped on the 1983 Geologic Map of the Kirkland Quadrangle, Washington, (Minard, 1983) above and across Willows Road NE in the 12500 block. At that time the area adjacent to Willows Road NE was undeveloped. Indications of a landslide near the mapped area are evident in aerial
photographs from 1980 through 2003 and the 2003 LiDAR data. More recent aerial imagery and the 2016 LiDAR data indicate that development of the area has resulted in re-grading and filling of the former landslide area.

A second landslide is mapped above the alignment and generally within the properties addressed 12911 139th Avenue NE and 13658 NE 126th Place (Figure 3). Based on the 2003 LiDAR imagery, the debris slide path extends down to 139th Avenue NE. Large trees are generally absent within the area identified as the slide path on the west side of 139th Avenue NE. The ground surface texture, in the LiDAR imagery along 139th Avenue NE and the west edge of the CKC trail embankment, appears to be disrupted in the slide path of the smaller landslide (2003 LiDAR imagery), indicating that the smaller slide likely occurred after construction of the railroad embankment.

Our site reconnaissance was limited to the project alignment ROW and we did not observe any surficial indications in the mapped landslide areas of recent deformation or instability. In addition, we observed the road cuts along the west side of Willows Road NE and both sides of NE 128th Street, and the slopes appeared stable. Evidence of instability or surficial deformation was not observed.

We observed the upper portion of the fill slopes along the east side of Willows Road NE and along both sides of 139th Avenue NE and did not observe surficial indications of instability or differential settlement of the fill.

3.2 SUBSURFACE CONDITIONS

Subsurface conditions at the site were evaluated through a review of existing geologic maps and by completing drilled borings. Surficial geology of the area is mapped as glacial till, landslide deposits, and Transitional Bed Deposits (Minard, 1983). Grading activities during development and road construction through the area have included the placement of fill over the mapped surficial geology deposits.

We drilled 10 borings (B-1 through B-10) to depths ranging between 21.5 to 31.5 feet BGS at the locations shown on Figure 2. Borings B-1 through B-6 were planned to be completed on the east side of Willows Road NE; however, boring B-5 had to be relocated to the west side of the road. A description of the field explorations and the exploration logs are presented in Appendix A.

Beneath the AC pavement, where present, subsurface soil conditions along the alignment generally consist of variable surficial fill overlying naturally placed material consisting of landslide deposits, glacial till, or Transitional Bed Deposits, depending on location. Landslide deposits are present beneath the fill at boring location B-7. Glacial till is present beneath the fill at all other boring locations, except at B-4. Transitional Bed Deposits are present beneath the fill at boring location B-4. All of the borings were completed within the glacially consolidated Transitional Bed Deposits.

AC pavement, fill, and native soils are described below.
3.2.1 AC Pavement and Fill
Borings B-2 and B-5 located on Willows Road NE, borings B-7 through B-9 on 139<sup>th</sup> Avenue NE, and boring B-10 on NE 128<sup>th</sup> Street were completed through the roadway pavement. The AC pavement thickness varied between the boring locations from 5 to 12 inches, as summarized in Table 1.

<table>
<thead>
<tr>
<th>Boring</th>
<th>AC (inches)</th>
<th>Aggregate Base (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-2</td>
<td>6</td>
<td>none</td>
</tr>
<tr>
<td>B-5</td>
<td>5</td>
<td>none</td>
</tr>
<tr>
<td>B-7</td>
<td>9</td>
<td>none</td>
</tr>
<tr>
<td>B-8</td>
<td>12</td>
<td>none</td>
</tr>
<tr>
<td>B-9</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>B-10</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>

Fill was encountered beneath the pavement or from the ground surface at all boring locations. At the exploration locations the fill extends to depths up to 12 feet BGS. The fill varies in composition at the exploration locations and generally consists of loose to medium dense, brown to gray, silty sand with gravel or very soft to medium stiff, sandy silt to silt with varying gravel content.

3.2.2 Landslide Deposits
Landslide deposits are present in boring B-7 between depths of 8 and 15 feet BGS. These deposits are identified based on the boring location, low relative density, and organic content. The deposits consist of very loose, silty sand with minor gravel and varying organic content.

3.2.3 Glacial Till
Glacial till is present beneath the fill at all borings locations, except at B-4 and B-7, at depths between 4.5 and 10 feet BGS. The glacial till material encountered in the borings consists generally of dense to very dense deposits of silty sand with gravel, cobbles, and boulders and fine-grained deposits of very stiff to hard, sandy silt to gravel, cobbles, and boulders.

3.2.4 Transitional Bed Deposits
The borings were completed in Transitional Bed Deposits that are present at the boring locations at depths between 7 and 23 feet BGS. The Transitional Bed Deposits include glacial and non-glacial deposits that accumulated during the period near the close of the pre-Fraser interglacial time into early Fraser time (Minard, 1983). The deposits can include massive to bedded clay, silt, silty sand, and fine sand and can include lenses of sand and gravel. The deposits have been glacially overridden and fine-grained materials are typically medium stiff to hard, while granular materials are very dense. Composition of the Transition Bed Deposits encountered at the boring locations varies from medium stiff to hard clay and silt and very dense, silty sand and silty gravel.
3.3 GROUNDWATER
Groundwater was encountered during drilling in some of the borings. At most locations it appears to consist of perched water or a saturated soil zone that accumulates within the fill or landslide deposits near the upper contact of the underlying glacial till material. A 2-inch-diameter standpipe piezometer was installed at boring location B-1. Groundwater measurements post drilling were completed in the well. A summary of the groundwater levels encountered during drilling and during subsequent measurements in boring B-1 are summarized in Table 2.

<table>
<thead>
<tr>
<th>Boring</th>
<th>Groundwater Depths (feet BGS)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>During Drilling</td>
</tr>
<tr>
<td>B-1</td>
<td>10.5</td>
</tr>
<tr>
<td>B-2</td>
<td>8.5</td>
</tr>
<tr>
<td>B-3</td>
<td>10.0</td>
</tr>
<tr>
<td>B-4</td>
<td>5.6</td>
</tr>
<tr>
<td>B-5</td>
<td>5.0</td>
</tr>
<tr>
<td>B-6</td>
<td>--</td>
</tr>
<tr>
<td>B-7</td>
<td>12.7</td>
</tr>
<tr>
<td>B-8</td>
<td>13.7</td>
</tr>
<tr>
<td>B-9</td>
<td>20.0</td>
</tr>
<tr>
<td>B-10</td>
<td>--</td>
</tr>
</tbody>
</table>

Groundwater seepage and springs were observed in the swale on the west side of 139th Avenue NE. We understand wetlands are mapped in this area along both the east and west sides of 139th Avenue NE.

3.4 SEISMICITY
Washington State is situated at a convergent continental margin and is susceptible to subduction zone, intraplate, and shallow crustal source earthquakes. We reviewed published geologic maps for the site vicinity to evaluate seismic hazards. The site is approximately 3.3 miles southeast of the SFZ, which is a result of shallow crustal faulting.

The SFZ represents a 2- to 4-mile-wide zone, extending from the Kitsap Peninsula near Bremerton to the Sammamish Plateau. Within the SFZ are several east- to west-trending fault splays of the Seattle fault (Johnson et al., 1999). The Seattle fault is thought to be a reverse fault, with the south side “shoved up.” The SFZ is considered an active major fault and is capable of producing earthquakes of Magnitude ~7 with associated surface rupture and ground motions, posing a significant hazard to the Puget Sound Region (Sherrod et al., 2004). Geologic evidence indicates at least three episodes of movement on the fault within the last 10,000 years, with the most recent earthquake with surface rupture approximately 1,100 years ago (Nelson et al., 2000).
4.0 LABORATORY TESTING

Laboratory tests were conducted on specific soil samples collected from the explorations to assist in characterizing certain physical parameters of the soil. Geotechnical index tests that were performed included the determination of natural water content and particle-size analyses. These tests were performed in GeoDesign’s accredited soils laboratory. All tests were conducted in general accordance with appropriate ASTM standards (ASTM, 2012). A discussion of laboratory test methodology and the test results are presented in Appendix A. Test results are also shown, where appropriate, on the exploration logs in Appendix A.

5.0 GEOLOGIC HAZARDOUS AREAS

Kirkland Zoning Code, Chapter 85, addresses development on property containing geologically hazardous areas. As indicated above, Geologic Hazard Areas are present adjacent to the ROW along portions of the project alignment. Geologic hazardous areas consisting of “Moderate” and “High” Landslide Hazard Areas are present within the project alignment and generally consist of the steep cut slopes on the west side of Willows Road NE and the fill or natural slopes on the east side of Willows Road NE. Figure 4 shows the locations of the areas meeting the Kirkland Zoning Code, Chapter 85 definition of “Moderate” and “High” Landslide Hazard Areas. The areas appear stable and indications of slope instability or excessive erosion were not observed along the project alignment.

The proposed improvements will not impact the geologic hazard areas on the west side of Willows Road NE and the fill embankment slopes along 139th Avenue NE.

Widening along NE 128th Avenue will not significantly impact the cut slope on the north side of the road. In this area we anticipate that widening will result in a slight increase in the height of the cut slope by a few feet. A retaining wall may be constructed depending on the available ROW. The anticipated cut slope will be within the dense, glacially consolidated material exposed in the existing cut.

The proposed road widening on the east side of Willows Road NE will impact the geologic hazard areas where the road will be widened for the bike lane and sidewalk. The existing slopes along the east side of the road are generally in excess of 50 percent. Sidehill embankment fill will be used to raise the grades along the edge of the east side of the road similar to the existing road grade. The road will be realigned to the west through a portion of the area to reduce fill heights. We anticipate fill thickness will vary up to approximately 10 feet. We anticipate cantilever soldier pile shoring walls and gravity and MSE walls will be used along the ROW in this area to retain the fill. A rockery wall is present along a portion of the slope, which also impacts the wall type and design, we understand the road in this area will be shifted to the west to avoid impacting the slope and rockery.

5.1 SLOPE STABILITY ANALYSES
Slope stability analyses were performed to evaluate the impact of placing fill and constructing retaining walls on the east side of Willows Road NE. The analyses were completed using the software program Slope/W (version 7.11) by Geo-Slope International, Ltd. The software has a
A graphic-user interface for defining the slope geometry, inputting soil parameters, and defining the search limits for the entry and exist points of the failure surfaces. The program performs two-dimensional limit equilibrium analyses to compute the factor of safety for failure surfaces located within the search limits defined by the user.

The factor of safety against slope failure is simplistically defined as the ratio of the forces resisting slope movement (i.e., soil strength, soil mass, etc.) to the forces driving slope movement (i.e., gravity, water pressure, earthquake shaking). The program estimates the location and geometry of “critical failure surfaces” within the user-defined search area. Critical failure surfaces are those failure surfaces with the lowest factors of safety and define the path of the failure surface through the subsurface material. A factor of safety of 1.00 implies that the forces resisting a landslide exactly equal those tending to produce a landslide. Therefore, a factor of safety of 1.05 means that the forces resisting a landslide exceed those tending to cause a landslide by 5 percent.

The “critical failure surface” search limits were adjusted to analyze for existing global slope stability and to evaluate the proposed construction impacts on slope stability. Analyses were completed for both static and pseudo-static conditions. Pseudo-static methods are used to model seismic loading conditions.

5.1.1 Soil Parameters

Soil parameters used in the slope stability analyses were based on laboratory testing, boring explorations, SPT N-value correlations, and our experience with similar soil conditions. The soil input parameters used for stability analyses are presented in Table 3. A discussion of the laboratory test procedures and test results are presented in Appendix A.

<table>
<thead>
<tr>
<th>Soil</th>
<th>Moist Unit Weight (pcf)</th>
<th>Friction Angle (degrees)</th>
<th>Cohesion (psf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fill</td>
<td>130</td>
<td>32</td>
<td>50</td>
</tr>
<tr>
<td>Retained Fill</td>
<td>130</td>
<td>35</td>
<td>0</td>
</tr>
<tr>
<td>Glacial Till</td>
<td>140</td>
<td>37</td>
<td>200</td>
</tr>
<tr>
<td>Transitional Beds</td>
<td>120</td>
<td>34</td>
<td>500</td>
</tr>
</tbody>
</table>

5.1.2 Analysis Methodology and Results

The slope stability analyses were completed for a cross section through the project alignment near Station 36+50, where the proposed wall height will be approximately 9 feet and the existing slope extends down from Willows Road NE at approximately 60 percent, as shown on Figure 4. This configuration is similar to the existing and proposed conditions at approximately Station 34+50. The slope stability analysis results are presented in Appendix B.

Subsurface conditions were modeled based on the nearby soil borings B-4 and B-5. Pseudo-static conditions were modeled using a PGA of 0.25 g, which is approximately 50 percent of the PGA for the 2 percent in 50-year probability of exceedance (return period of 2,475 years) event.
The results of the slope stability analyses under static loading conditions are presented in Table 4 and Appendix B.

### Table 4. Slope Stability Factor of Safety

<table>
<thead>
<tr>
<th>Condition</th>
<th>Factor of Safety</th>
<th>Static Condition</th>
<th>Pseudo-Static Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing</td>
<td>2.3</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>Proposed</td>
<td>2.3</td>
<td>1.4</td>
<td></td>
</tr>
</tbody>
</table>

The proposed retaining wall along Willows Road NE will not impact the existing slope stability, and the factor of safety for both the static and pseudo-static loading conditions will remain well above acceptable factors of safety for engineered slopes. We anticipate that the installation of the proposed walls along the east side of Willows Road NE, between approximately Stations 21+00 and 37+00, will improve stability of the slope.

### 6.0 DESIGN RECOMMENDATIONS

#### 6.1 GENERAL

Based on our review of available information; the condition of the existing road and adjacent areas; and the results of our explorations, laboratory testing, and analyses, it is our opinion the proposed improvements are feasible and will not significantly impact the adjacent areas. Provided the project is constructed in accordance with our geotechnical recommendations, best management practices are used, and GeoDesign provides observation services during construction, we believe that the risks of soil instability and erosion, associated with the proposed improvements, will be minimal along the project alignment and to adjacent properties.

A summary of our recommendations is provided as follows:

- The proposed improvements include placement of sidehill fill embankments to widen the existing road and sidewalk along the east side of Willows Road NE and the west side of 139th Avenue NE. Anticipated walls will be up to approximately 9 feet in height. We recommend MSE or gravity walls and cantilever soldier piles walls, depending on location, to support the fill placement due to space limitations, topographic conditions, and soil conditions. Recommended wall types along the project alignment are shown on Figure 2. Recommended wall design parameters are provided on Figure 5.
- The proposed impacts of the limited site grading and fill placement will not impact existing slope stability if properly retained.
- Infiltration of stormwater is not recommended anywhere along the project alignment due to the steep slopes adjacent to the alignment and the presence of historical slide activity at the south end of the project and above the project alignment at the north end of 139th Avenue NE.
- Fill placement to support gravity walls on the east side of Willows Road NE will require over-excavation to address loose fill in the area where widening will occur. Beneath walls the foundation area should be over-excavated to a depth of 2 feet or as directed by the geotechnical engineer. The exposed base should be compacted to a dense and unyielding condition prior to backfilling the over-excavation.
• Over-excavations below structural elements, such as retaining walls, should be backfilled with WSS 9-03.14(1) – Gravel Borrow, WSS 9-03.9(2) – Permeable Ballast, WSS 9-13.7(2) – Backfill for Rock Wall, or WSS 9-03.9(3) – Crushed Surfacing Base Course

• The location of the proposed detention vault is currently being considered in the area within the eastern portion of the Willows Road NE ROW between Stations 26+20 to 27+25. Excavation depths to install the vault are anticipated to be up to approximately 17 feet. Dense glacial soil will provide suitable foundation support for the vault; however, it will be saturated at the base of the excavation. Subgrade preparation measures should include over-excavation to a depth of 8 inches and replacement with permeable ballast material (WSS 9-03.9(2) – Permeable Ballast).

• Groundwater should be anticipated at a depth of 5 to 8 feet BGS at the location of the detention vault and is expected to be a perched water condition within the dense glacial till material. We anticipate that sumps within the excavation will be suitable for dewatering. A permanent underdrain system should be installed below the vault to control groundwater seepage and prevent the buildup of hydrostatic pressures.

• Sidehill embankment fill construction to support widening should begin with stripping and grubbing to remove surficial organic material. Along the east side of Willows Road NE loose fill may be encountered at the ground surface where embankment fill will be placed. If the exposed surface is loose, it should be over-excavated to a depth of 2 feet or as directed by the geotechnical engineer and the surface should be compacted to a firm and unyielding condition prior to placing fill. Fill should be keyed into the exposed soil in a stair-step like fashion. Embankment fill should consist of imported granular fill in accordance with WSS 9-03.14(1) – Gravel Borrow, with the exception that the percentage passing the U.S. Standard No. 200 sieve does not exceed 5 percent by dry weight.

• Subgrade preparation prior to fill placement along the west side of 139th Avenue NE may require over-excavation to remove soft saturated soil within the existing ditch area.

• Surficial conditions vary along the alignment and perpendicular to the alignment. Support for luminary foundations will vary depending on location.

Our specific recommendations for the planned improvements are presented in the following sections.

6.2 EMBANKMENT FILL CONSTRUCTION

Sidehill fill embankments will be used to widen the existing roadway to support installation of the sidewalk areas. Sidehill embankment fill construction to support widening should begin with stripping and grubbing to remove surficial organic material and should be completed in accordance with WSS 2-03.3(14)B – Earth Embankment Construction.

Subgrade preparation prior to fill placement will likely require over-excavation along the east side of Willows Road NE to remove loose fill and along the west side of 139th Avenue NE to remove soft, saturated soil within the existing ditch area. This soil should be over-excavated to a maximum depth of 4 feet or to firm native soil and backfilled as follows:
Along the west side of Willows Road NE we anticipate the existing subgrade can be compacted to a dense and unyielding condition and the over-excavation backfilled with WSS 9-03.14(1) – Gravel Borrow, WSS 9-03.9(2) – Permeable Ballast, WSS 9-13.7(2) – Backfill for Rock Wall, or WSS 9-03.9(3) – Crushed Surfacing Base Course.

Along the west side of 139th Avenue NE an initial layer of stabilization material (quarry spall), which should be pushed and kneaded into the subgrade to establish a firm surface. A subgrade reinforcement geotextile should then be placed over the stabilization material and the area should be backfilled with WSS 9-03.9(2) – Permeable Ballast or WSS 9-03.9(3) – Crushed Surfacing Base Course.

Fill should be placed in horizontal lifts and keyed into the exposed soil in a stair-step like fashion. Compaction of the embankment fill should conform to WSS 2.03.3(14)C – Compacting Earth Embankments, Method C.

Embankment fill should consist of imported granular fill in accordance with WSS 9-03.14(1) – Gravel Borrow, with the exception that the percentage passing the U.S. Standard No. 200 sieve does not exceed 5 percent by dry weight.

**6.3 EXCAVATION**

**6.3.1 Permanent Slopes**

The existing slope on the west side of 139th Avenue NE and the north side of NE 128th Street, between approximately Stations 11+00 and 12+00, will be re-graded to facilitate widening to construct the new sidewalk. Soil exposed in the cut generally consists of very dense glacial till. We recommend permanent slope cuts in this area be graded to a maximum inclination of 2H:1V. Steeper inclinations up 1.25H:1V are possible; however, they will be susceptible to raveling and will not support establishment of vegetation. If seepage is encountered, it may be necessary to flatten the slopes and install mitigation measures to control runoff.

If the cut cannot be sloped within the available ROW, a retaining wall may be required to support the cut. A rockery is also feasible for supporting cuts in dense glacial material, provided it is less than 6 feet in height and is designed and constructed in accordance with the City of Kirkland Standard Plan No. CK-R.52. All rockeries should be designed in accordance with Publication No. FHWA-CFL/TD-06-006, Rockery Design and Construction Guidelines, November 2006.

Fill slopes may be created in other areas of the project alignment. We recommend the maximum slope of embankment fill slopes be constructed at 2H:1V. Newly constructed fill slopes should be over-built by at least 12 inches and then trimmed back to the required slope to maintain a firm face.

Based on the preliminary project plans, we do not anticipate any other areas where permanent slope cuts will be required.

**6.3.2 Trench Cuts and Shoring**

Excavations can be completed with conventional earthwork equipment. However, some sloughing and caving of the sidewalls should be expected, especially where excavations extend below groundwater. Trench cuts and footing excavations should stand vertical to a depth of at
least 4 feet, provided groundwater seepage does not occur in the trench walls. Open excavations may be used to excavate trenches with depths between 4 and 8 feet, provided the walls of the excavation are cut at a slope of 1.5H:1V, groundwater seepage does not occur, and with the understanding that some sloughing may occur. Steeper temporary cut slopes up to 1H:1V are permittable in the very dense glacial till deposits but would require daily inspection by the geotechnical engineer or other competent person.

Excavation within the Transitional Bed Deposits may encounter zones of running sand where the excavation extends below the groundwater table.

The use of approved temporary shoring or casing is recommended for excavations that extend below groundwater or if vertical walls are required for cuts deeper than 4 feet. If shoring is used, we recommend that the type and design of the shoring system be the responsibility of the contractor, who is in the best position to choose a system that fits the overall plan of operation.

All excavations should be made in accordance with applicable OSHA and state regulations. While we have described certain approaches to utility trench excavations in the foregoing discussion, the contractor should be responsible for selecting the excavation and dewatering methods, monitoring the trench excavations for safety, and providing shoring as required to protect personnel and adjacent areas.

6.3.3 Temporary Dewatering

Groundwater was encountered at varying depths throughout the project alignment as indicated on the exploration logs in Appendix A. Near the proposed detention vault location groundwater was encountered at a depth of 7.5 feet BGS in boring B-1 and rose to a depth of 5 feet during drilling. At boring B-2 groundwater was encountered during drilling at a depth of 8.5 feet BGS. We understand that preliminary design indicates that the detention vault will be approximately 160 feet long, 16 feet wide, and approximately 10 feet deep. The detention vault excavation is expected to extend down to depths of 17 feet BGS, which will be several feet below the groundwater. Groundwater was encountered within the dense glacial till deposits and is anticipated to be in a perched condition. The project is located mid-slope on an east-facing slope and moderate seepage should be expected in the vault excavation.

Proactive control of temporary shoring or casing is recommended for excavations that extend below groundwater or if vertical walls are required for cuts deeper than 4 feet. If shoring is used, we recommend that the type and design of the shoring system be the responsibility of the contractor, who is in the best position to choose a system that fits the overall plan of operation.

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All excavations should be made in accordance with applicable OSHA and state regulations. While we have described certain approaches to utility trench excavations in the foregoing discussion, the contractor should be responsible for selecting the excavation and dewatering methods, monitoring the trench excavations for safety, and providing shoring as required to protect personnel and adjacent areas.

Proactive control of temporary shoring or casing is recommended for excavations that extend below groundwater or if vertical walls are required for cuts deeper than 4 feet. If shoring is used, we recommend that the type and design of the shoring system be the responsibility of the contractor, who is in the best position to choose a system that fits the overall plan of operation.

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6.4 RETAINING WALLS

6.4.1 General
The proposed widening to accommodate the new sidewalk area will require construction of a sidehill fill embankment over most of the proposed alignment. The Willows Road NE alignment will be shifted to the west to minimize the sidehill embankment and height of retaining walls.

Sidehill fill embankments will generally be required along the east side of Willows Road NE north of Station 21+00 and the west side of 139th Avenue NE north of Station 13+00. Anticipated walls will be up to approximately 9 feet in height. Retaining walls will be necessary to support the edge of the fill embankment due to ROW or environmental (wetland) restrictions.

Based on the ROW width, we anticipate the use of MSE walls or reinforced soil slopes will be limited to areas where the wall height is less than approximately 4 feet. We recommend the use of gravity walls and cantilever soldier pile walls, depending on location, to support the sidehill fill placement due to ROW space limitations, topography, and soil conditions and to minimize the impact to adjacent wetland or steep slope areas.

Gravity walls can consist of cast-in-place concrete walls or, alternatively, premanufactured CMU block units, such as Allan Block or Keystone small-block units or Redi-rock or Ultrablock large-block units. For planning purposes and to facilitate wall selection the following guidelines are provided:

- The width of base block units for large-block CMU block gravity walls varies from approximately 42 inches for walls up to approximately 7 feet in height to approximately 60 inches for walls 7 to 12 feet in height.
- Small-block CMU walls are limited to 4 feet exposed height without soil reinforcement.
- Geogrid reinforcing is generally between 0.7 and 1.0 of the wall height.
- Wall embedment should be sufficient to provide for a minimum 2-foot-wide, horizontal bench for CMU block walls and a minimum 3-foot-wide, horizontal bench at the base soldier pile walls.

The recommended distribution of gravity or MSE walls and cantilever soldier pile walls along the project alignment is shown on Figure 2. This is based on the preliminary plans and should the alignment width be revised, we should be consulted to see if the recommended distribution is still applicable.

Rockeries are not recommended to support the sidehill fill embankments.

The following recommendations should be used for design of retaining structures that are used to achieve grade changes, including temporary shoring or shielding.

6.4.2 Wall Design Parameters
Our retaining wall design recommendations for shoring or the below-grade detention vault walls are based on the following assumptions: (1) the walls consist of conventional, gravity, cantilevered or embedded walls, (2) the walls are less than 15 feet in height, (3) the backfill is drained and consists of structural fill or retaining wall select backfill, as defined in the "Fill
Materials” section, and (4) the surface behind the wall is inclined less than 2H:1V. Re-evaluation of our recommendations will be required if the retaining wall design criteria for the project varies from these assumptions.

The magnitude of lateral earth pressures that develop against retaining walls depends on the degree to which the wall can yield laterally and other factors that include surcharge loads, groundwater and drainage conditions, slope of backfill in front and behind the wall, method of backfill placement, degree of backfill compaction, and the type of backfill material.

If the wall is allowed to rotate or yield so the top of the wall moves an amount equal to or greater than approximately 0.001 times its height (a yielding wall), an “active” soil pressure condition will develop. If the wall is restrained against lateral movement or tilting (a non-yielding wall), an “at-rest” soil pressure condition will develop. We anticipate that all the shoring or retaining walls to retain embankment walls for the project will be free to rotate or “yield” such that active lateral earth pressure conditions develop. The below-grade detention vault walls will likely be restrained and at-rest soil pressure conditions will develop against them.

We recommend yielding walls with level backfill at the top of the wall, under drained conditions, be designed for an equivalent fluid density of 35 pcf for active soil conditions, as indicated on Figure 5. We recommend the detention vault walls that are restrained from rotation, with level backfill at the top of the wall, under drained conditions, be designed for an equivalent fluid density of 55 pcf for at-rest soil conditions, as indicated on Figure 5.

Design of subsurface walls should include appropriate lateral pressures caused by surcharge loads located within a horizontal distance equal to or less than the height of the wall. We have included a lateral surcharge pressure of 70 psf to account for traffic loading behind the wall as shown on Figure 5.

Resistance to lateral loads may be developed through friction along the base of conventional walls and through passive resistance on the embedded portion of the wall and foundation. Base friction resistance may be computed using a coefficient of friction of 0.4 applied to the dead load forces.

Passive pressure will depend on subsurface conditions and on the slope of the ground surface in front of the wall. The ground surface below the proposed wall locations on the east side of Willows Road NE is typically sloped at inclinations varying up to approximately 60 percent. We have provided on Figure 5 a range of passive pressure equivalent fluid density values depending on the slope in front of the wall. The passive resistance in the upper 2 feet of soil should be neglected.

We recommend including a horizontal bench in front of the retaining walls on the east side of Willows Road NE that will be in excess of 4 feet high as follows: for CMU block walls the bench should be a minimum of 2 feet wide and for soldier pile walls the bench should be a minimum or 3 feet wide.
Static lateral earth pressures acting on walls should also be increased to account for seismic loading conditions. We recommend a seismic load increment of 6 times the height of the wall (8H in psf). This is based on a pseudo-static analysis using the Mononobe-Okabe equation for lateral earth pressure and a PGA value of 0.25 g, which is approximately 50 percent of the PGA for the 2 percent in 50-year probability of exceedance (return period of 2,475 years) event. A reduced PGA value is warranted if the PGA is only experienced for a few short durations during an earthquake and the ground motion is cyclical.

The height of the wall used in the above equation should be measured from the finished ground surface in front of the wall to the top of the wall. The seismic pressure should be applied as a uniform rectangular pressure from the top of the wall to the elevation of the finished ground surface in front of the wall, and the resultant should be applied at 0.6H of the exposed wall height.

These recommendations assume that adequate drainage will be provided behind below-grade walls and retaining structures, as discussed below.

6.4.3 MSE Wall Design Parameters
We understand that MSE walls may be suitable along a portion of Willows Road NE, where the road alignment has been shifted to the west. Anticipated MSE wall heights are less than approximately 6 feet. Geogrid reinforcement placement for walls with horizontal backslopes typically include a geogrid layer at the base of the wall and additional layers at a spacing of approximately 2 feet.

The design procedures and wall details of several proprietary wall systems have been evaluated by WSDOT, which has resulted in a pre-approved status for certain wall systems. An agreement between WSDOT and the proprietary wall manufacturer exists for pre-approved systems, which allows the proprietary wall manufacture to competitively bid a particular project without having to provide a detailed wall design in the contract plans. Pre-approved proprietary wall systems with specific requirements and details are available in the Appendix of Chapter 15 of the WSDOT GDM. WSDOT should be contacted for a current list of the pre-approved proprietary systems prior to choosing the system. If a non-pre-approved wall system is chosen, it will be necessary for the wall supplier to completely design the wall.

We recommend the design parameters summarized in Table 5 for use in design of MSE walls. The values shown below assume the reinforced backfill soil is placed in lifts with a maximum uncompacted thickness of 12 inches and compacted to not less than 95 percent of the maximum dry density, as determined by ASTM D1557.
Table 5. Recommended Design Parameters for MSE Walls

<table>
<thead>
<tr>
<th>Soil Properties</th>
<th>Reinforced Zone Soil</th>
<th>Retained Soil</th>
<th>Foundation Bearing Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gravel Borrow WSS 9-03.14(1)</td>
<td>Native Soil/ Common Borrow WSS 9-03.14(3)</td>
<td>Native Soil</td>
</tr>
<tr>
<td>Unit Weight (pcf)</td>
<td>125</td>
<td>120</td>
<td>125</td>
</tr>
<tr>
<td>Friction Angle (degrees)</td>
<td>36</td>
<td>32</td>
<td>36</td>
</tr>
<tr>
<td>Cohesion (psf)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Allowable Bearing Pressure (psf)</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>2,000</td>
</tr>
</tbody>
</table>

The minimum embedment depth of the MSE retaining walls will be a function of the height of the wall and the slope in front of the wall. We recommend that the permanent cut slopes in front of and above the MSE wall be inclined no steeper than 2H:1V. Temporary cut slopes less than 6 feet in height should be inclined no steeper than 1H:1V, provided traffic is set back from the top of the cut a minimum of 6 feet.

The minimum embedment depth for walls founded on sloping ground should be provided as described in Table 6, but should not be less than 1 foot. In addition, the minimum embedment depth should be provided below a theoretical 4-foot-wide, horizontal bench that extends from the face of the wall and intersects the sloping ground in front of the wall.

Table 6. Minimum Embedment Depths for MSE Walls

<table>
<thead>
<tr>
<th>Slope in Front of Wall</th>
<th>Minimum Embedment Depth (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal</td>
<td>H/20</td>
</tr>
<tr>
<td>3H:1V</td>
<td>H/10</td>
</tr>
<tr>
<td>2H:1V</td>
<td>H/7</td>
</tr>
</tbody>
</table>

If the MSE walls will be subjected to the influence of surcharge loading (e.g., traffic loading) within a horizontal distance equal to the height of the wall, the walls should be designed for the additional horizontal pressure using an appropriate design method. A common practice is to assume a surcharge loading equivalent to 2 feet of additional fill to simulate traffic loading; we consider this method appropriate for typical situations. Where large surcharge loads such as from heavy trucks, cranes, or other construction equipment are anticipated in close proximity to the retaining walls, the walls should also be designed to accommodate the additional lateral pressures resulting from these concentrated loads.

The foundation subgrade for the MSE walls should be prepared in accordance with the recommendations provided in the “Retaining Wall Foundation” section. We recommend that the condition of all MSE wall foundation excavations be observed by GeoDesign to evaluate if the
work is completed in accordance with our recommendations and that the subsurface conditions are as expected. Recommendations for wall drainage are provided in the “Retaining Wall Drainage” section.

If the foundation subgrade for the MSE walls is adequately prepared, we anticipate that differential settlement along 100 linear feet of the MSE wall will be less than approximately ¾ inch.

MSE walls should be designed with a factor of safety of 1.5 for sliding and pullout of reinforcing elements and a factor of safety of 2 for overturning. If proprietary wall systems are used, the wall supplier is responsible for evaluating these items. However, we recommend that proprietary wall system designs be reviewed by a qualified geotechnical engineer to verify that valid assumptions were made relative to material properties and other factors.

6.4.4 Retaining Wall Foundation
Subgrade conditions at the locations of the anticipated gravity wall locations as shown on Figure 2 are expected to be variable from loose fill to dense, glacially consolidated deposits that will provide adequate foundation support. Soft or unsuitable soil may be encountered in isolated areas and will require over-excavation and replacement with stabilization material.

Gravity and MSE wall elements along the east side of Willows Road NE, where applicable, can be supported on an improved subgrade. Along the east side of Willows Road NE fill (composed of medium stiff, sandy silt to loose to medium dense, silty sand with gravel) is expected to depths up to 9.5 feet BGS at the boring locations completed on the east side of Willows Road NE. We recommend that subgrade improvement measures be completed in this area below MSE and gravity wall elements to provide adequate and stable foundation support. Subgrade improvement measures include over-excavation and replacement of the loose fill to a depth of up to 2 feet BGS or as directed by the geotechnical engineer.

Where loose or medium dense fill soil is encountered, excavation and removal to depths of 2 feet BGS or to firm native material as directed by the Geotechnical Engineer will be required. The base of foundation excavations should be compacted to a dense and unyielding condition prior to fill placement or foundation construction. Over-excavations beneath foundation elements should be backfilled with structural fill or stabilization material as discussed above. Over-excavations should also extend 6 inches laterally beyond the edges of the foundations for each foot excavated below the planned bottom of footing.

Foundations supported on firm native material or on an improved subgrade should be designed for an allowable bearing pressure of 2,000 psf. This is a net bearing pressures; the weight of the footing and overlying backfill can be ignored in calculating footing sizes. The recommended allowable bearing pressures applies to the total of dead plus long-term live loads and may be increased by one-third to account for short-term loads, such as those resulting from wind or seismic forces.
Foundations for walls located in level ground areas should be founded at a depth of 12 inches below the adjacent grade. An exception to this is for walls sited in close proximity to descending ground. If the ground descends at a slope of 2H:1V below a wall, a minimum embedment depth of 2 feet is required.

Based on our analysis, total post-construction static (consolidation-induced) settlement for conventional and semi-rigid foundation systems should be less than 1 inch, with differential settlement of up to ½ inch.

6.4.5 Soldier Piles
A cantilever wall consisting of soldier piles with treated timber or concrete lagging is recommended at the following locations:

- Along the west side of 139th Avenue NE between Stations 15+25 and 17+75 due to soft soil conditions in the existing swale.
- Along the east side of Willows Road NE:
  - Between Stations 28+25 and 29+75 and between Stations 34+20 and 38+50 due to the proposed wall height and existing steep slope conditions.

The soldier piles should be embedded a minimum of 6 feet into the dense glacial till or the Transitional Bed Deposits. At the wall locations we recommend designing the pile length with the assumption that these deposits are at a depth of 6 feet BGS, as indicated on Figure 5. Additional embedment may be necessary to provide sufficient resistance against kick-out at the toe of the excavation; we anticipate a minimum embedment depth of 1.5 times the depth of the excavation will be required. We recommend using factors of safety of 1.5 and 2.0 for design against overturning and kick-out, respectively.

The design height of the wall should be considered such that it does not rely on support from the rockery in front of it or designed such that the rockery in front of the wall could eventually be removed.

The proposed sidewalk can be located above the soldier pile wall. Soldier piles embedded a minimum of 6 feet into the glacial till or Transitional Bed Deposits may be designed using an allowable end bearing pressure of 25 ksf, which includes a safety factor of 3. Shaft resistance below the base of the excavation can be designed using a side friction value of 0.70 ksf, which includes a factor of safety of 3. Side friction above the excavation base should be neglected.

6.4.6 Lagging
Lagging typically consists of treated timber planks or concrete panels. Permanent lagging should meet the specifications provided in WSS 9-09 – Timber and Lumber. Lagging should be installed and backfilled on newly excavated faces the same working day the face is excavated and should be designed to resist lateral earth and surcharge pressures. To account for soil arching effects, the lagging should be designed to resist 50 percent of the recommended lateral earth pressures. A geosynthetic drainage panel should be installed behind the lagging, if it will be left exposed, to prevent the buildup or hydrostatic pressures.
6.4.7 Retaining Wall Drainage
We recommend the walls be provided with drainage to reduce the potential for hydrostatic water pressure buildup. Positive drainage should be provided behind gravity retaining walls by placing a minimum 1-foot-wide zone of drain rock directly behind the wall. The free-draining backfill should meet the criteria for WSS 9-03.12(4) – Gravel Backfill for Drains. The free-draining backfill zone should extend from the base of the wall to within 2 feet of the finished ground surface. The top 1 foot of fill should consist of relatively impermeable soil to prevent infiltration of surface water into the wall drainage zone. For walls where seepage at the face of a wall is not objectionable, the walls can be provided with weep holes to discharge water from the free-draining wall backfill material. The weep holes should be 3 inches in diameter and spaced approximately every 8 feet center-to-center along the base of the walls. The weep holes should be backed with galvanized, heavy-wire mesh to help prevent loss of the backfill material.

If weep holes are not preferred, a minimum 4-inch-diameter, perforated drainpipe should be installed within the free-draining material at the base of each wall. Drainpipe should consist of smooth-walled, perforated PVC pipe. The pipes should be placed with minimum slopes of 0.5 percent and routed to a suitable discharge location. The pipe installations should include a cleanout riser with cover located at the upper end of each pipe run. The cleanouts could be placed in flush-mounted access boxes.

Drainage behind shoring wall lagging, if left exposed, should be provided for by placing a geocomposite drainage mat, similar to Miradrain 6000x1 or G100NC, behind the lagging to the bottom of the wall. If temporary timber lagging will be covered with shotcrete or concrete panels, the drainage composite may be placed between the lagging and the final facing material. A drainage path should be provided between the lagging members by leaving a 1/8-inch-wide space between them. The composite drainage panels should either be connected to weep holes at the bottom of the wall or to a tightline system installed in front of the wall.

6.5 DETENTION VAULT FOUNDATION SUPPORT
6.5.1 Foundation Design
We anticipate excavation for the detention vault will be to depths of approximately 16 to 17 feet below existing grades between Stations 26+20 and 27+25. Based on nearby borings B-1 and B-2, the bottom of the vault excavation should expose very dense glacial till or Transitional Bed Deposits, which will provide adequate foundation support. Soil at the base of the excavation is anticipated to be wet and sensitive to disturbance. Subgrade preparation measures should include over-excavation to a depth of 8 inches below the bottom of the vault slab and replacement with permeable ballast material WSS 9-03.9(2) – Permeable Ballast. The ballast will provide an all-weather surface, provide uniform support for the vault foundations and floor slab, and provide drainage.

6.5.2 Dimensions and Capacities
Continuous and isolated spread footings should be at least 18 and 24 inches wide, respectively. Foundations supported on the ballast material placed over the undisturbed dense glacial till or Transitional Bed Deposits may be designed for an allowable bearing pressure of 5,000 psf.
This is a net bearing pressure; the weight of the footing and overlying backfill can be ignored in calculating footing sizes. The recommended allowable bearing pressure applies to the total of dead plus long-term live loads and may be increased by one-third for short-term loads, such as those resulting from wind or seismic forces.

6.6 SIGNAL AND LUMINARY POLES

6.6.1 Foundation Design

We anticipate luminary or signal poles will be installed as part of the project. We assume that they will have a drilled or excavated shaft foundation and will be constructed in accordance with the methodology of the WSDOT GDM (2015), Chapter 17 “Foundation Design for Cantilever Signals, Strain Poles, Cantilever Signs, and Luminaries” (WSDOT, 2015). We recommend designing the pole foundation using the Standard Foundation Design methodology identified in Chapter 17 Section 17.2.1. Foundation recommendations in accordance with Chapter 17 are provided below.

Referring to Table 17-2 of the WSDOT GDM, the surficial soil conditions vary throughout the site. The upper 1 foot of soil should be ignored in designing the foundations, and the shaft should be embedded a minimum of 6 feet BGS.

For poles located on the east side of Willows Road NE we anticipate that embankment construction will result in improvement of the existing loose fill encountered in the borings. Pole foundations may be designed using the soil parameters presented in Table 7.
### Table 7. Signal and Luminary Pole Recommended Soil Parameters and Allowable Lateral Bearing Pressure

<table>
<thead>
<tr>
<th>Foundation Type</th>
<th>Location Description</th>
<th>Depth (feet)</th>
<th>Allowable Lateral Soil Bearing Pressure (psf)</th>
<th>Friction Angle (degrees)</th>
<th>Moist Unit Weight (pcf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cantilever Signals and Strain Pole Standards (Types II, III, IV, and V)</td>
<td>West Side of Street</td>
<td>1 to 5</td>
<td>2,000</td>
<td>34</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 5</td>
<td>4,500</td>
<td>38</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>East Side of Street²</td>
<td>1 to 5</td>
<td>1,500</td>
<td>32</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 5</td>
<td>1,500</td>
<td>32</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>Station 12+50 to 15+50</td>
<td>1 to 5</td>
<td>1,500</td>
<td>32</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 5</td>
<td>3,500</td>
<td>36</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>Station 15+50 to 18+00</td>
<td>1 to 5</td>
<td>1,500</td>
<td>32</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 to 15</td>
<td>750</td>
<td>30</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>Either Side of Street</td>
<td>1 to 15</td>
<td>4,500</td>
<td>28</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>Installed within structural fill placed for project</td>
<td>--</td>
<td>2,500</td>
<td>36</td>
<td>120</td>
</tr>
</tbody>
</table>

1. Upper 1 foot of soil contribution should be neglected in design.
2. Assumes compaction of loose fill along east side of road occurs during embankment construction.

### 6.6.2 Shaft Construction

We recommend that drilled shaft foundations for the poles be installed using WSDOT procedures. Concrete should be cast neat against the sides of excavations. The use of temporary steel casing, drilling mud, or other types of procedures should be used as necessary to control the sloughing of sidewalls. Based on the conditions encountered in the boring, a temporary casing may be necessary for the full depth of the foundation to control the sloughing of loose fill materials and groundwater seepage. Casing should be removed while the concrete is still fluid, so proper soil/cement contact is achieved. Slough should be removed from the bottom of the excavation prior to the placement of concrete, as loose or disturbed soil in the excavation base could result in increased settlement.

Excavating the pole foundations with a backhoe or tracked excavator, rather than a drill rig, can result in a void space between the temporary form and the excavation sidewall. Loose, disturbed material should be removed from the sides and base of the excavation to expose firm, undisturbed material. Concrete should be poured directly against the exposed soil in the sides of the excavation. If a form is used, the annular space between the form and the sides of the excavation should be backfilled with controlled density fill with an unconfined compressive strength of 100 psi.
We recommend that GeoDesign be present during foundation excavation and/or drilling. GeoDesign will evaluate and confirm the adequacy of the subgrade soil with respect to the anticipated conditions.

6.7 STORMWATER INFILTRATION
Core Requirement #9 of the 2016 King County Surface Water Design Manual requires evaluation of the site to address the feasibility of infiltrating stormwater as a flow control method, which can be achieved using infiltration trenches and drywells, permeable pavement, and bioretention.

Geologic hazardous areas consisting of “Moderate” and “High” Landslide Hazard Areas are present within the project alignment and generally consist of the steep cut slopes on the west side of Willows Road NE and the fill or natural slopes on the east side of Willows Road NE (Figure 4). Infiltration of stormwater within and uphill of these areas should be avoided as it would increase hydrostatic groundwater pressure and decrease slope stability. We do not recommend infiltrating stormwater within the project alignment.

7.0 CONSTRUCTION CONSIDERATIONS

7.1 FILL MATERIALS
Fill material may be required for site grading, backfilling over-excavations, pavement support, installation of utilities, and drainage. The Aggregate Source Approval certificates should not be used as acceptance that the material coming from WSDOT-approved borrow pit will meet gradation or performance requirements. Confirmation sampling and testing should be performed on all proposed aggregate. The recommended fill materials are discussed below.

7.1.1 On-Site Soil
The native on-site soil below the existing pavement generally varies from silt to silty sand with varying silt content. We anticipate on-site soil consisting of silt will not be re-usable as structural fill beneath pavement or as embankment fill and should be disposed of off site. On-site material classified as silty sand or sand may be used for fill during dry weather when moisture conditioning can be completed.

7.1.2 Structural Fill
Imported granular material used for structural fill should be naturally occurring pit- or quarry-run rock, crushed rock, or crushed gravel and sand and should meet the specifications provided in WSS 9-03.14(1) – Gravel Borrow, with the exception that the percentage passing the U.S. Standard No. 200 sieve does not exceed 5 percent by dry weight. The reduced percentage passing the No. 200 sieve results in a material less susceptible to deteriorating under wet weather conditions.

7.1.3 Hardscape/Pavement Base Course
Imported granular material used as aggregate base beneath hardscape areas should consist of 1¼-inch-minus material meeting the specifications provided in the WSS 9-03.9(3) – Crushed Surfacing Base Course or Top Course material, with the exception that the aggregate should have less than 5 percent by dry weight passing the U.S. Standard No. 200 sieve and at least two
mechanically fractured faces. The imported granular material should be placed in lifts with a maximum uncompacted thickness of 12 inches and compacted to not less than 95 percent of the maximum dry density, as determined by ASTM D1557.

7.1.4 Trench Backfill
Backfill for utility trenches beneath improved areas should consist of structural fill, as defined above, and compacted in accordance with the specifications for structural fill. Utility trenches beneath unimproved areas, such as landscaped areas, or areas where structural support is not necessary for surface improvements may be backfilled with on-site excavation spoils or common borrow meeting WSS 9-03.14(3), Option 3 and compacted to a minimum 90 percent of the maximum dry density, as determined by ASTM D1557.

7.1.5 Stabilization Material
Stabilization material to backfill over-excavations or to stabilize soft subgrade areas may consist of either:

- WSS 9-03.9(2) – Permeable Ballast, or
- WSS 9-13.7(2) – Backfill for Rock Wall

The initial lift of stabilization material used to fill over-excavations should be 18 inches thick and compacted to a firm condition. Successive lifts should be 12 inches thick and compacted to a dense and unyielding condition.

To prevent migration of the fine-grained subgrade soil upwards or structural fill, stabilization fabric should be placed between the stabilization material prior to placing structural fill. The geotextile should conform to the specifications for woven stabilization geotextile as defined in the “Geosynthetics” section.

7.2 GEOSYNTHETICS
If geotextiles are used on this project, the geotextiles should be installed in conformance with the specifications provided in WSS 2-12 – Construction Geosynthetic.

7.2.1 Stabilization Geotextile
To provide subgrade stabilization, reinforcement, and drainage, a geosynthetic is recommended in areas where soft subgrade conditions are encountered. This can be accomplished using a two-layer system composed of biaxial or triaxial geogrid and non-woven geotextile filter fabric or with the use of a single layer of heavy-duty geotextile with high permittivity characteristics such as Mirafi RS380i. The geotextile should conform to the specifications for woven soil stabilization material provided in WSS 9-33.2(1) – Geotextile Properties, Table 3 Geotextile for Separation or Soil Stabilization and meet the AOS and Water Permittivity requirements in WSS 9-33.2(1) – Geotextile Properties, Table 5, Class A.
7.3  **WET WEATHER CONSIDERATIONS**
This section describes additional recommendations with potential budget and schedule impacts that may affect the owner and site contractor if earthwork occurs during the wet season. These recommendations are based on the site conditions and our experience on previous construction projects completed in the area.

- Soil encountered in the explorations is typically silt and silty sand with variable silt and gravel content. The material will be susceptible to deterioration during wet weather. If construction is completed or extends into the wet season, we recommend stabilizing the areas of the site where construction traffic is anticipated using a gravel working pad.
- Earthwork should be accomplished in small sections to minimize exposure to wet weather.
- Excavation or the removal of unsuitable soil should be followed promptly by the placement of appropriate stabilization material.
- The size of construction equipment and access to the area should be limited to prevent soil disturbance.
- Increased handling, excavation, and disposal of wet and disturbed surface material should be expected.
- Protection of exposed soil subgrades and stockpiles will be required.
- Heavy rainfall can occur during winter months and can compromise earthwork schedules in this region.
- Frozen ground should not be proof rolled or compacted, and fill should not be placed over frozen ground.

8.0  **OBSERVATION OF CONSTRUCTION**

Recommendations provided in this report assume that GeoDesign will be retained to provide geotechnical consultation and observation services during construction. Satisfactory earthwork performance depends to a large degree on the quality of construction. Subsurface conditions observed during construction should be compared with those encountered during the subsurface explorations. Recognition of changed conditions often requires experience; therefore, GeoDesign personnel should visit the site with sufficient frequency to detect whether subsurface conditions change significantly from those anticipated and to verify that the work is completed in accordance with the construction drawings and specifications.

Observation and laboratory testing of the proposed fill material should be completed to verify that it is in conformance with our recommendations. Observation of the placement and compaction of the fill should be performed to verify it meets the required compaction and will be capable of providing the structural support for the proposed infrastructure. A sufficient number of in-place density tests should be performed as the fill is placed to verify the required relative compaction is being achieved.
9.0 LIMITATIONS

We have prepared this report for use by KPG, P.S. and its consultants in design of this project. The data and report can be used for bidding or estimating purposes, but our report, conclusions, and interpretations should not be construed as warranty of the subsurface conditions and are not applicable to other nearby building sites.

Exploration observations indicate soil conditions only at specific locations and only to the depths penetrated. They do not necessarily reflect soil strata or water level variations that may exist between exploration locations. If subsurface conditions differing from those described are noted during the course of excavation and construction, re-evaluation will be necessary.

The site development plans and design details were preliminary at the time this report was prepared. If design changes are made, we request that we be retained to review our conclusions and recommendations and to provide a written modification or verification.

The scope of our services does not include services related to construction safety precautions and our recommendations are not intended to direct the contractor’s methods, techniques, sequences, or procedures, except as specifically described in our report for consideration in design.

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with generally accepted practices in this area at the time the report was prepared. No warranty, express or implied, should be understood.

We appreciate the opportunity to be of continued service to you. Please call if you have questions concerning this report or if we can provide additional services.

Sincerely,

GeoDesign, Inc.

Benjamin Weinberg, P.E.
Project Engineer

Kevin J. Lamb, P.E.
Principal Engineer

Signed 09/04/2019
REFERENCES


FIGURES
NOTES:
1. SITE PLAN BASED ON DRAWINGS PROVIDED BY KPG AUGUST 3, 2018.
2. BASE IMAGE PROVIDED BY KPG MARCH 3, 2018.
SITE PLAN - LIDAR IMAGERY

CKC TO RCC REGIONAL CONNECTOR/NE 128TH S
KIRKLAND, WA

KPG-94-01
SEPTEMBER 2019
FIGURE 3

0 (APPROXIMATE SCALE IN FEET)

LEGEND:

LANDSLIDE

MAPPED LANDSLIDE (NO LONGER EVIDENT)

NOTE:
1. LIDAR IMAGE DATA (2003) OBTAINED FROM KING COUNTY.
SITE PLAN - SLOPE MAP

CKC TO RCC REGIONAL CONNECTOR/NE 128TH ST
KIRKLAND, WA

KPG-94-01
SEPTEMBER 2019
FIGURE 4

LEGEND:

B-1  BORING

NOTES:
1. SITE PLAN BASED ON DRAWINGS PROVIDED BY KPG AUGUST 3, 2018.
2. BASE IMAGE PROVIDED BY KPG MARCH 3, 2018.

SLOPES TABLE

<table>
<thead>
<tr>
<th>COLOR</th>
<th>MINIMUM SLOPE</th>
<th>MAXIMUM SLOPE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15.00%</td>
<td>39.99%</td>
</tr>
<tr>
<td></td>
<td>40.00%</td>
<td>&gt;40.00%</td>
</tr>
</tbody>
</table>

0  150  300
(Scale in Feet)
**UNFACTORED PASSIVE PRESSURE EQUIVALENT FLUID DENSITY**

<table>
<thead>
<tr>
<th>Pp</th>
<th>SLOPE IN FRONT OF WALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>4500(d)</td>
<td>FLAT TO 4H:1V</td>
</tr>
<tr>
<td>3000(d)</td>
<td>2H:1V TO 4H:1V</td>
</tr>
<tr>
<td>2000(d)</td>
<td>1.5H:1V TO 2H:1V</td>
</tr>
</tbody>
</table>

**EXPLANATION:**

H = HEIGHT OF WALL IN FEET
D = SOLDIER PILE EMBEDMENT DEPTH
PASSIVE PRESSURE ACTS OVER 3X THE PILE WIDTH
ACTIVE PRESSURE ACTS OVER 1X THE PILE WIDTH BELOW EXCAVATION BASE

**NOTE:**

1. DENSE GLACIAL SOIL ASSUMED TO BE AT A DEPTH OF 6 FEET AT WALL LOCATION.
2. EMBED PILES A MINIMUM OF 8 FEET INTO DENSE GLACIAL SOIL. ADDITIONAL EMBEDMENT MAY BE NECESSARY FOR WALL KICK-OUT AND OVERTURNING RESISTANCE.

**NOTE:**

1. DENSE GLACIAL SOIL ASSUMED TO BE AT A DEPTH OF 6 FEET AT WALL LOCATION.
2. EMBED PILES A MINIMUM OF 8 FEET INTO DENSE GLACIAL SOIL. ADDITIONAL EMBEDMENT MAY BE NECESSARY FOR WALL KICK-OUT AND OVERTURNING RESISTANCE.
APPENDIX A

FIELD EXPLORATIONS

GENERAL
Subsurface conditions at the site were explored by drilling 10 borings (B-1 through B-10) to depths up to 31.5 feet BGS. All of the borings, except B-5, were completed between May 22 and May 25, 2018. The drilling of B-5 was postponed to June 20, 2018 due to utility conflicts at the original location. Boring B-5 was drilled by Boretec1 with a trailer-mounted drill rig using hollow-stem auger drilling techniques. The remaining borings were completed by Holt Drilling services with a truck-mounted drill rig using hollow-stem auger drilling techniques. The exploration logs are presented in this appendix. The locations of the explorations were determined based on existing conditions and field measurements. This information should be considered accurate to the degree implied by the methods used.

SOIL SAMPLING
A member of our geotechnical staff observed the explorations. We collected representative samples of the various soil encountered in the explorations for geotechnical laboratory testing. The SPT sampler was driven with a 140-pound hammer free-falling 30 inches. The number of blows required to drive the sampler 1 foot, or as otherwise indicated, into the soil is shown adjacent to the sample symbols on the exploration logs. Disturbed soil samples were collected from the samplers at 2.5-foot intervals. Sampling methods and intervals are shown on the exploration logs.

SOIL CLASSIFICATION
The soil samples were classified in accordance with the “Exploration Key” (Table A-1) and “Soil Classification System” (Table A-2), which are presented in this appendix. The exploration logs indicate the depths at which the soils or their characteristics change, although the change could be gradual. A horizontal line between soil types indicates an observed change. If the change was gradual, the change is indicated using a dashed line. Classifications are shown on the exploration logs.

LABORATORY TESTING

CLASSIFICATION
The soil samples were classified in the laboratory to confirm field classifications. The laboratory classifications are presented on the exploration logs if those classifications differed from the field classifications.

MOISTURE CONTENT
Moisture content determinations were completed on select soil samples in general accordance with ASTM D2216. The moisture content is a ratio of the weight of the water to soil in a test sample and is expressed as a percentage. The test results are presented in this appendix.
PARTICLE-SIZE ANALYSIS
We completed particle-size analyses on select soil samples in order to determine the distribution of soil particle sizes. The testing was completed in general accordance with ASTM D1140. The test results are presented in this appendix.
<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>SAMPLING DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Symbol]</td>
<td>Location of sample obtained in general accordance with ASTM D 1586 Standard Penetration Test with recovery</td>
</tr>
<tr>
<td>![Symbol]</td>
<td>Location of sample obtained using thin-wall Shelby tube or Geoprobe® sampler in general accordance with ASTM D 1587 with recovery</td>
</tr>
<tr>
<td>![Symbol]</td>
<td>Location of sample obtained using Dames &amp; Moore sampler and 300-pound hammer or pushed with recovery</td>
</tr>
<tr>
<td>![Symbol]</td>
<td>Location of sample obtained using Dames &amp; Moore and 140-pound hammer or pushed with recovery</td>
</tr>
<tr>
<td>![Symbol]</td>
<td>Location of sample obtained using 3-inch-O.D. California split-spoon sampler and 140-pound hammer</td>
</tr>
<tr>
<td>![Symbol]</td>
<td>Location of grab sample</td>
</tr>
<tr>
<td>![Symbol]</td>
<td>Rock coring interval</td>
</tr>
<tr>
<td>![Symbol]</td>
<td>Water level during drilling</td>
</tr>
<tr>
<td>![Symbol]</td>
<td>Water level taken on date shown</td>
</tr>
</tbody>
</table>

**GEOTECHNICAL TESTING EXPLANATIONS**

- **ATT** Atterberg Limits
- **CBR** California Bearing Ratio
- **CON** Consolidation
- **DD** Dry Density
- **DS** Direct Shear
- **HYD** Hydrometer Gradation
- **MC** Moisture Content
- **MD** Moisture-Density Relationship
- **NP** Nonplastic
- **OC** Organic Content
- **P** Pushed Sample
- **PP** Pocket Penetrometer
- **P200** Percent Passing U.S. Standard No. 200 Sieve
- **RES** Resilient Modulus
- **SIEV** Sieve Gradation
- **TOR** Torvane
- **UC** Unconfined Compressive Strength
- **VS** Vane Shear
- **kPa** Kilopascal

**ENVIRONMENTAL TESTING EXPLANATIONS**

- **CA** Sample Submitted for Chemical Analysis
- **P** Pushed Sample
- **PID** Photoionization Detector Headspace Analysis
- **ppm** Parts per Million
- **ND** Not Detected
- **NS** No Visible Sheen
- **SS** Slight Sheen
- **MS** Moderate Sheen
- **HS** Heavy Sheen
### RELATIVE DENSITY - COARSE-GRAINED SOIL

<table>
<thead>
<tr>
<th>Relative Density</th>
<th>Standard Penetration Resistance</th>
<th>Dames &amp; Moore Sampler (140-pound hammer)</th>
<th>Dames &amp; Moore Sampler (300-pound hammer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Loose</td>
<td>0 – 4</td>
<td>0 - 11</td>
<td>0 - 4</td>
</tr>
<tr>
<td>Loose</td>
<td>4 – 10</td>
<td>11 - 26</td>
<td>4 - 10</td>
</tr>
<tr>
<td>Medium Dense</td>
<td>10 – 30</td>
<td>26 - 74</td>
<td>10 - 30</td>
</tr>
<tr>
<td>Dense</td>
<td>30 – 50</td>
<td>74 - 120</td>
<td>30 - 47</td>
</tr>
<tr>
<td>Very Dense</td>
<td>More than 50</td>
<td>More than 120</td>
<td>More than 47</td>
</tr>
</tbody>
</table>

### CONSISTENCY - FINE-GRAINED SOIL

<table>
<thead>
<tr>
<th>Consistency</th>
<th>Standard Penetration Resistance</th>
<th>Dames &amp; Moore Sampler (140-pound hammer)</th>
<th>Dames &amp; Moore Sampler (300-pound hammer)</th>
<th>Unconfined Compressive Strength (tsf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Soft</td>
<td>Less than 2</td>
<td>Less than 3</td>
<td>Less than 2</td>
<td>Less than 0.25</td>
</tr>
<tr>
<td>Soft</td>
<td>2 – 4</td>
<td>3 - 6</td>
<td>2 - 5</td>
<td>0.25 - 0.50</td>
</tr>
<tr>
<td>Medium Stiff</td>
<td>4 – 8</td>
<td>6 - 12</td>
<td>5 - 9</td>
<td>0.50 - 1.0</td>
</tr>
<tr>
<td>Stiff</td>
<td>8 - 15</td>
<td>12 - 25</td>
<td>9 - 19</td>
<td>1.0 - 2.0</td>
</tr>
<tr>
<td>Very Stiff</td>
<td>15 - 30</td>
<td>25 – 65</td>
<td>19 – 31</td>
<td>2.0 - 4.0</td>
</tr>
<tr>
<td>Hard</td>
<td>More than 30</td>
<td>More than 65</td>
<td>More than 31</td>
<td>More than 4.0</td>
</tr>
</tbody>
</table>

### PRIMARY SOIL DIVISIONS

**COARSE-GRAINED SOIL**

- **GRAVEL**
  - (more than 50% of coarse fraction retained on No. 4 sieve)
- **SAND**
  - (50% or more of coarse fraction passing No. 4 sieve)

**FINE-GRAINED SOIL**

- **SILT AND CLAY**
  - Liquid limit less than 50
  - Liquid limit 50 or greater

### HIGHLY ORGANIC SOIL

- PT PEAT

### MOISTURE CLASSIFICATION

<table>
<thead>
<tr>
<th>Term</th>
<th>Field Test</th>
<th>Percent</th>
<th>Field Test</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>dry</td>
<td>very low moisture,</td>
<td>Fine-Grained Soil</td>
<td>Silt and Clay In:</td>
<td>Sand and Gravel In:</td>
</tr>
<tr>
<td></td>
<td>dry to touch</td>
<td>Coarse-Grained Soil</td>
<td>trace</td>
<td>trace</td>
</tr>
<tr>
<td>moist</td>
<td>damp, without</td>
<td>Fine-Grained Soil</td>
<td>Coarse-Grained Soil</td>
<td>Fine-Grained Soil</td>
</tr>
<tr>
<td></td>
<td>visible moisture</td>
<td></td>
<td>trace</td>
<td>trace</td>
</tr>
<tr>
<td>wet</td>
<td>visible free water,</td>
<td>Fine-Grained Soil</td>
<td>with</td>
<td>with</td>
</tr>
<tr>
<td></td>
<td>usually saturated</td>
<td>Coarse-Grained Soil</td>
<td>minor</td>
<td>minor</td>
</tr>
</tbody>
</table>

### ADDITIONAL CONSTITUENTS

- Secondary granular components or other materials such as organics, man-made debris, etc.

### SOIL CLASSIFICATION SYSTEM

TABLE A-2
Medium dense, brown, silty SAND with gravel (SM); moist, sand is fine to medium, gravel is fine to coarse and subrounded to subangular - FILL.

Medium dense, gray-brown, silty SAND (SM), trace gravel; moist, sand is fine to medium, gravel is fine - GLACIAL TILL.

Hard, gray-brown, sandy SILT (ML); wet, silt is non-plastic, sand is fine - TRANSITIONAL BED DEPOSITS.

Gray at 15.5 feet

Hard, gray CLAY (CL), trace sand; moist to wet, clay has medium plasticity, sand is fine - TRANSITIONAL BED DEPOSITS.

Very stiff, trace gravel; gravel is coarse at 25.0 feet

Hard at 30.0 feet

Exploration completed at a depth of 31.5 feet.

Hammer efficiency factor is 83.0 percent.
Surface elevation was not measured at the time of exploration.

<table>
<thead>
<tr>
<th>DEPTH FEET</th>
<th>MATERIAL DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>ASPHALT CONCRETE (6.0 inches).</td>
</tr>
<tr>
<td></td>
<td>Loose to medium dense, brown, silty SAND with gravel (SM), trace organics; moist, sand is fine to medium, gravel is fine to coarse - FILL.</td>
</tr>
<tr>
<td></td>
<td>Medium stiff, gray-brown, sandy SILT (MH); moist, silt has medium plasticity, sand is fine - FILL.</td>
</tr>
<tr>
<td>0.5</td>
<td>Dense to very dense, gray, silty SAND with gravel (SM); wet, sand is fine to medium, gravel is fine to coarse and subrounded - GLACIAL TILL.</td>
</tr>
<tr>
<td>1.5</td>
<td>moist to wet at 15.0 feet</td>
</tr>
<tr>
<td>9.0</td>
<td>Very dense, gray, silty GRAVEL with sand (GM); wet, gravel is fine to coarse and subrounded, sand is fine to coarse - GLACIAL TILL.</td>
</tr>
<tr>
<td>17.5</td>
<td>Very stiff, gray CLAY (CL); moist to wet, clay has low plasticity - TRANSITIONAL BED DEPOSITS.</td>
</tr>
<tr>
<td>23.0</td>
<td>Exploration completed at a depth of 31.5 feet.</td>
</tr>
<tr>
<td>31.5</td>
<td>Hammer efficiency factor is 83.0 percent.</td>
</tr>
</tbody>
</table>

Drilled by: Holt Services, Inc.
Logged by: B. Weinberg
Completed: 05/22/18

Hammer efficiency factor is 83.0 percent.
Surface elevation was not measured at the time of exploration.

Medium dense, brown, silty SAND with gravel (SM), trace organics; moist, sand is fine to coarse, gravel is fine to coarse and subangular - FILL. gray-brown, minor gravel; gravel is subrounded at 2.5 feet.

Dense to very dense, gray-brown, silty SAND (SM), trace gravel; moist, sand is fine to medium, gravel is fine and subrounded - GLACIAL TILL.

Very dense, gray, silty GRAVEL with sand (GM); wet, gravel is fine to coarse, sand is fine to medium - GLACIAL TILL.

Medium stiff, gray CLAY (CL), trace sand; moist to wet, clay has medium plasticity, sand is fine - TRANSITIONAL BED DEPOSITS.

stiff at 22.5 feet

very stiff at 27.5 feet

Exploration completed at a depth of 29.0 feet.

Hammer efficiency factor is 83.0 percent.

Surface elevation was not measured at the time of exploration.
Groundwater rose from 7.0 feet to 5.0 feet from 14:46 to 15:11 and stabilized. Surface elevation was not measured at the time of exploration.

- Loose to medium dense, brown, silty SAND with gravel (SM); moist, sand is fine to coarse, gravel is fine to coarse and subangular - FILL. loose, trace organics at 2.5 feet
- Very soft, brown-black, sandy SILT (ML), minor gravel; wet, silt is non-plastic, sand is fine to medium, gravel is fine to coarse - FILL.
- stiff at 10.0 feet
- Very stiff gray-brown SILT (ML); moist to wet, silt has low plasticity - TRANSITIONAL BED DEPOSITS.
- Hard, gray CLAY (CL); wet, clay has low plasticity - TRANSITIONAL BED DEPOSITS.
- Exploration completed at a depth of 31.5 feet.
- Hammer efficiency is 83.0 percent.

Surface elevation was not measured at the time of exploration.

KPG-94-01

September 2019

CKC TO RCC REGIONAL CONNECTOR/NE 128TH S
KIRKLAND, WA

FIGURE A-4
Surface elevation was not measured at the time of exploration.

Loose, brown, silty SAND with gravel (SM), trace debris; moist, sand is fine to medium - FILL.

Very dense, brown, silty SAND with gravel (SM); wet, sand is fine to medium, gravel is fine to coarse, occasional sandy SILT lenses - GLACIAL TILL.

with gravel, cobbles, and boulders at 12.0 feet

Very dense, light gray, silty SAND (SM), trace gravel; moist, sand is fine to medium - TRANSITIONAL BED DEPOSITS.

gray; wet, sand is fine at 25.0 feet

Exploration completed at a depth of 25.9 feet.

Surface elevation was not measured at the time of exploration.

ASPHALT CONCRETE (5.0 inches).

0.4

medium dense; wet at 5.0 feet

7.0

P200 = 43%

18.0

Exploration completed at a depth of 25.9 feet.

Installing and comments

Moisture content %

Core rec %

 Blow count

RQD

Core rec %

-0.4-3

2.8

5

7.0

18.0

25.9

Boring Method: hollow-stem auger (see document text)

Boring bit diameter: 6.5 inches

KIRKLAND, WA

CKC TO RCC REGIONAL CONNECTOR/NE 128TH S

KIRKLAND, WA

FIGURE A-5
Medium dense, brown SAND with gravel and silt (SP-SM); moist, sand is fine to coarse, gravel is fine to coarse and subangular - FILL.

Stiff, gray-brown, sandy SILT (ML); minor gravel; moist, silt is non-plastic, sand is fine, gravel is fine to coarse - FILL.

hard at 5.0 feet

Very dense, gray, silty SAND (SM); minor gravel; moist, sand is fine, gravel is fine to coarse - GLACIAL TILL.

trace gravel at 10.0 feet

Hard, gray SILT (ML); wet, silt has low plasticity - TRANSITIONAL BED DEPOSITS.

moist at 18.0 feet

Surface elevation was not measured at the time of exploration.

Exploration completed at a depth of 31.5 feet.

Hammer efficiency factor is 83.0 percent.
Surface elevation was not measured at the time of exploration.

APPHALT CONCRETE (9.0 inches).
Loose, gray-brown, silty SAND with gravel (SM); moist, sand is fine to medium, gravel is fine to coarse - FILL.

medium dense, gray; wet at 5.0 feet

Very loose, gray-brown, silty SAND (SM), minor gravel, trace organics; wet, sand is fine to medium, gravel is fine to coarse - LANDSLIDE DEPOSITS.

Medium stiff to stiff, gray-brown SILT (ML), minor sand; moist, silt has low plasticity, sand is fine - TRANSITIONAL BED DEPOSITS.

Hard, gray SILT with sand (ML); moist, silt is non-plastic, sand is fine - TRANSITIONAL BED DEPOSITS.

Exploration completed at a depth of 31.5 feet.
Hammer efficiency factor is 83.0 percent.

Installation and Comments

Hammer efficiency factor is 83.0 percent.
Exploration completed at a depth of 27.5 feet.

Hammer efficiency factor is 83.0 percent.

Surface elevation was not measured at the time of exploration.
ASPHALT CONCRETE (9.0 inches).

AGGREGATE BASE (4.0 inches).

Medium dense, brown, silty SAND with gravel (SM); moist, sand is fine to medium, gravel is fine to coarse - FILL. wet at 4.5 feet

Very dense, light brown, silty SAND with gravel (SM); wet, sand is fine to medium, gravel is fine - GLACIAL TILL.

Hard, brown, sandy SILT with gravel (ML); moist, silt is non-plastic, sand is fine, gravel is fine to coarse - TRANSITIONAL BED DEPOSITS.

Hard, light blue-gray CLAY (CL); moist, clay has low plasticity, no to low dilatancy, and medium to high toughness - TRANSITIONAL BED DEPOSITS.

Exploration completed at a depth of 31.5 feet.

Hammer efficiency factor is 83.0 percent.
<table>
<thead>
<tr>
<th>DEPTH FEET</th>
<th>MATERIAL DESCRIPTION</th>
<th>GRAPHIC LOG</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>ASPHALT CONCRETE (6.0 inches).</td>
<td>ASPHALT CONCRETE (6.0 inches).</td>
</tr>
<tr>
<td>0.5</td>
<td>AGGREGATE BASE (3.0 inches).</td>
<td>AGGREGATE BASE (3.0 inches).</td>
</tr>
<tr>
<td>0.8</td>
<td>Medium dense, gray-brown, silty SAND with gravel (SM); moist, sand is fine to medium. gravel is fine and subrounded - FILL.</td>
<td>Medium dense, gray-brown, silty SAND with gravel (SM); moist, sand is fine to medium. gravel is fine and subrounded - FILL.</td>
</tr>
<tr>
<td>4.5</td>
<td>Dense, gray-brown, silty SAND with gravel (SM); moist, sand is fine to medium. gravel is fine to medium - GLACIAL TILL.</td>
<td>Dense, gray-brown, silty SAND with gravel (SM); moist, sand is fine to medium. gravel is fine to medium - GLACIAL TILL.</td>
</tr>
<tr>
<td>7.0</td>
<td>Hard, light brown, sandy SILT (ML); moist, silt is non-plastic, sand is fine - TRANSITIONAL BED DEPOSITS.</td>
<td>Hard, light brown, sandy SILT (ML); moist, silt is non-plastic, sand is fine - TRANSITIONAL BED DEPOSITS.</td>
</tr>
<tr>
<td>11.5</td>
<td>Dense, brown, silty GRAVEL with sand (GM); wet, gravel is fine to coarse and subrounded, sand is fine to coarse - TRANSITIONAL BED DEPOSITS.</td>
<td>Dense, brown, silty GRAVEL with sand (GM); wet, gravel is fine to coarse and subrounded, sand is fine to coarse - TRANSITIONAL BED DEPOSITS.</td>
</tr>
<tr>
<td>12.0</td>
<td>Dense, light brown, silty SAND (SM); moist, sand is fine - TRANSITIONAL BED DEPOSITS.</td>
<td>Dense, light brown, silty SAND (SM); moist, sand is fine - TRANSITIONAL BED DEPOSITS.</td>
</tr>
<tr>
<td>16.5</td>
<td>Hard, light-blue gray SILT (ML), trace sand; moist, silt is non-plastic to has low plasticity, rapid dilatancy - TRANSITIONAL BED DEPOSITS.</td>
<td>Hard, light-blue gray SILT (ML), trace sand; moist, silt is non-plastic to has low plasticity, rapid dilatancy - TRANSITIONAL BED DEPOSITS.</td>
</tr>
<tr>
<td>21.5</td>
<td>Exploration completed at a depth of 21.5 feet.</td>
<td>Exploration completed at a depth of 21.5 feet.</td>
</tr>
</tbody>
</table>

**Surface elevation was not measured at the time of exploration.**

**PP = 3.5 tsf**


**BORING METHOD:** hollow-stem auger (see document text)

**BORING BIT DIAMETER:** 8 inches

**LOGGED BY:** J. Martinez

**COMPLETED:** 05/29/18

**EXPLORE DESIGN INC.**

**10700 Meridian Avenue North - Suite 402 Seattle WA 98133 206.838.9900 www.geodesigninc.com**

**KPG-94-01**

**BOARING B-10**

**SEPTEMBER 2019**

**CKC TO RCC REGIONAL CONNECTOR/NE 128TH S KIRKLAND, WA**

**FIGURE A-10**
<table>
<thead>
<tr>
<th>SAMPLE INFORMATION</th>
<th>MOISTURE CONTENT (PERCENT)</th>
<th>DRY DENSITY (PCF)</th>
<th>SIEVE GRANULARITY</th>
<th>ATTERBERG LIMITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXPLORATION NUMBER</td>
<td>SAMPLE DEPTH (FEET)</td>
<td>ELEVATION (FEET)</td>
<td>GRAVEL (PERCENT)</td>
<td>SAND (PERCENT)</td>
</tr>
<tr>
<td>B-1</td>
<td>5.0</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-1</td>
<td>7.5</td>
<td>17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-1</td>
<td>15.0</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-2</td>
<td>5.0</td>
<td>29</td>
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<td></td>
</tr>
<tr>
<td>B-2</td>
<td>12.5</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-3</td>
<td>5.0</td>
<td>19</td>
<td></td>
<td></td>
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<tr>
<td>B-3</td>
<td>10.0</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-4</td>
<td>3.5</td>
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<td>B-4</td>
<td>12.5</td>
<td>26</td>
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<td>B-5</td>
<td>5.0</td>
<td>14</td>
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<td>B-5</td>
<td>7.5</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-6</td>
<td>5.0</td>
<td>17</td>
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</tr>
<tr>
<td>B-6</td>
<td>20.0</td>
<td>20</td>
<td></td>
<td></td>
</tr>
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<td>B-7</td>
<td>2.5</td>
<td>13</td>
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<td>B-7</td>
<td>15.0</td>
<td>31</td>
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<td>B-8</td>
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<td>B-8</td>
<td>15.0</td>
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<tr>
<td>B-9</td>
<td>2.5</td>
<td>13</td>
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<tr>
<td>B-10</td>
<td>7.5</td>
<td>21</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX B

SLOPE STABILITY ANALYSIS RESULTS
FIGURE B-1
KPG-94-01
CKC TO RCC CONNECTOR TRAIL PROJECT
SECTION A-A’
EXISTING - GLOBAL STABILITY - STATIC

<table>
<thead>
<tr>
<th>Color</th>
<th>Name</th>
<th>Unit Weight (pcf)</th>
<th>Cohesion' (psf)</th>
<th>Phi' (°)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FILL</td>
<td>130</td>
<td>50</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>GLACIAL TILL</td>
<td>140</td>
<td>200</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>TRANSITION BEDS</td>
<td>120</td>
<td>500</td>
<td>34</td>
<td></td>
</tr>
</tbody>
</table>

EXISTING BUILDING
WILLOWS RD

Distance (ft)
Elevation (ft)
FIGURE B-2
KPG-94-01
CKC TO RCC CONNECTOR TRAIL PROJECT
SECTION A-A’
EXISTING - GLOBAL STABILITY - SEISMIC

<table>
<thead>
<tr>
<th>Color</th>
<th>Name</th>
<th>Unit Weight (pcf)</th>
<th>Cohesion’ (psf)</th>
<th>Phi’ (°)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FILL</td>
<td>130</td>
<td>50</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>GLACIAL TILL</td>
<td>140</td>
<td>200</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>TRANSITION BEDS</td>
<td>120</td>
<td>500</td>
<td>34</td>
<td></td>
</tr>
</tbody>
</table>

Distance (ft)

Elevation (ft)

EXISTING BUILDING

WILLOWS RD
FIGURE B-3
KPG-94-01
CKC TO RCC CONNECTOR TRAIL PROJECT
SECTION A-A'
PROPOSED - GLOBAL STABILITY - STATIC

<table>
<thead>
<tr>
<th>Color</th>
<th>Name</th>
<th>Unit Weight (pcf)</th>
<th>Cohesion (psf)</th>
<th>Phi' (°)</th>
</tr>
</thead>
<tbody>
<tr>
<td>brown</td>
<td>FILL</td>
<td>130</td>
<td>50</td>
<td>32</td>
</tr>
<tr>
<td>gray</td>
<td>GLACIAL TILL</td>
<td>140</td>
<td>200</td>
<td>37</td>
</tr>
<tr>
<td>green</td>
<td>RETAINED FILL</td>
<td>130</td>
<td>0</td>
<td>35</td>
</tr>
<tr>
<td>black</td>
<td>TRANSITION BEDS</td>
<td>120</td>
<td>500</td>
<td>34</td>
</tr>
</tbody>
</table>

Distance (ft) | Elevation (ft)
---|---
-10 | 110
10  | 100
30  | 90
50  | 80
70  | 70
90  | 60
110 | 50
130 | 40
150 | 30
170 | 20
190 | 10

WILLOWS RD
EXISTING BUILDING
FIGURE B-4
KPG-94-01
CKC TO RCC CONNECTOR TRAIL PROJECT
SECTION A-A’
PROPOSED - GLOBAL STABILITY - SEISMIC

<table>
<thead>
<tr>
<th>Color</th>
<th>Name</th>
<th>Unit Weight (pcf)</th>
<th>Cohesion' (psf)</th>
<th>Phi' (°)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown</td>
<td>FILL</td>
<td>130</td>
<td>50</td>
<td>32</td>
</tr>
<tr>
<td>Gray</td>
<td>GLACIAL TILL</td>
<td>140</td>
<td>200</td>
<td>37</td>
</tr>
<tr>
<td>Light Green</td>
<td>RETAINED FILL</td>
<td>130</td>
<td>0</td>
<td>35</td>
</tr>
<tr>
<td>Dark Gray</td>
<td>TRANSITION BEDS</td>
<td>120</td>
<td>500</td>
<td>34</td>
</tr>
</tbody>
</table>

EXISTING BUILDING
WILLOWS RD
APPENDIX E

CONSTRUCTION
GENERAL
STORMWATER PERMIT
CONSTRUCTION STORMWATER
GENERAL PERMIT

National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated with Construction Activity

State of Washington
Department of Ecology
Olympia, Washington 98504

In compliance with the provisions of
Chapter 90.48 Revised Code of Washington
(State of Washington Water Pollution Control Act)
and
Title 33 United States Code, Section 1251 et seq.
The Federal Water Pollution Control Act (The Clean Water Act)

Until this permit expires, is modified, or revoked, Permittees that have properly obtained coverage under this general permit are authorized to discharge in accordance with the special and general conditions that follow.

Heather R. Bartlett
Water Quality Program Manager
Washington State Department of Ecology
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SUMMARY OF PERMIT REPORT SUBMITTALS

Refer to the Special and General Conditions within this permit for additional submittal requirements. Appendix A provides a list of definitions. Appendix B provides a list of acronyms.

<table>
<thead>
<tr>
<th>Permit Section</th>
<th>Submittal</th>
<th>Frequency</th>
<th>First Submittal Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>S5.A and S8</td>
<td>High Turbidity/Transparency Phone Reporting</td>
<td>As Necessary</td>
<td>Within 24 hours</td>
</tr>
<tr>
<td>S5.B</td>
<td>Discharge Monitoring Report</td>
<td>Monthly*</td>
<td>Within 15 days following the end of each month</td>
</tr>
<tr>
<td>S5.F and S8</td>
<td>Noncompliance Notification – Telephone Notification</td>
<td>As necessary</td>
<td>Within 24-hours</td>
</tr>
<tr>
<td>S5.F</td>
<td>Noncompliance Notification – Written Report</td>
<td>As necessary</td>
<td>Written approval from Ecology is required prior to using chemical treatment (with the exception of dry ice or CO₂ to adjust pH)</td>
</tr>
<tr>
<td>S9.C</td>
<td>Request for Chemical Treatment Form</td>
<td>As necessary</td>
<td></td>
</tr>
<tr>
<td>G2</td>
<td>Notice of Change in Authorization</td>
<td>As necessary</td>
<td></td>
</tr>
<tr>
<td>G6</td>
<td>Permit Application for Substantive Changes to the Discharge</td>
<td>As necessary</td>
<td></td>
</tr>
<tr>
<td>G8</td>
<td>Application for Permit Renewal</td>
<td>1/permit cycle</td>
<td>No later than 180 days before expiration</td>
</tr>
<tr>
<td>G9</td>
<td>Notice of Permit Transfer</td>
<td>As necessary</td>
<td></td>
</tr>
<tr>
<td>G20</td>
<td>Notice of Planned Changes</td>
<td>As necessary</td>
<td></td>
</tr>
<tr>
<td>G22</td>
<td>Reporting Anticipated Non-compliance</td>
<td>As necessary</td>
<td></td>
</tr>
</tbody>
</table>

SPECIAL NOTE: *Permittees must submit electronic Discharge Monitoring Reports (DMRs) to the Washington State Department of Ecology monthly, regardless of site discharge, for the full duration of permit coverage. Refer to Section S5.B of this General Permit for more specific information regarding DMRs.

<table>
<thead>
<tr>
<th>Document Title</th>
<th>Permit Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permit Coverage Letter</td>
<td>See Conditions S2, S5</td>
</tr>
<tr>
<td>Construction Stormwater General Permit</td>
<td>See Conditions S2, S5</td>
</tr>
<tr>
<td>Site Log Book</td>
<td>See Conditions S4, S5</td>
</tr>
<tr>
<td>Stormwater Pollution Prevention Plan (SWPPP)</td>
<td>See Conditions S9, S5</td>
</tr>
</tbody>
</table>
SPECIAL CONDITIONS

S1. PERMIT COVERAGE

A. Permit Area

This Construction Stormwater General Permit (CSWGP) covers all areas of Washington State, except for federal operators and Indian Country as specified in Special Condition S1.E.3.

B. Operators Required to Seek Coverage Under this General Permit:

1. Operators of the following construction activities are required to seek coverage under this CSWGP:

   a. Clearing, grading and/or excavation that results in the disturbance of one or more acres (including off-site disturbance acreage authorized in S1.C.2) and discharges stormwater to surface waters of the State; and clearing, grading and/or excavation on sites smaller than one acre that are part of a larger common plan of development or sale, if the common plan of development or sale will ultimately disturb one acre or more and discharge stormwater to surface waters of the State.

      i. This includes forest practices (including, but not limited to, class IV conversions) that are part of a construction activity that will result in the disturbance of one or more acres, and discharge to surface waters of the State (that is, forest practices that prepare a site for construction activities); and

   b. Any size construction activity discharging stormwater to waters of the State that the Washington State Department of Ecology (Ecology):

      i. Determines to be a significant contributor of pollutants to waters of the State of Washington.

      ii. Reasonably expects to cause a violation of any water quality standard.

2. Operators of the following activities are not required to seek coverage under this CSWGP (unless specifically required under Special Condition S1.B.1.b. above):

   a. Construction activities that discharge all stormwater and non-stormwater to ground water, sanitary sewer, or combined sewer, and have no point source discharge to either surface water or a storm sewer system that drains to surface waters of the State.

   b. Construction activities covered under an Erosivity Waiver (Special Condition S2.C).

   c. Routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.
C. Authorized Discharges:

1. *Stormwater Associated with Construction Activity.* Subject to compliance with the terms and conditions of this permit, Permittees are authorized to discharge stormwater associated with construction activity to surface waters of the State or to a storm sewer system that drains to surface waters of the State. (Note that “surface waters of the State” may exist on a construction site as well as off site; for example, a creek running through a site.)

2. *Stormwater Associated with Construction Support Activity.* This permit also authorizes stormwater discharge from support activities related to the permitted construction site (for example, an on-site portable rock crusher, off-site equipment staging yards, material storage areas, borrow areas, etc.) provided:
   a. The support activity relates directly to the permitted construction site that is required to have an NPDES permit; and
   b. The support activity is not a commercial operation serving multiple unrelated construction projects, and does not operate beyond the completion of the construction activity; and
   c. Appropriate controls and measures are identified in the Stormwater Pollution Prevention Plan (SWPPP) for the discharges from the support activity areas.

3. *Non-Stormwater Discharges.* The categories and sources of non-stormwater discharges identified below are authorized conditionally, provided the discharge is consistent with the terms and conditions of this permit:
   a. Discharges from fire-fighting activities.
   b. Fire hydrant system flushing.
   c. Potable water, including uncontaminated water line flushing.
   d. Hydrostatic test water.
   e. Uncontaminated air conditioning or compressor condensate.
   f. Uncontaminated ground water or spring water.
   g. Uncontaminated excavation dewatering water (in accordance with S9.D.10).
   h. Uncontaminated discharges from foundation or footing drains.
   i. Uncontaminated or potable water used to control dust. Permittees must minimize the amount of dust control water used.
   j. Routine external building wash down that does not use detergents.
   k. Landscape irrigation water.

The SWPPP must adequately address all authorized non-stormwater discharges, except for discharges from fire-fighting activities, and must comply with Special Condition S3.
At a minimum, discharges from potable water (including water line flushing), fire hydrant system flushing, and pipeline hydrostatic test water must undergo the following: dechlorination to a concentration of 0.1 parts per million (ppm) or less, and pH adjustment to within 6.5 – 8.5 standard units (su), if necessary.

D. Prohibited Discharges:

The following discharges to waters of the State, including ground water, are prohibited.

1. Concrete wastewater.
2. Wastewater from washout and clean-up of stucco, paint, form release oils, curing compounds and other construction materials.
3. Process wastewater as defined by 40 Code of Federal Regulations (CFR) 122.2 (see Appendix A of this permit).
4. Slurry materials and waste from shaft drilling, including process wastewater from shaft drilling for construction of building, road, and bridge foundations unless managed according to Special Condition S9.D.9.j.
5. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance.
6. Soaps or solvents used in vehicle and equipment washing.
8. Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, unless managed according to Special Condition S9.D.10.

E. Limits on Coverage

Ecology may require any discharger to apply for and obtain coverage under an individual permit or another more specific general permit. Such alternative coverage will be required when Ecology determines that this CSWGP does not provide adequate assurance that water quality will be protected, or there is a reasonable potential for the project to cause or contribute to a violation of water quality standards.

The following stormwater discharges are not covered by this permit:

1. Post-construction stormwater discharges that originate from the site after completion of construction activities and the site has undergone final stabilization.
2. Non-point source silvicultural activities such as nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, prescribed burning, pest and fire control, harvesting operations, surface drainage, or road construction and maintenance, from which there is natural runoff as excluded in 40 CFR Subpart 122.
3. Stormwater from any federal operator.
4. Stormwater from facilities located on “Indian Country” as defined in 18 U.S.C.§1151, except portions of the Puyallup Reservation as noted below.

Indian Country includes:

a. All land within any Indian Reservation notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation. This includes all federal, tribal, and Indian and non-Indian privately owned land within the reservation.

b. All off-reservation Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

c. All off-reservation federal trust lands held for Native American Tribes.

Puyallup Exception: Following the Puyallup Tribes of Indians Land Settlement Act of 1989, 25 U.S.C. §1773; the permit does apply to land within the Puyallup Reservation except for discharges to surface water on land held in trust by the federal government.

5. Stormwater from any site covered under an existing NPDES individual permit in which stormwater management and/or treatment requirements are included for all stormwater discharges associated with construction activity.

6. Stormwater from a site where an applicable Total Maximum Daily Load (TMDL) requirement specifically precludes or prohibits discharges from construction activity.

S2. APPLICATION REQUIREMENTS

A. Permit Application Forms

1. Notice of Intent Form/Timeline

a. Operators of new or previously unpermitted construction activities must submit a complete and accurate permit application (Notice of Intent, or NOI) to Ecology.

b. Operators must apply using the electronic application form (NOI) available on Ecology’s website http://www.ecy.wa.gov/programs/wq/stormwater/construction/index.html. Permittees unable to submit electronically (for example, those who do not have an internet connection) must contact Ecology to request a waiver and obtain instructions on how to obtain a paper NOI.

Department of Ecology
Water Quality Program - Construction Stormwater
PO Box 47696
Olympia, Washington  98504-7696
c. The operator must submit the NOI at least 60 days before discharging stormwater from construction activities and must submit it on or before the date of the first public notice (see Special Condition S2.B below for details). The 30-day public comment period begins on the publication date of the second public notice. Unless Ecology responds to the complete application in writing, based on public comments, or any other relevant factors, coverage under the general permit will automatically commence on the thirty-first day following receipt by Ecology of a completed NOI, or the issuance date of this permit, whichever is later; unless Ecology specifies a later date in writing as required by WAC173-226-200(2).

d. If an applicant intends to use a Best Management Practice (BMP) selected on the basis of Special Condition S9.C.4 (“demonstrably equivalent” BMPs), the applicant must notify Ecology of its selection as part of the NOI. In the event the applicant selects BMPs after submission of the NOI, it must provide notice of the selection of an equivalent BMP to Ecology at least 60 days before intended use of the equivalent BMP.

e. Permittees must notify Ecology regarding any changes to the information provided on the NOI by submitting an updated NOI. Examples of such changes include, but are not limited to:
   i. Changes to the Permittee’s mailing address,
   ii. Changes to the on-site contact person information, and
   iii. Changes to the area/acreage affected by construction activity.

f. Applicants must notify Ecology if they are aware of contaminated soils and/or groundwater associated with the construction activity. Provide detailed information with the NOI (as known and readily available) on the nature and extent of the contamination (concentrations, locations, and depth), as well as pollution prevention and/or treatment BMPs proposed to control the discharge of soil and/or groundwater contaminants in stormwater. Examples of such detail may include, but are not limited to:
   i. List or table of all known contaminants with laboratory test results showing concentration and depth,
   ii. Map with sample locations,
   iii. Temporary Erosion and Sediment Control (TESC) plans,
   iv. Related portions of the Stormwater Pollution Prevention Plan (SWPPP) that address the management of contaminated and potentially contaminated construction stormwater and dewatering water,
   v. Dewatering plan and/or dewatering contingency plan.
2. Transfer of Coverage Form

The Permittee can transfer current coverage under this permit to one or more new operators, including operators of sites within a Common Plan of Development, provided the Permittee submits a Transfer of Coverage Form in accordance with General Condition G9. Transfers do not require public notice.

B. Public Notice

For new or previously unpermitted construction activities, the applicant must publish a public notice at least one time each week for two consecutive weeks, at least 7 days apart, in a newspaper with general circulation in the county where the construction is to take place. The notice must contain:

1. A statement that “The applicant is seeking coverage under the Washington State Department of Ecology’s Construction Stormwater NPDES and State Waste Discharge General Permit”.

2. The name, address and location of the construction site.

3. The name and address of the applicant.

4. The type of construction activity that will result in a discharge (for example, residential construction, commercial construction, etc.), and the number of acres to be disturbed.

5. The name of the receiving water(s) (that is, the surface water(s) to which the site will discharge), or, if the discharge is through a storm sewer system, the name of the operator of the system.

6. The statement: “Any persons desiring to present their views to the Washington State Department of Ecology regarding this application, or interested in Ecology’s action on this application, may notify Ecology in writing no later than 30 days of the last date of publication of this notice. Ecology reviews public comments and considers whether discharges from this project would cause a measurable change in receiving water quality, and, if so, whether the project is necessary and in the overriding public interest according to Tier II antidegradation requirements under WAC 173-201A-320. Comments can be submitted to: Department of Ecology, PO Box 47696, Olympia, Washington 98504-7696 Attn: Water Quality Program, Construction Stormwater.”
C. Erosivity Waiver

Construction site operators may qualify for an erosivity waiver from the CSWGP if the following conditions are met:

1. The site will result in the disturbance of fewer than 5 acres and the site is not a portion of a common plan of development or sale that will disturb 5 acres or greater.

2. Calculation of Erosivity “R” Factor and Regional Timeframe:
   a. The project’s rainfall erosivity factor (“R” Factor) must be less than 5 during the period of construction activity, as calculated (see the CSWGP homepage http://www.ecy.wa.gov/programs/wq/stormwater/construction/index.html for a link to the EPA’s calculator and step by step instructions on computing the “R” Factor in the EPA Erosivity Waiver Fact Sheet). The period of construction activity starts when the land is first disturbed and ends with final stabilization. In addition:
      b. The entire period of construction activity must fall within the following timeframes:
         i. For sites west of the Cascades Crest: June 15 – September 15.
         ii. For sites east of the Cascades Crest, excluding the Central Basin: June 15 – October 15.
         iii. For sites east of the Cascades Crest, within the Central Basin: no additional timeframe restrictions apply. The Central Basin is defined as the portions of Eastern Washington with mean annual precipitation of less than 12 inches. For a map of the Central Basin (Average Annual Precipitation Region 2), refer to http://www.ecy.wa.gov/programs/wq/stormwater/construction/resourcesguidance.html.

3. Construction site operators must submit a complete Erosivity Waiver certification form at least one week before disturbing the land. Certification must include statements that the operator will:
   a. Comply with applicable local stormwater requirements; and
   b. Implement appropriate erosion and sediment control BMPs to prevent violations of water quality standards.

4. This waiver is not available for facilities declared significant contributors of pollutants as defined in Special Condition S1.B.1.b. or for any size construction activity that could reasonably expect to cause a violation of any water quality standard as defined in Special Condition S1.B.1.b.ii.

5. This waiver does not apply to construction activities which include non-stormwater discharges listed in Special Condition S1.C.3.
6. If construction activity extends beyond the certified waiver period for any reason, the operator must either:

a. Recalculate the rainfall erosivity “R” factor using the original start date and a new projected ending date and, if the “R” factor is still under 5 and the entire project falls within the applicable regional timeframe in Special Condition S2.C.2.b, complete and submit an amended waiver certification form before the original waiver expires; or

b. Submit a complete permit application to Ecology in accordance with Special Condition S2.A and B before the end of the certified waiver period.

S3. COMPLIANCE WITH STANDARDS

A. Discharges must not cause or contribute to a violation of surface water quality standards (Chapter 173-201A WAC), ground water quality standards (Chapter 173-200 WAC), sediment management standards (Chapter 173-204 WAC), and human health-based criteria in the National Toxics Rule (40 CFR Part 131.36). Discharges not in compliance with these standards are not authorized.

B. Prior to the discharge of stormwater and non-stormwater to waters of the State, the Permittee must apply all known, available, and reasonable methods of prevention, control, and treatment (AKART). This includes the preparation and implementation of an adequate SWPPP, with all appropriate BMPs installed and maintained in accordance with the SWPPP and the terms and conditions of this permit.

C. Ecology presumes that a Permittee complies with water quality standards unless discharge monitoring data or other site-specific information demonstrates that a discharge causes or contributes to a violation of water quality standards, when the Permittee complies with the following conditions. The Permittee must fully:

1. Comply with all permit conditions, including planning, sampling, monitoring, reporting, and recordkeeping conditions.

2. Implement stormwater BMPs contained in stormwater management manuals published or approved by Ecology, or BMPs that are demonstrably equivalent to BMPs contained in stormwater technical manuals published or approved by Ecology, including the proper selection, implementation, and maintenance of all applicable and appropriate BMPs for on-site pollution control. (For purposes of this section, the stormwater manuals listed in Appendix 10 of the Phase I Municipal Stormwater Permit are approved by Ecology.)

D. Where construction sites also discharge to ground water, the ground water discharges must also meet the terms and conditions of this CSWGP. Permittees who discharge to ground water through an injection well must also comply with any applicable requirements of the Underground Injection Control (UIC) regulations, Chapter 173-218 WAC.
S4. MONITORING REQUIREMENTS, BENCHMARKS AND REPORTING TRIGGERS

A. Site Log Book

The Permittee must maintain a site log book that contains a record of the implementation of the SWPPP and other permit requirements, including the installation and maintenance of BMPs, site inspections, and stormwater monitoring.

B. Site Inspections

The Permittee’s site inspections must include all areas disturbed by construction activities, all BMPs, and all stormwater discharge points under the Permittee’s operational control. (See Special Conditions S4.B.3 and B.4 below for detailed requirements of the Permittee’s Certified Erosion and Sediment Control Lead [CESCL].)

Construction sites one acre or larger that discharge stormwater to surface waters of the State must have site inspections conducted by a certified CESCL. Sites less than one acre may have a person without CESCL certification conduct inspections.

1. The Permittee must examine stormwater visually for the presence of suspended sediment, turbidity, discoloration, and oil sheen. The Permittee must evaluate the effectiveness of BMPs and determine if it is necessary to install, maintain, or repair BMPs to improve the quality of stormwater discharges.

Based on the results of the inspection, the Permittee must correct the problems identified by:

a. Reviewing the SWPPP for compliance with Special Condition S9 and making appropriate revisions within 7 days of the inspection.

b. Immediately beginning the process of fully implementing and maintaining appropriate source control and/or treatment BMPs as soon as possible, addressing the problems no later than within 10 days of the inspection. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when an extension is requested by a Permittee within the initial 10-day response period.

c. Documenting BMP implementation and maintenance in the site log book.

2. The Permittee must inspect all areas disturbed by construction activities, all BMPs, and all stormwater discharge points at least once every calendar week and within 24 hours of any discharge from the site. (For purposes of this condition, individual discharge events that last more than one day do not require daily inspections. For example, if a stormwater pond discharges continuously over the course of a week, only one inspection is required that week.) The Permittee may reduce the inspection frequency for temporarily stabilized, inactive sites to once every calendar month.
3. The Permittee must have staff knowledgeable in the principles and practices of erosion and sediment control. The CESCL (sites one acre or more) or inspector (sites less than one acre) must have the skills to assess the:

a. Site conditions and construction activities that could impact the quality of stormwater, and

b. Effectiveness of erosion and sediment control measures used to control the quality of stormwater discharges.

4. The SWPPP must identify the CESCL or inspector, who must be present on site or on-call at all times. The CESCL must obtain this certification through an approved erosion and sediment control training program that meets the minimum training standards established by Ecology (see BMP C160 in the manual referred to in Special Condition S9.C.1 and 2).

5. The Permittee must summarize the results of each inspection in an inspection report or checklist and enter the report/checklist into, or attach it to, the site log book. At a minimum, each inspection report or checklist must include:

a. Inspection date and time.

b. Weather information, the general conditions during inspection and the approximate amount of precipitation since the last inspection, and precipitation within the last 24 hours.

c. A summary or list of all implemented BMPs, including observations of all erosion/sediment control structures or practices.

d. A description of the locations:
   i. Of BMPs inspected;
   ii. Of BMPs that need maintenance and why;
   iii. Of BMPs that failed to operate as designed or intended; and
   iv. Where additional or different BMPs are needed, and why.

e. A description of stormwater discharged from the site. The Permittee must note the presence of suspended sediment, turbidity, discoloration, and oil sheen, as applicable.

f. Any water quality monitoring performed during inspection.

g. General comments and notes, including a brief description of any BMP repairs, maintenance or installations made following the inspection.

h. A summary report and a schedule of implementation of the remedial actions that the Permittee plans to take if the site inspection indicates that the site is out of compliance. The remedial actions taken must meet the requirements of the SWPPP and the permit.
i. The name, title, and signature of the person conducting the site inspection, a phone number or other reliable method to reach this person, and the following statement: “I certify that this report is true, accurate, and complete to the best of my knowledge and belief.”

Table 3: Summary of Primary Monitoring Requirements

<table>
<thead>
<tr>
<th>Size of Soil Disturbance</th>
<th>Weekly Site Inspections</th>
<th>Weekly Sampling w/ Turbidity Meter</th>
<th>Weekly Sampling w/ Transparency Tube</th>
<th>Weekly pH Sampling</th>
<th>CESCL Required for Inspections?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sites that disturb less than 1 acre, but are part of a larger Common Plan of Development</td>
<td>Required</td>
<td>Not Required</td>
<td>Not Required</td>
<td>Not Required</td>
<td>No</td>
</tr>
<tr>
<td>Sites that disturb 1 acre or more, but fewer than 5 acres</td>
<td>Required</td>
<td>Sampling Required – either method</td>
<td>Required</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Sites that disturb 5 acres or more</td>
<td>Required</td>
<td>Required</td>
<td>Not Required</td>
<td>Required</td>
<td>Yes</td>
</tr>
</tbody>
</table>

1 Soil disturbance is calculated by adding together all areas that will be affected by construction activity. Construction activity means clearing, grading, excavation, and any other activity that disturbs the surface of the land, including ingress/egress from the site.

2 If construction activity results in the disturbance of 1 acre or more, and involves significant concrete work (1,000 cubic yards of poured concrete or recycled concrete over the life of a project) or the use of engineered soils (soil amendments including but not limited to Portland cement-treated base [CTB], cement kiln dust [CKD], or fly ash), and stormwater from the affected area drains to surface waters of the State or to a storm sewer stormwater collection system that drains to other surface waters of the State, the Permittee must conduct pH sampling in accordance with Special Condition S4.D.

3 Sites with one or more acres, but fewer than 5 acres of soil disturbance, must conduct turbidity or transparency sampling in accordance with Special Condition S4.C.

4 Sites equal to or greater than 5 acres of soil disturbance must conduct turbidity sampling using a turbidity meter in accordance with Special Condition S4.C.
C. Turbidity/Transparency Sampling Requirements

1. Sampling Methods
   a. If construction activity involves the disturbance of 5 acres or more, the Permittee must conduct turbidity sampling per Special Condition S4.C.
   b. If construction activity involves 1 acre or more but fewer than 5 acres of soil disturbance, the Permittee must conduct either transparency sampling or turbidity sampling per Special Condition S4.C.

2. Sampling Frequency
   a. The Permittee must sample all discharge points at least once every calendar week when stormwater (or authorized non-stormwater) discharges from the site or enters any on-site surface waters of the state (for example, a creek running through a site); sampling is not required on sites that disturb less than an acre.
   b. Samples must be representative of the flow and characteristics of the discharge.
   c. Sampling is not required when there is no discharge during a calendar week.
   d. Sampling is not required outside of normal working hours or during unsafe conditions.
   e. If the Permittee is unable to sample during a monitoring period, the Permittee must include a brief explanation in the monthly Discharge Monitoring Report (DMR).
   f. Sampling is not required before construction activity begins.
   g. The Permittee may reduce the sampling frequency for temporarily stabilized, inactive sites to once every calendar month.

3. Sampling Locations
   a. Sampling is required at all points where stormwater associated with construction activity (or authorized non-stormwater) is discharged off site, including where it enters any on-site surface waters of the state (for example, a creek running through a site).
   b. The Permittee may discontinue sampling at discharge points that drain areas of the project that are fully stabilized to prevent erosion.
   c. The Permittee must identify all sampling point(s) on the SWPPP site map and clearly mark these points in the field with a flag, tape, stake or other visible marker.
   d. Sampling is not required for discharge that is sent directly to sanitary or combined sewer systems.
e. The Permittee may discontinue sampling at discharge points in areas of the project where the Permittee no longer has operational control of the construction activity.

4. Sampling and Analysis Methods

a. The Permittee performs turbidity analysis with a calibrated turbidity meter (turbidimeter) either on site or at an accredited lab. The Permittee must record the results in the site log book in nephelometric turbidity units (NTUs).

b. The Permittee performs transparency analysis on site with a 1¾-inch-diameter, 60-centimeter (cm)-long transparency tube. The Permittee will record the results in the site log book in centimeters (cm).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unit</th>
<th>Analytical Method</th>
<th>Sampling Frequency</th>
<th>Benchmark Value</th>
<th>Phone Reporting Trigger Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turbidity</td>
<td>NTU</td>
<td>SM2130</td>
<td>Weekly, if discharging</td>
<td>25 NTUs</td>
<td>250 NTUs</td>
</tr>
<tr>
<td>Transparency</td>
<td>cm</td>
<td>Manufacturer instructions, or Ecology guidance</td>
<td>Weekly, if discharging</td>
<td>33 cm</td>
<td>6 cm</td>
</tr>
</tbody>
</table>

5. Turbidity/Transparency Benchmark Values and Reporting Triggers

The benchmark value for turbidity is 25 NTUs or less. The benchmark value for transparency is 33 centimeters (cm). Note: Benchmark values do not apply to discharges to segments of water bodies on Washington State’s 303(d) list (Category 5) for turbidity, fine sediment, or phosphorus; these discharges are subject to a numeric effluent limit for turbidity. Refer to Special Condition S8 for more information.

a. Turbidity 26 – 249 NTUs, or Transparency 32 – 7 cm:

   i. Review the SWPPP for compliance with Special Condition S9 and make appropriate revisions within 7 days of the date the discharge exceeded the benchmark.

   ii. Immediately begin the process to fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, addressing the problems within 10 days of the date the discharge exceeded the benchmark. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when the Permittee requests an extension within the initial 10-day response period.
iii. Document BMP implementation and maintenance in the site log book.

b. Turbidity 250 NTUs or greater, or Transparency 6 cm or less:

   If a discharge point’s turbidity is 250 NTUs or greater, or if discharge transparency is less than or equal to 6 cm, the Permittee must complete the reporting and adaptive management process described below.

   i. Telephone or submit an electronic report to the applicable Ecology Region’s Environmental Report Tracking System (ERTS) number (or through Ecology’s Water Quality Permitting Portal [WQWebPortal] – Permit Submittals when the form is available) within 24 hours, in accordance with Special Condition S5.A.

      - **Central Region** (Okanogan, Chelan, Douglas, Kittitas, Yakima, Klickitat, Benton): (509) 575-2490
      - **Eastern Region** (Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman): (509) 329-3400
      - **Northwest Region** (Kitsap, Snohomish, Island, King, San Juan, Skagit, Whatcom): (425) 649-7000
      - **Southwest Region** (Grays Harbor, Lewis, Mason, Thurston, Pierce, Clark, Cowlitz, Skamania, Wahkiakum, Clallam, Jefferson, Pacific): (360) 407-6300

      Links to these numbers and the ERTS reporting page are located on the following web site:

   ii. Review the SWPPP for compliance with Special Condition S9 and make appropriate revisions within 7 days of the date the discharge exceeded the benchmark.

   iii. Immediately begin the process to fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, addressing the problems within 10 days of the date the discharge exceeded the benchmark. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when the Permittee requests an extension within the initial 10-day response period.


   v. Sample discharges daily until:

      a) Turbidity is 25 NTUs (or lower); **or**

      b) Transparency is 33 cm (or greater); **or**
c) The Permittee has demonstrated compliance with the water quality limit for turbidity:
   1) No more than 5 NTUs over background turbidity, if background is less than 50 NTUs, \textit{or}
   2) No more than 10\% over background turbidity, if background is 50 NTUs or greater; \textit{or}

d) The discharge stops or is eliminated.

D. pH Sampling Requirements – Significant Concrete Work or Engineered Soils

If construction activity results in the disturbance of 1 acre or more, \textit{and} involves significant concrete work (significant concrete work means greater than 1000 cubic yards poured concrete or recycled concrete used over the life of a project) or the use of engineered soils (soil amendments including but not limited to Portland cement-treated base [CTB], cement kiln dust [CKD], or fly ash), and stormwater from the affected area drains to surface waters of the State or to a storm sewer system that drains to surface waters of the State, the Permittee must conduct pH sampling as set forth below. Note: In addition, discharges to segments of water bodies on Washington State’s 303(d) list (Category 5) for high pH are subject to a numeric effluent limit for pH; refer to Special Condition S8.

1. For sites with significant concrete work, the Permittee must begin the pH sampling period when the concrete is first poured and exposed to precipitation, and continue weekly throughout and after the concrete pour and curing period, until stormwater pH is in the range of 6.5 to 8.5 (su).

2. For sites with recycled concrete where monitoring is required, the Permittee must begin the weekly pH sampling period when the recycled concrete is first exposed to precipitation and must continue until the recycled concrete is fully stabilized with the stormwater pH in the range of 6.5 to 8.5 (su).

3. For sites with engineered soils, the Permittee must begin the pH sampling period when the soil amendments are first exposed to precipitation and must continue until the area of engineered soils is fully stabilized.

4. During the applicable pH monitoring period defined above, the Permittee must obtain a representative sample of stormwater and conduct pH analysis at least once per week.

5. The Permittee must sample pH in the sediment trap/pond(s) or other locations that receive stormwater runoff from the area of significant concrete work or engineered soils before the stormwater discharges to surface waters.

6. The benchmark value for pH is 8.5 standard units. Anytime sampling indicates that pH is 8.5 or greater, the Permittee must either:
a. Prevent the high pH water (8.5 or above) from entering storm sewer systems or surface waters; or

b. If necessary, adjust or neutralize the high pH water until it is in the range of pH 6.5 to 8.5 (su) using an appropriate treatment BMP such as carbon dioxide (CO₂) sparging or dry ice. The Permittee must obtain written approval from Ecology before using any form of chemical treatment other than CO₂ sparging or dry ice.

7. The Permittee must perform pH analysis on site with a calibrated pH meter, pH test kit, or wide range pH indicator paper. The Permittee must record pH sampling results in the site log book.

S5. REPORTING AND RECORDKEEPING REQUIREMENTS

A. High Turbidity Reporting

Anytime sampling performed in accordance with Special Condition S4.C indicates turbidity has reached the 250 NTUs or more (or transparency less than or equal to 6 cm) high turbidity reporting level, the Permittee must either call the applicable Ecology Region’s Environmental Report Tracking System (ERTS) number by phone within 24 hours of analysis or submit an electronic ERTS report (or submit an electronic report through Ecology’s Water Quality Permitting Portal (WQWebPortal) – Permit Submittals when the form is available). See the CSWGP web site for links to ERTS and the WQWebPortal: http://www.ecy.wa.gov/programs/wq/stormwater/construction/index.html. Also, see phone numbers in Special Condition S4.C.5.b.i.

B. Discharge Monitoring Reports (DMRs)

Permittees required to conduct water quality sampling in accordance with Special Conditions S4.C (Turbidity/Transparency), S4.D (pH), S8 (303[d]/TMDL sampling), and/or G13 (Additional Sampling) must submit the results to Ecology.


Permittees unable to submit electronically (for example, those who do not have an internet connection) must contact Ecology to request a waiver and obtain instructions on how to obtain a paper copy DMR at:

Department of Ecology
Water Quality Program - Construction Stormwater
PO Box 47696
Olympia, Washington  98504-7696

Permittees who obtain a waiver not to use WQWebDMR must use the forms provided to them by Ecology; submittals must be mailed to the address above. Permittees shall
submit DMR forms to be received by Ecology within 15 days following the end of each month.

If there was no discharge during a given monitoring period, all Permittees must submit a DMR as required with “no discharge” entered in place of the monitoring results. DMRs are required for the full duration of permit coverage (from issuance date to termination). For more information, contact Ecology staff using information provided at the following web site: www.ecy.wa.gov/programs/wq/permits/paris/contacts.html.

C. Records Retention

The Permittee must retain records of all monitoring information (site log book, sampling results, inspection reports/checklists, etc.), Stormwater Pollution Prevention Plan, copy of the permit coverage letter (including Transfer of Coverage documentation), and any other documentation of compliance with permit requirements for the entire life of the construction project and for a minimum of three years following the termination of permit coverage. Such information must include all calibration and maintenance records, and records of all data used to complete the application for this permit. This period of retention must be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology.

D. Recording Results

For each measurement or sample taken, the Permittee must record the following information:

1. Date, place, method, and time of sampling or measurement.
2. The first and last name of the individual who performed the sampling or measurement.
3. The date(s) the analyses were performed.
4. The first and last name of the individual who performed the analyses.
5. The analytical techniques or methods used.
6. The results of all analyses.

E. Additional Monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by this permit using test procedures specified by Special Condition S4 of this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the Permittee’s DMR.

F. Noncompliance Notification

In the event the Permittee is unable to comply with any part of the terms and conditions of this permit, and the resulting noncompliance may cause a threat to human health or the environment (such as but not limited to spills of fuels or other materials, catastrophic pond or slope failure, and discharges that violate water quality standards), or exceed
numeric effluent limitations (see S8. Discharges to 303(d) or TMDL Waterbodies), the Permittee must, upon becoming aware of the circumstance:

1. Notify Ecology within 24-hours of the failure to comply by calling the applicable Regional office ERTS phone number (refer to Special Condition S4.C.5.b.i. or www.ecy.wa.gov/programs/wq/stormwater/construction/turbidity.html for Regional ERTS phone numbers).

2. Immediately take action to prevent the discharge/pollution, or otherwise stop or correct the noncompliance, and, if applicable, repeat sampling and analysis of any noncompliance immediately and submit the results to Ecology within five (5) days of becoming aware of the violation.

3. Submit a detailed written report to Ecology within five (5) days, of the time the Permittee becomes aware of the circumstances, unless requested earlier by Ecology. The report must be submitted using Ecology’s Water Quality Permitting Portal (WQWebPortal) - Permit Submittals, unless a waiver from electronic reporting has been granted according to S5.B. The report must contain a description of the noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Permittee must report any unanticipated bypass and/or upset that exceeds any effluent limit in the permit in accordance with the 24-hour reporting requirement contained in 40 C.F.R. 122.41(l)(6).

Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply. Upon request of the Permittee, Ecology may waive the requirement for a written report on a case-by-case basis, if the immediate notification is received by Ecology within 24 hours.

G. Access to Plans and Records

1. The Permittee must retain the following permit documentation (plans and records) on site, or within reasonable access to the site, for use by the operator or for on-site review by Ecology or the local jurisdiction:
   
   a. General Permit
   
   b. Permit Coverage Letter
   
   c. Stormwater Pollution Prevention Plan (SWPPP)
   
   d. Site Log Book

2. The Permittee must address written requests for plans and records listed above (Special Condition S5.G.1) as follows:
a. The Permittee must provide a copy of plans and records to Ecology within 14 days of receipt of a written request from Ecology.

b. The Permittee must provide a copy of plans and records to the public when requested in writing. Upon receiving a written request from the public for the Permittee’s plans and records, the Permittee must either:
   i. Provide a copy of the plans and records to the requester within 14 days of a receipt of the written request; or
   ii. Notify the requester within 10 days of receipt of the written request of the location and times within normal business hours when the plans and records may be viewed; and provide access to the plans and records within 14 days of receipt of the written request; or
   iii. Within 14 days of receipt of the written request, the Permittee may submit a copy of the plans and records to Ecology for viewing and/or copying by the requester at an Ecology office, or a mutually agreed location. If plans and records are viewed and/or copied at a location other than at an Ecology office, the Permittee will provide reasonable access to copying services for which a reasonable fee may be charged. The Permittee must notify the requester within 10 days of receipt of the request where the plans and records may be viewed and/or copied.

S6. PERMIT FEES

The Permittee must pay permit fees assessed by Ecology. Fees for stormwater discharges covered under this permit are established by Chapter 173-224 WAC. Ecology continues to assess permit fees until the permit is terminated in accordance with Special Condition S10 or revoked in accordance with General Condition G5.

S7. SOLID AND LIQUID WASTE DISPOSAL

The Permittee must handle and dispose of solid and liquid wastes generated by construction activity, such as demolition debris, construction materials, contaminated materials, and waste materials from maintenance activities, including liquids and solids from cleaning catch basins and other stormwater facilities, in accordance with:

A. Special Condition S3, Compliance with Standards

B. WAC 173-216-110

C. Other applicable regulations

S8. DISCHARGES TO 303(d) OR TMDL WATERBODIES

A. Sampling and Numeric Effluent Limits For Certain Discharges to 303(d)-listed Waterbodies
1. Permittees who discharge to segments of waterbodies listed as impaired by the State of Washington under Section 303(d) of the Clean Water Act for turbidity, fine sediment, high pH, or phosphorus, must conduct water quality sampling according to the requirements of this section, and Special Conditions S4.C.2.b-f and S4.C.3.b-d, and must comply with the applicable numeric effluent limitations in S8.C and S8.D.

2. All references and requirements associated with Section 303(d) of the Clean Water Act mean the most current listing by Ecology of impaired waters (Category 5) that exists on January 1, 2016, or the date when the operator’s complete permit application is received by Ecology, whichever is later.

B. Limits on Coverage for New Discharges to TMDL or 303(d)-listed Waters

Operators of construction sites that discharge to a TMDL or 303(d)-listed waterbody are not eligible for coverage under this permit unless the operator:

1. Prevents exposing stormwater to pollutants for which the waterbody is impaired, and retains documentation in the SWPPP that details procedures taken to prevent exposure on site; or

2. Documents that the pollutants for which the waterbody is impaired are not present at the site, and retains documentation of this finding within the SWPPP; or

3. Provides Ecology with data indicating the discharge is not expected to cause or contribute to an exceedance of a water quality standard, and retains such data on site with the SWPPP. The operator must provide data and other technical information to Ecology that sufficiently demonstrate:

   a. For discharges to waters without an EPA-approved or -established TMDL, that the discharge of the pollutant for which the water is impaired will meet in-stream water quality criteria at the point of discharge to the waterbody; or

   b. For discharges to waters with an EPA-approved or -established TMDL, that there is sufficient remaining wasteload allocation in the TMDL to allow construction stormwater discharge and that existing dischargers to the waterbody are subject to compliance schedules designed to bring the waterbody into attainment with water quality standards.

Operators of construction sites are eligible for coverage under this permit if Ecology issues permit coverage based upon an affirmative determination that the discharge will not cause or contribute to the existing impairment.

C. Sampling and Numeric Effluent Limits for Discharges to Water Bodies on the 303(d) List for Turbidity, Fine Sediment, or Phosphorus

1. Permittees who discharge to segments of water bodies on the 303(d) list (Category 5) for turbidity, fine sediment, or phosphorus must conduct turbidity sampling in accordance with Special Condition S4.C.2 and comply with either of the numeric effluent limits noted in Table 5 below.
2. As an alternative to the 25 NTUs effluent limit noted in Table 5 below (applied at the point where stormwater [or authorized non-stormwater] is discharged off-site), Permittees may choose to comply with the surface water quality standard for turbidity. The standard is: no more than 5 NTUs over background turbidity when the background turbidity is 50 NTUs or less, or no more than a 10% increase in turbidity when the background turbidity is more than 50 NTUs. In order to use the water quality standard requirement, the sampling must take place at the following locations:

a. Background turbidity in the 303(d)-listed receiving water immediately upstream (upgradient) or outside the area of influence of the discharge.

b. Turbidity at the point of discharge into the 303(d)-listed receiving water, inside the area of influence of the discharge.

3. Discharges that exceed the numeric effluent limit for turbidity constitute a violation of this permit.

4. Permittees whose discharges exceed the numeric effluent limit shall sample discharges daily until the violation is corrected and comply with the non-compliance notification requirements in Special Condition S5.F.

Table 5: Turbidity, Fine Sediment & Phosphorus Sampling and Limits for 303(d)-Listed Waters

<table>
<thead>
<tr>
<th>Parameter identified in 303(d) listing</th>
<th>Parameter Sampled</th>
<th>Unit</th>
<th>Analytical Method</th>
<th>Sampling Frequency</th>
<th>Numeric Effluent Limit¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turbidity</td>
<td>Turbidity</td>
<td>NTU</td>
<td>SM2130</td>
<td>Weekly, if discharging</td>
<td>25 NTUs, at the point where stormwater is discharged from the site; OR In compliance with the surface water quality standard for turbidity (S8.C.2.a)</td>
</tr>
<tr>
<td>Fine Sediment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phosphorus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹Permittees subject to a numeric effluent limit for turbidity may, at their discretion, choose either numeric effluent limitation based on site-specific considerations including, but not limited to, safety, access and convenience.

D. Discharges to Water Bodies on the 303(d) List for High pH

1. Permittees who discharge to segments of water bodies on the 303(d) list (Category 5) for high pH must conduct pH sampling in accordance with the table below, and comply with the numeric effluent limit of pH 6.5 to 8.5 su (Table 6).
Table 6: pH Sampling and Limits for 303(d)-Listed Waters

<table>
<thead>
<tr>
<th>Parameter identified in 303(d) listing</th>
<th>Parameter Sampled/Units</th>
<th>Analytical Method</th>
<th>Sampling Frequency</th>
<th>Numeric Effluent Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>High pH</td>
<td>pH /Standard Units</td>
<td>pH meter</td>
<td>Weekly, if discharging</td>
<td>In the range of 6.5 – 8.5</td>
</tr>
</tbody>
</table>

2. At the Permittee’s discretion, compliance with the limit shall be assessed at one of the following locations:
   a. Directly in the 303(d)-listed waterbody segment, inside the immediate area of influence of the discharge; or
   b. Alternatively, the Permittee may measure pH at the point where the discharge leaves the construction site, rather than in the receiving water.

3. Discharges that exceed the numeric effluent limit for pH (outside the range of 6.5 – 8.5 su) constitute a violation of this permit.

4. Permittees whose discharges exceed the numeric effluent limit shall sample discharges daily until the violation is corrected and comply with the non-compliance notification requirements in Special Condition S5.F.

E. Sampling and Limits for Sites Discharging to Waters Covered by a TMDL or Another Pollution Control Plan

1. Discharges to a waterbody that is subject to a Total Maximum Daily Load (TMDL) for turbidity, fine sediment, high pH, or phosphorus must be consistent with the TMDL. Refer to [http://www.ecy.wa.gov/programs/wq/tmdl/TMDLsbyWria/TMDLbyWria.html](http://www.ecy.wa.gov/programs/wq/tmdl/TMDLsbyWria/TMDLbyWria.html) for more information on TMDLs.
   a. Where an applicable TMDL sets specific waste load allocations or requirements for discharges covered by this permit, discharges must be consistent with any specific waste load allocations or requirements established by the applicable TMDL.
      i. The Permittee must sample discharges weekly or as otherwise specified by the TMDL to evaluate compliance with the specific waste load allocations or requirements.
      ii. Analytical methods used to meet the monitoring requirements must conform to the latest revision of the Guidelines Establishing Test Procedures for the Analysis of Pollutants contained in 40 CFR Part 136. Turbidity and pH methods need not be accredited or registered unless conducted at a laboratory which must otherwise be accredited or registered.
   b. Where an applicable TMDL has established a general waste load allocation for construction stormwater discharges, but has not identified specific requirements,
compliance with Special Conditions S4 (Monitoring) and S9 (SWPPPs) will constitute compliance with the approved TMDL.

c. Where an applicable TMDL has not specified a waste load allocation for construction stormwater discharges, but has not excluded these discharges, compliance with Special Conditions S4 (Monitoring) and S9 (SWPPPs) will constitute compliance with the approved TMDL.

d. Where an applicable TMDL specifically precludes or prohibits discharges from construction activity, the operator is not eligible for coverage under this permit.

2. Applicable TMDL means a TMDL for turbidity, fine sediment, high pH, or phosphorus that is completed and approved by EPA before January 1, 2016, or before the date the operator’s complete permit application is received by Ecology, whichever is later. TMDLs completed after the operator’s complete permit application is received by Ecology become applicable to the Permittee only if they are imposed through an administrative order by Ecology, or through a modification of permit coverage.

S9. STORMWATER POLLUTION PREVENTION PLAN

The Permittee must prepare and properly implement an adequate Stormwater Pollution Prevention Plan (SWPPP) for construction activity in accordance with the requirements of this permit beginning with initial soil disturbance and until final stabilization.

A. The Permittee’s SWPPP must meet the following objectives:

1. To implement best management practices (BMPs) to prevent erosion and sedimentation, and to identify, reduce, eliminate or prevent stormwater contamination and water pollution from construction activity.

2. To prevent violations of surface water quality, ground water quality, or sediment management standards.

3. To control peak volumetric flow rates and velocities of stormwater discharges.

B. General Requirements

1. The SWPPP must include a narrative and drawings. All BMPs must be clearly referenced in the narrative and marked on the drawings. The SWPPP narrative must include documentation to explain and justify the pollution prevention decisions made for the project. Documentation must include:

   a. Information about existing site conditions (topography, drainage, soils, vegetation, etc.).

   b. Potential erosion problem areas.

   c. The 13 elements of a SWPPP in Special Condition S9.D.1-13, including BMPs used to address each element.
d. Construction phasing/sequence and general BMP implementation schedule.

e. The actions to be taken if BMP performance goals are not achieved—for example, a contingency plan for additional treatment and/or storage of stormwater that would violate the water quality standards if discharged.

f. Engineering calculations for ponds, treatment systems, and any other designed structures. When a treatment system requires engineering calculations, these calculations must be included in the SWPPP. Engineering calculations do not need to be included in the SWPPP for treatment systems that do not require such calculations.

2. The Permittee must modify the SWPPP if, during inspections or investigations conducted by the owner/operator, or the applicable local or state regulatory authority, it is determined that the SWPPP is, or would be, ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the site. The Permittee must then:

a. Review the SWPPP for compliance with Special Condition S9 and make appropriate revisions within 7 days of the inspection or investigation.

b. Immediately begin the process to fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, addressing the problems no later than 10 days from the inspection or investigation. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when an extension is requested by a Permittee within the initial 10-day response period.


The Permittee must modify the SWPPP whenever there is a change in design, construction, operation, or maintenance at the construction site that has, or could have, a significant effect on the discharge of pollutants to waters of the State.

C. Stormwater Best Management Practices (BMPs)

BMPs must be consistent with:

1. Stormwater Management Manual for Western Washington (most current approved edition at the time this permit was issued), for sites west of the crest of the Cascade Mountains; or

2. Stormwater Management Manual for Eastern Washington (most current approved edition at the time this permit was issued), for sites east of the crest of the Cascade Mountains; or

3. Revisions to the manuals listed in Special Condition S9.C.1. & 2., or other stormwater management guidance documents or manuals which provide an equivalent level of pollution prevention, that are approved by Ecology and incorporated into this permit in accordance with the permit modification requirements of WAC 173-226-230; or
4. Documentation in the SWPPP that the BMPs selected provide an equivalent level of pollution prevention, compared to the applicable Stormwater Management Manuals, including:
   a. The technical basis for the selection of all stormwater BMPs (scientific, technical studies, and/or modeling) that support the performance claims for the BMPs being selected.
   b. An assessment of how the selected BMP will satisfy AKART requirements and the applicable federal technology-based treatment requirements under 40 CFR part 125.3.

D. SWPPP – Narrative Contents and Requirements

The Permittee must include each of the 13 elements below in Special Condition S9.D.1-13 in the narrative of the SWPPP and implement them unless site conditions render the element unnecessary and the exemption from that element is clearly justified in the SWPPP.

1. Preserve Vegetation/Mark Clearing Limits
   a. Before beginning land-disturbing activities, including clearing and grading, clearly mark all clearing limits, sensitive areas and their buffers, and trees that are to be preserved within the construction area.
   b. Retain the duff layer, native topsoil, and natural vegetation in an undisturbed state to the maximum degree practicable.

2. Establish Construction Access
   a. Limit construction vehicle access and exit to one route, if possible.
   b. Stabilize access points with a pad of quarry spalls, crushed rock, or other equivalent BMPs, to minimize tracking sediment onto roads.
   c. Locate wheel wash or tire baths on site, if the stabilized construction entrance is not effective in preventing tracking sediment onto roads.
   d. If sediment is tracked off site, clean the affected roadway thoroughly at the end of each day, or more frequently as necessary (for example, during wet weather). Remove sediment from roads by shoveling, sweeping, or pickup and transport of the sediment to a controlled sediment disposal area.
   e. Conduct street washing only after sediment removal in accordance with Special Condition S9.D.2.d. Control street wash wastewater by pumping back on site or otherwise preventing it from discharging into systems tributary to waters of the State.

3. Control Flow Rates
   a. Protect properties and waterways downstream of development sites from erosion and the associated discharge of turbid waters due to increases in the
velocity and peak volumetric flow rate of stormwater runoff from the project site, as required by local plan approval authority.

b. Where necessary to comply with Special Condition S9.D.3.a, construct stormwater retention or detention facilities as one of the first steps in grading. Assure that detention facilities function properly before constructing site improvements (for example, impervious surfaces).

c. If permanent infiltration ponds are used for flow control during construction, protect these facilities from siltation during the construction phase.

4. Install Sediment Controls

The Permittee must design, install and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants. At a minimum, the Permittee must design, install and maintain such controls to:

a. Construct sediment control BMPs (sediment ponds, traps, filters, infiltration facilities, etc.) as one of the first steps in grading. These BMPs must be functional before other land disturbing activities take place.

b. Minimize sediment discharges from the site. The design, installation and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site.

c. Direct stormwater runoff from disturbed areas through a sediment pond or other appropriate sediment removal BMP, before the runoff leaves a construction site or before discharge to an infiltration facility. Runoff from fully stabilized areas may be discharged without a sediment removal BMP, but must meet the flow control performance standard of Special Condition S9.D.3.a.

d. Locate BMPs intended to trap sediment on site in a manner to avoid interference with the movement of juvenile salmonids attempting to enter off-channel areas or drainages.

e. Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, unless infeasible.

f. Where feasible, design outlet structures that withdraw impounded stormwater from the surface to avoid discharging sediment that is still suspended lower in the water column.

5. Stabilize Soils

a. The Permittee must stabilize exposed and unworked soils by application of effective BMPs that prevent erosion. Applicable BMPs include, but are not limited to: temporary and permanent seeding, sodding, mulching, plastic covering, erosion control fabrics and matting, soil application of polyacrylamide
(PAM), the early application of gravel base on areas to be paved, and dust control.

b. The Permittee must control stormwater volume and velocity within the site to minimize soil erosion.

c. The Permittee must control stormwater discharges, including both peak flow rates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and stream bank erosion.

d. Depending on the geographic location of the project, the Permittee must not allow soils to remain exposed and unworked for more than the time periods set forth below to prevent erosion:

   West of the Cascade Mountains Crest
   During the dry season (May 1 - September 30): 7 days
   During the wet season (October 1 - April 30): 2 days

   East of the Cascade Mountains Crest, except for Central Basin*
   During the dry season (July 1 - September 30): 10 days
   During the wet season (October 1 - June 30): 5 days

   The Central Basin*, East of the Cascade Mountains Crest
   During the dry season (July 1 - September 30): 30 days
   During the wet season (October 1 - June 30): 15 days

   *Note: The Central Basin is defined as the portions of Eastern Washington with mean annual precipitation of less than 12 inches.

e. The Permittee must stabilize soils at the end of the shift before a holiday or weekend if needed based on the weather forecast.

f. The Permittee must stabilize soil stockpiles from erosion, protected with sediment trapping measures, and where possible, be located away from storm drain inlets, waterways, and drainage channels.

g. The Permittee must minimize the amount of soil exposed during construction activity.

h. The Permittee must minimize the disturbance of steep slopes.

i. The Permittee must minimize soil compaction and, unless infeasible, preserve topsoil.

6. Protect Slopes

a. The Permittee must design and construct cut-and-fill slopes in a manner to minimize erosion. Applicable practices include, but are not limited to, reducing continuous length of slope with terracing and diversions, reducing slope steepness, and roughening slope surfaces (for example, track walking).
b. The Permittee must divert off-site stormwater (run-on) or ground water away from slopes and disturbed areas with interceptor dikes, pipes, and/or swales. Off-site stormwater should be managed separately from stormwater generated on the site.

c. At the top of slopes, collect drainage in pipe slope drains or protected channels to prevent erosion.

   i. West of the Cascade Mountains Crest: Temporary pipe slope drains must handle the peak 10-minute flow rate from a Type 1A, 10-year, 24-hour frequency storm for the developed condition. Alternatively, the 10-year, 1-hour flow rate predicted by an approved continuous runoff model, increased by a factor of 1.6, may be used. The hydrologic analysis must use the existing land cover condition for predicting flow rates from tributary areas outside the project limits. For tributary areas on the project site, the analysis must use the temporary or permanent project land cover condition, whichever will produce the highest flow rates. If using the Western Washington Hydrology Model (WWHM) to predict flows, bare soil areas should be modeled as "landscaped area."

   ii. East of the Cascade Mountains Crest: Temporary pipe slope drains must handle the expected peak flow rate from a 6-month, 3-hour storm for the developed condition, referred to as the short duration storm.

d. Place excavated material on the uphill side of trenches, consistent with safety and space considerations.

e. Place check dams at regular intervals within constructed channels that are cut down a slope.

7. Protect Drain Inlets

   a. Protect all storm drain inlets made operable during construction so that stormwater runoff does not enter the conveyance system without first being filtered or treated to remove sediment.

   b. Clean or remove and replace inlet protection devices when sediment has filled one-third of the available storage (unless a different standard is specified by the product manufacturer).

8. Stabilize Channels and Outlets

   a. Design, construct and stabilize all on-site conveyance channels to prevent erosion from the following expected peak flows:

      i. West of the Cascade Mountains Crest: Channels must handle the peak 10-minute flow rate from a Type 1A, 10-year, 24-hour frequency storm for the developed condition. Alternatively, the 10-year, 1-hour flow rate indicated by an approved continuous runoff model, increased by a factor of 1.6, may be used. The hydrologic analysis must use the existing land cover condition for predicting flow rates from tributary areas outside the project limits. For tributary areas on the project site, the analysis must use the temporary or permanent project land cover condition, whichever will produce the highest flow rates. If using the Western Washington Hydrology Model (WWHM) to predict flows, bare soil areas should be modeled as "landscaped area."
cover condition for predicting flow rates from tributary areas outside the project limits. For tributary areas on the project site, the analysis must use the temporary or permanent project land cover condition, whichever will produce the highest flow rates. If using the WWHM to predict flows, bare soil areas should be modeled as "landscaped area."

ii. East of the Cascade Mountains Crest: Channels must handle the expected peak flow rate from a 6-month, 3-hour storm for the developed condition, referred to as the short duration storm.

b. Provide stabilization, including armoring material, adequate to prevent erosion of outlets, adjacent stream banks, slopes, and downstream reaches at the outlets of all conveyance systems.

9. Control Pollutants

Design, install, implement and maintain effective pollution prevention measures to minimize the discharge of pollutants. The Permittee must:

a. Handle and dispose of all pollutants, including waste materials and demolition debris that occur on site in a manner that does not cause contamination of stormwater.

b. Provide cover, containment, and protection from vandalism for all chemicals, liquid products, petroleum products, and other materials that have the potential to pose a threat to human health or the environment. On-site fueling tanks must include secondary containment. Secondary containment means placing tanks or containers within an impervious structure capable of containing 110% of the volume contained in the largest tank within the containment structure. Double-walled tanks do not require additional secondary containment.

c. Conduct maintenance, fueling, and repair of heavy equipment and vehicles using spill prevention and control measures. Clean contaminated surfaces immediately following any spill incident.

d. Discharge wheel wash or tire bath wastewater to a separate on-site treatment system that prevents discharge to surface water, such as closed-loop recirculation or upland land application, or to the sanitary sewer with local sewer district approval.

e. Apply fertilizers and pesticides in a manner and at application rates that will not result in loss of chemical to stormwater runoff. Follow manufacturers’ label requirements for application rates and procedures.

f. Use BMPs to prevent contamination of stormwater runoff by pH-modifying sources. The sources for this contamination include, but are not limited to: bulk cement, cement kiln dust, fly ash, new concrete washing and curing waters, recycled concrete stockpiles, waste streams generated from concrete grinding and sawing, exposed aggregate processes, dewatering concrete vaults, concrete
pumping and mixer washout waters. (Also refer to the definition for "concrete wastewater" in Appendix A--Definitions.)

g. Adjust the pH of stormwater or authorized non-stormwater if necessary to prevent an exceedance of groundwater and/or surface water quality standards.

h. Assure that washout of concrete trucks is performed off-site or in designated concrete washout areas only. Do not wash out concrete truck drums or concrete handling equipment onto the ground, or into storm drains, open ditches, streets, or streams. Washout of concrete handling equipment may be disposed of in a designated concrete washout area or in a formed area awaiting concrete where it will not contaminate surface or ground water. Do not dump excess concrete on site, except in designated concrete washout areas. Concrete spillage or concrete discharge directly to groundwater or surface waters of the State is prohibited. Do not wash out to formed areas awaiting LID facilities.

i. Obtain written approval from Ecology before using any chemical treatment, with the exception of CO₂ or dry ice used to adjust pH.

j. Uncontaminated water from water-only based shaft drilling for construction of building, road, and bridge foundations may be infiltrated provided the wastewater is managed in a way that prohibits discharge to surface waters. Prior to infiltration, water from water-only based shaft drilling that comes into contact with curing concrete must be neutralized until pH is in the range of 6.5 to 8.5 (su).

10. Control Dewatering

   a. Permittees must discharge foundation, vault, and trench dewatering water, which have characteristics similar to stormwater runoff at the site, into a controlled conveyance system before discharge to a sediment trap or sediment pond.

   b. Permittees may discharge clean, non-turbid dewatering water, such as well-point ground water, to systems tributary to, or directly into surface waters of the State, as specified in Special Condition S9.D.8, provided the dewatering flow does not cause erosion or flooding of receiving waters. Do not route clean dewatering water through stormwater sediment ponds. Note that “surface waters of the State” may exist on a construction site as well as off site; for example, a creek running through a site.

   c. Other dewatering treatment or disposal options may include:

      i. Infiltration.

      ii. Transport off site in a vehicle, such as a vacuum flush truck, for legal disposal in a manner that does not pollute state waters.
iii. Ecology-approved on-site chemical treatment or other suitable treatment technologies (see S9.D.9.i. regarding chemical treatment written approval).

iv. Sanitary or combined sewer discharge with local sewer district approval, if there is no other option.

v. Use of a sedimentation bag with discharge to a ditch or swale for small volumes of localized dewatering.

d. Permittees must handle highly turbid or contaminated dewatering water separately from stormwater.

11. Maintain BMPs

   a. Permittees must maintain and repair all temporary and permanent erosion and sediment control BMPs as needed to assure continued performance of their intended function in accordance with BMP specifications.

   b. Permittees must remove all temporary erosion and sediment control BMPs within 30 days after achieving final site stabilization or after the temporary BMPs are no longer needed.

12. Manage the Project

   a. Phase development projects to the maximum degree practicable and take into account seasonal work limitations.

   b. Inspection and monitoring – Inspect, maintain and repair all BMPs as needed to assure continued performance of their intended function. Conduct site inspections and monitoring in accordance with Special Condition S4.

   c. Maintaining an updated construction SWPPP – Maintain, update, and implement the SWPPP in accordance with Special Conditions S3, S4 and S9.

13. Protect Low Impact Development (LID) BMPs

   The primary purpose of LID BMPs/On-site LID Stormwater Management BMPs is to reduce the disruption of the natural site hydrology. LID BMPs are permanent facilities.

   a. Permittees must protect all Bioretention and Rain Garden facilities from sedimentation through installation and maintenance of erosion and sediment control BMPs on portions of the site that drain into the Bioretention and/or Rain Garden facilities. Restore the facilities to their fully functioning condition if they accumulate sediment during construction. Restoring the facility must include removal of sediment and any sediment-laden Bioretention/Rain Garden soils, and replacing the removed soils with soils meeting the design specification.
b. Permittees must maintain the infiltration capabilities of Bioretention and Rain Garden facilities by protecting against compaction by construction equipment and foot traffic. Protect completed lawn and landscaped areas from compaction due to construction equipment.

c. Permittees must control erosion and avoid introducing sediment from surrounding land uses onto permeable pavements. Do not allow muddy construction equipment on the base material or pavement. Do not allow sediment-laden runoff onto permeable pavements.

d. Permittees must clean permeable pavements fouled with sediments or no longer passing an initial infiltration test using local stormwater manual methodology or the manufacturer’s procedures.

e. Permittees must keep all heavy equipment off existing soils under LID facilities that have been excavated to final grade to retain the infiltration rate of the soils.

E. SWPPP – Map Contents and Requirements

The Permittee’s SWPPP must also include a vicinity map or general location map (for example, a USGS quadrangle map, a portion of a county or city map, or other appropriate map) with enough detail to identify the location of the construction site and receiving waters within one mile of the site.

The SWPPP must also include a legible site map (or maps) showing the entire construction site. The following features must be identified, unless not applicable due to site conditions:

1. The direction of north, property lines, and existing structures and roads.
2. Cut and fill slopes indicating the top and bottom of slope catch lines.
3. Approximate slopes, contours, and direction of stormwater flow before and after major grading activities.
4. Areas of soil disturbance and areas that will not be disturbed.
5. Locations of structural and nonstructural controls (BMPs) identified in the SWPPP.
6. Locations of off-site material, stockpiles, waste storage, borrow areas, and vehicle/equipment storage areas.
7. Locations of all surface water bodies, including wetlands.
8. Locations where stormwater or non-stormwater discharges off-site and/or to a surface waterbody, including wetlands.
9. Location of water quality sampling station(s), if sampling is required by state or local permitting authority.
10. Areas where final stabilization has been accomplished and no further construction-phase permit requirements apply.

11. Location or proposed location of LID facilities.

**S10. NOTICE OF TERMINATION**

A. The site is eligible for termination of coverage when it has met any of the following conditions:

1. The site has undergone final stabilization, the Permittee has removed all temporary BMPs (except biodegradable BMPs clearly manufactured with the intention for the material to be left in place and not interfere with maintenance or land use), and all stormwater discharges associated with construction activity have been eliminated; or

2. All portions of the site that have not undergone final stabilization per Special Condition S10.A.1 have been sold and/or transferred (per General Condition G9), and the Permittee no longer has operational control of the construction activity; or

3. For residential construction only, the Permittee has completed temporary stabilization and the homeowners have taken possession of the residences.

B. When the site is eligible for termination, the Permittee must submit a complete and accurate Notice of Termination (NOT) form, signed in accordance with General Condition G2, to:

   Department of Ecology  
   Water Quality Program – Construction Stormwater  
   PO Box 47696  
   Olympia, Washington 98504-7696

When an electronic termination form is available, the Permittee may choose to submit a complete and accurate Notice of Termination (NOT) form through the Water Quality Permitting Portal rather than mailing a hardcopy as noted above.

The termination is effective on the thirty-first calendar day following the date Ecology receives a complete NOT form, unless Ecology notifies the Permittee that the termination request is denied because the Permittee has not met the eligibility requirements in Special Condition S10.A.

Permittees are required to comply with all conditions and effluent limitations in the permit until the permit has been terminated.

Permittees transferring the property to a new property owner or operator/Permittee are required to complete and submit the Notice of Transfer form to Ecology, but are not required to submit a Notice of Termination form for this type of transaction.
GENERAL CONDITIONS

G1. DISCHARGE VIOLATIONS

All discharges and activities authorized by this general permit must be consistent with the terms and conditions of this general permit. Any discharge of any pollutant more frequent than or at a level in excess of that identified and authorized by the general permit must constitute a violation of the terms and conditions of this permit.

G2. SIGNATORY REQUIREMENTS

A. All permit applications must bear a certification of correctness to be signed:
   1. In the case of corporations, by a responsible corporate officer;
   2. In the case of a partnership, by a general partner of a partnership;
   3. In the case of sole proprietorship, by the proprietor; or
   4. In the case of a municipal, state, or other public facility, by either a principal executive officer or ranking elected official.

B. All reports required by this permit and other information requested by Ecology (including NOIs, NOTs, and Transfer of Coverage forms) must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
   1. The authorization is made in writing by a person described above and submitted to Ecology.
   2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

C. Changes to authorization. If an authorization under paragraph G2.B.2 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph G2.B.2 above must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.

D. Certification. Any person signing a document under this section must make the following certification:

   “I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my
knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

G3. RIGHT OF INSPECTION AND ENTRY

The Permittee must allow an authorized representative of Ecology, upon the presentation of credentials and such other documents as may be required by law:

A. To enter upon the premises where a discharge is located or where any records are kept under the terms and conditions of this permit.

B. To have access to and copy – at reasonable times and at reasonable cost – any records required to be kept under the terms and conditions of this permit.

C. To inspect – at reasonable times – any facilities, equipment (including monitoring and control equipment), practices, methods, or operations regulated or required under this permit.

D. To sample or monitor – at reasonable times – any substances or parameters at any location for purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act.

G4. GENERAL PERMIT MODIFICATION AND REVOCATION

This permit may be modified, revoked and reissued, or terminated in accordance with the provisions of Chapter 173-226 WAC. Grounds for modification, revocation and reissuance, or termination include, but are not limited to, the following:

A. When a change occurs in the technology or practices for control or abatement of pollutants applicable to the category of dischargers covered under this permit.

B. When effluent limitation guidelines or standards are promulgated pursuant to the CWA or Chapter 90.48 RCW, for the category of dischargers covered under this permit.

C. When a water quality management plan containing requirements applicable to the category of dischargers covered under this permit is approved, or

D. When information is obtained that indicates cumulative effects on the environment from dischargers covered under this permit are unacceptable.

G5. REVOCATION OF COVERAGE UNDER THE PERMIT

Pursuant to Chapter 43.21B RCW and Chapter 173-226 WAC, the Director may terminate coverage for any discharger under this permit for cause. Cases where coverage may be terminated include, but are not limited to, the following:

A. Violation of any term or condition of this permit.

B. Obtaining coverage under this permit by misrepresentation or failure to disclose fully all relevant facts.
C. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

D. Failure or refusal of the Permittee to allow entry as required in RCW 90.48.090.

E. A determination that the permitted activity endangers human health or the environment, or contributes to water quality standards violations.

F. Nonpayment of permit fees or penalties assessed pursuant to RCW 90.48.465 and Chapter 173-224 WAC.

G. Failure of the Permittee to satisfy the public notice requirements of WAC 173-226-130(5), when applicable.

The Director may require any discharger under this permit to apply for and obtain coverage under an individual permit or another more specific general permit. Permittees who have their coverage revoked for cause according to WAC 173-226-240 may request temporary coverage under this permit during the time an individual permit is being developed, provided the request is made within ninety (90) days from the time of revocation and is submitted along with a complete individual permit application form.

G6. REPORTING A CAUSE FOR MODIFICATION

The Permittee must submit a new application, or a supplement to the previous application, whenever a material change to the construction activity or in the quantity or type of discharge is anticipated which is not specifically authorized by this permit. This application must be submitted at least sixty (60) days prior to any proposed changes. Filing a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not relieve the Permittee of the duty to comply with the existing permit until it is modified or reissued.

G7. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in this permit will be construed as excusing the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G8. DUTY TO REAPPLY

The Permittee must apply for permit renewal at least 180 days prior to the specified expiration date of this permit. The Permittee must reapply using the electronic application form (NOI) available on Ecology’s website. Permittees unable to submit electronically (for example, those who do not have an internet connection) must contact Ecology to request a waiver and obtain instructions on how to obtain a paper NOI.

Department of Ecology
Water Quality Program - Construction Stormwater
PO Box 47696
Olympia, Washington 98504-7696
G9. TRANSFER OF GENERAL PERMIT COVERAGE

Coverage under this general permit is automatically transferred to a new discharger, including operators of lots/parcels within a common plan of development or sale, if:

A. A written agreement (Transfer of Coverage Form) between the current discharger (Permittee) and new discharger, signed by both parties and containing a specific date for transfer of permit responsibility, coverage, and liability (including any Administrative Orders associated with the Permit) is submitted to the Director; and

B. The Director does not notify the current discharger and new discharger of the Director’s intent to revoke coverage under the general permit. If this notice is not given, the transfer is effective on the date specified in the written agreement.

When a current discharger (Permittee) transfers a portion of a permitted site, the current discharger must also submit an updated application form (NOI) to the Director indicating the remaining permitted acreage after the transfer.

G10. REMOVED SUBSTANCES

The Permittee must not re-suspend or reintroduce collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of stormwater to the final effluent stream for discharge to state waters.

G11. DUTY TO PROVIDE INFORMATION

The Permittee must submit to Ecology, within a reasonable time, all information that Ecology may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee must also submit to Ecology, upon request, copies of records required to be kept by this permit [40 CFR 122.41(h)].

G12. OTHER REQUIREMENTS OF 40 CFR

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this permit by reference.

G13. ADDITIONAL MONITORING

Ecology may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

G14. PENALTIES FOR VIOLATING PERMIT CONDITIONS

Any person who is found guilty of willfully violating the terms and conditions of this permit shall be deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to ten thousand dollars ($10,000) and costs of prosecution, or by imprisonment at the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.
Any person who violates the terms and conditions of a waste discharge permit shall incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars ($10,000) for every such violation. Each and every such violation shall be a separate and distinct offense, and in case of a continuing violation, every day’s continuance shall be deemed to be a separate and distinct violation.

G15. UPSET

Definition – “Upset” means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of the following paragraph are met.

A Permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that: 1) an upset occurred and that the Permittee can identify the cause(s) of the upset; 2) the permitted facility was being properly operated at the time of the upset; 3) the Permittee submitted notice of the upset as required in Special Condition S5.F, and; 4) the Permittee complied with any remedial measures required under this permit.

In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

G16. PROPERTY RIGHTS

This permit does not convey any property rights of any sort, or any exclusive privilege.

G17. DUTY TO COMPLY

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

G18. TOXIC POLLUTANTS

The Permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.
G19. PENALTIES FOR TAMPERING

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this condition, punishment shall be a fine of not more than $20,000 per day of violation, or imprisonment of not more than four (4) years, or both.

G20. REPORTING PLANNED CHANGES

The Permittee must, as soon as possible, give notice to Ecology of planned physical alterations, modifications or additions to the permitted construction activity. The Permittee should be aware that, depending on the nature and size of the changes to the original permit, a new public notice and other permit process requirements may be required. Changes in activities that require reporting to Ecology include those that will result in:

A. The permitted facility being determined to be a new source pursuant to 40 CFR 122.29(b).

B. A significant change in the nature or an increase in quantity of pollutants discharged, including but not limited to: for sites 5 acres or larger, a 20% or greater increase in acreage disturbed by construction activity.

C. A change in or addition of surface water(s) receiving stormwater or non-stormwater from the construction activity.

D. A change in the construction plans and/or activity that affects the Permittee’s monitoring requirements in Special Condition S4.

Following such notice, permit coverage may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

G21. REPORTING OTHER INFORMATION

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to Ecology, it must promptly submit such facts or information.

G22. REPORTING ANTICIPATED NON-COMPLIANCE

The Permittee must give advance notice to Ecology by submission of a new application or supplement thereto at least forty-five (45) days prior to commencement of such discharges, of any facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility or activity which may result in noncompliance with permit limits or conditions. Any maintenance of facilities, which might necessitate
unavoidable interruption of operation and degradation of effluent quality, must be scheduled during non-critical water quality periods and carried out in a manner approved by Ecology.

G23. REQUESTS TO BE EXCLUDED FROM COVERAGE UNDER THE PERMIT

Any discharger authorized by this permit may request to be excluded from coverage under the general permit by applying for an individual permit. The discharger must submit to the Director an application as described in WAC 173-220-040 or WAC 173-216-070, whichever is applicable, with reasons supporting the request. These reasons will fully document how an individual permit will apply to the applicant in a way that the general permit cannot. Ecology may make specific requests for information to support the request. The Director will either issue an individual permit or deny the request with a statement explaining the reason for the denial. When an individual permit is issued to a discharger otherwise subject to the construction stormwater general permit, the applicability of the construction stormwater general permit to that Permittee is automatically terminated on the effective date of the individual permit.

G24. APPEALS

A. The terms and conditions of this general permit, as they apply to the appropriate class of dischargers, are subject to appeal by any person within 30 days of issuance of this general permit, in accordance with Chapter 43.21B RCW, and Chapter 173-226 WAC.

B. The terms and conditions of this general permit, as they apply to an individual discharger, are appealable in accordance with Chapter 43.21B RCW within 30 days of the effective date of coverage of that discharger. Consideration of an appeal of general permit coverage of an individual discharger is limited to the general permit’s applicability or nonapplicability to that individual discharger.

C. The appeal of general permit coverage of an individual discharger does not affect any other dischargers covered under this general permit. If the terms and conditions of this general permit are found to be inapplicable to any individual discharger(s), the matter shall be remanded to Ecology for consideration of issuance of an individual permit or permits.

G25. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

G26. BYPASS PROHIBITED

A. Bypass Procedures

Bypass, which is the intentional diversion of waste streams from any portion of a treatment facility, is prohibited for stormwater events below the design criteria for
stormwater management. Ecology may take enforcement action against a Permittee for bypass unless one of the following circumstances (1, 2, 3 or 4) is applicable.

1. Bypass of stormwater is consistent with the design criteria and part of an approved management practice in the applicable stormwater management manual.

2. Bypass for essential maintenance without the potential to cause violation of permit limits or conditions.

   Bypass is authorized if it is for essential maintenance and does not have the potential to cause violations of limitations or other conditions of this permit, or adversely impact public health.

3. Bypass of stormwater is unavoidable, unanticipated, and results in noncompliance of this permit.

   This bypass is permitted only if:

   a. Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.

   b. There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, maintenance during normal periods of equipment downtime (but not if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance), or transport of untreated wastes to another treatment facility.

   c. Ecology is properly notified of the bypass as required in Special Condition S5.F of this permit.

4. A planned action that would cause bypass of stormwater and has the potential to result in noncompliance of this permit during a storm event.

   The Permittee must notify Ecology at least thirty (30) days before the planned date of bypass. The notice must contain:

   a. A description of the bypass and its cause.

   b. An analysis of all known alternatives which would eliminate, reduce, or mitigate the need for bypassing.

   c. A cost-effectiveness analysis of alternatives including comparative resource damage assessment.

   d. The minimum and maximum duration of bypass under each alternative.

   e. A recommendation as to the preferred alternative for conducting the bypass.
f. The projected date of bypass initiation.

g. A statement of compliance with SEPA.

h. A request for modification of water quality standards as provided for in WAC 173-201A-110, if an exceedance of any water quality standard is anticipated.

i. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass.

5. For probable construction bypasses, the need to bypass is to be identified as early in the planning process as possible. The analysis required above must be considered during preparation of the Stormwater Pollution Prevention Plan (SWPPP) and must be included to the extent practical. In cases where the probable need to bypass is determined early, continued analysis is necessary up to and including the construction period in an effort to minimize or eliminate the bypass.

Ecology will consider the following before issuing an administrative order for this type bypass:

a. If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of this permit.

b. If there are feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment facility.

c. If the bypass is planned and scheduled to minimize adverse effects on the public and the environment.

After consideration of the above and the adverse effects of the proposed bypass and any other relevant factors, Ecology will approve, conditionally approve, or deny the request. The public must be notified and given an opportunity to comment on bypass incidents of significant duration, to the extent feasible. Approval of a request to bypass will be by administrative order issued by Ecology under RCW 90.48.120.

B. Duty to Mitigate

The Permittee is required to take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.
APPENDIX A – DEFINITIONS

AKART is an acronym for “all known, available, and reasonable methods of prevention, control, and treatment.” AKART represents the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants and controlling pollution associated with a discharge.

Applicable TMDL means a TMDL for turbidity, fine sediment, high pH, or phosphorus, which was completed and approved by EPA before January 1, 2016, or before the date the operator’s complete permit application is received by Ecology, whichever is later.

Applicant means an operator seeking coverage under this permit.

Benchmark means a pollutant concentration used as a permit threshold, below which a pollutant is considered unlikely to cause a water quality violation, and above which it may. When pollutant concentrations exceed benchmarks, corrective action requirements take effect. Benchmark values are not water quality standards and are not numeric effluent limitations; they are indicator values.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: stormwater associated with construction activity, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Buffer means an area designated by a local jurisdiction that is contiguous to and intended to protect a sensitive area.

Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

Calendar Day A period of 24 consecutive hours starting at 12:00 midnight and ending the following 12:00 midnight.

Calendar Week (same as Week) means a period of seven consecutive days starting at 12:01 a.m. (0:01 hours) on Sunday.

Certified Erosion and Sediment Control Lead (CESCL) means a person who has current certification through an approved erosion and sediment control training program that meets the minimum training standards established by Ecology (see BMP C160 in the SWMM).

Chemical Treatment means the addition of chemicals to stormwater and/or authorized non-stormwater prior to filtration and discharge to surface waters.

Clean Water Act (CWA) means the Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, and 97-117; USC 1251 et seq.

Combined Sewer means a sewer which has been designed to serve as a sanitary sewer and a storm sewer, and into which inflow is allowed by local ordinance.
Common Plan of Development or Sale means a site where multiple separate and distinct construction activities may be taking place at different times on different schedules and/or by different contractors, but still under a single plan. Examples include: 1) phased projects and projects with multiple filings or lots, even if the separate phases or filings/ lots will be constructed under separate contract or by separate owners (e.g., a development where lots are sold to separate builders); 2) a development plan that may be phased over multiple years, but is still under a consistent plan for long-term development; 3) projects in a contiguous area that may be unrelated but still under the same contract, such as construction of a building extension and a new parking lot at the same facility; and 4) linear projects such as roads, pipelines, or utilities. If the project is part of a common plan of development or sale, the disturbed area of the entire plan must be used in determining permit requirements.

Composite Sample means a mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite" (collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increases while maintaining a constant time interval between the aliquots.

Concrete Wastewater means any water used in the production, pouring and/or clean-up of concrete or concrete products, and any water used to cut, grind, wash, or otherwise modify concrete or concrete products. Examples include water used for or resulting from concrete truck/mixer/pumper/tool/chute rinsing or washing, concrete saw cutting and surfacing (sawing, coring, grinding, roughening, hydro-demolition, bridge and road surfacing). When stormwater comingles with concrete wastewater, the resulting water is considered concrete wastewater and must be managed to prevent discharge to waters of the State, including ground water.

Construction Activity means land disturbing operations including clearing, grading or excavation which disturbs the surface of the land. Such activities may include road construction, construction of residential houses, office buildings, or industrial buildings, site preparation, soil compaction, movement and stockpiling of topsoils, and demolition activity.

Contaminant means any hazardous substance that does not occur naturally or occurs at greater than natural background levels. See definition of “hazardous substance” and WAC 173-340-200.

Contaminated Groundwater means groundwater which contains contaminants, pollutants, or hazardous substances that do not occur naturally or occur at levels greater than natural background.

Contaminated Soil means soil which contains contaminants, pollutants, or hazardous substances that do not occur naturally or occur at levels greater than natural background.

Demonstrably Equivalent means that the technical basis for the selection of all stormwater BMPs is documented within a SWPPP, including:

1. The method and reasons for choosing the stormwater BMPs selected.
2. The pollutant removal performance expected from the BMPs selected.

3. The technical basis supporting the performance claims for the BMPs selected, including any available data concerning field performance of the BMPs selected.

4. An assessment of how the selected BMPs will comply with state water quality standards.

5. An assessment of how the selected BMPs will satisfy both applicable federal technology-based treatment requirements and state requirements to use all known, available, and reasonable methods of prevention, control, and treatment (AKART).

**Department** means the Washington State Department of Ecology.

**Detention** means the temporary storage of stormwater to improve quality and/or to reduce the mass flow rate of discharge.

**Dewatering** means the act of pumping ground water or stormwater away from an active construction site.

**Director** means the Director of the Washington State Department of Ecology or his/her authorized representative.

**Discharger** means an owner or operator of any facility or activity subject to regulation under Chapter 90.48 RCW or the Federal Clean Water Act.

**Domestic Wastewater** means water carrying human wastes, including kitchen, bath, and laundry wastes from residences, buildings, industrial establishments, or other places, together with such ground water infiltration or surface waters as may be present.

**Ecology** means the Washington State Department of Ecology.

**Engineered Soils** means the use of soil amendments including, but not limited, to Portland cement treated base (CTB), cement kiln dust (CKD), or fly ash to achieve certain desirable soil characteristics.

**Equivalent BMPs** means operational, source control, treatment, or innovative BMPs which result in equal or better quality of stormwater discharge to surface water or to ground water than BMPs selected from the SWMM.

**Erosion** means the wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitational creep.

**Erosion and Sediment Control BMPs** means BMPs intended to prevent erosion and sedimentation, such as preserving natural vegetation, seeding, mulching and matting, plastic covering, filter fences, sediment traps, and ponds. Erosion and sediment control BMPs are synonymous with stabilization and structural BMPs.

**Federal Operator** is an entity that meets the definition of “Operator” in this permit and is either any department, agency or instrumentality of the executive, legislative, and judicial branches of
the Federal government of the United States, or another entity, such as a private contractor,
performing construction activity for any such department, agency, or instrumentality.

**Final Stabilization** (same as fully stabilized or full stabilization) means the establishment of a
permanent vegetative cover, or equivalent permanent stabilization measures (examples of
permanent non-vegetative stabilization methods include, but are not limited to riprap, gabions or
geotextiles) which prevents erosion.

**Ground Water** means water in a saturated zone or stratum beneath the land surface or a surface
waterbody.

**Hazardous Substance** means any dangerous or extremely hazardous waste as defined in RCW
70.105.010(5) and (6), or any dangerous or extremely dangerous waste as designated by rule under
chapter 70.105 RCW; any hazardous substance as defined by rule under chapter 70.105 RCW; any substance that, on the
effective date of this section, is a hazardous substance under section 101(14) of the federal cleanup
law, 42 U.S.C., Sec. 9601(14); petroleum or petroleum products; and any substance or category of
substances, including solid waste decomposition products, determined by the director by rule to
present a threat to human health or the environment if released into the environment. The term
hazardous substance does not include any of the following when contained in an underground
storage tank from which there is not a release: crude oil or any fraction thereof or petroleum, if the
tank is in compliance with all applicable federal, state, and local law.

**Injection Well** means a well that is used for the subsurface emplacement of fluids. (See Well.)

**Jurisdiction** means a political unit such as a city, town or county; incorporated for local self-
government.

**National Pollutant Discharge Elimination System (NPDES)** means the national program for
issuing, modifying, revoking and reissuing, terminating, monitoring, and enforcing permits, and
imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the
Federal Clean Water Act, for the discharge of pollutants to surface waters of the State from point
sources. These permits are referred to as NPDES permits and, in Washington State, are
administered by the Washington State Department of Ecology.

**Notice of Intent (NOI)** means the application for, or a request for coverage under this general
permit pursuant to WAC 173-226-200.

**Notice of Termination (NOT)** means a request for termination of coverage under this general
permit as specified by Special Condition S10 of this permit.

**Operator** means any party associated with a construction project that meets either of the
following two criteria:

- The party has operational control over construction plans and specifications, including
the ability to make modifications to those plans and specifications; or
• The party has day-to-day operational control of those activities at a project that are necessary to ensure compliance with a SWPPP for the site or other permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the SWPPP or comply with other permit conditions).

**Permittee** means individual or entity that receives notice of coverage under this general permit.

**pH** means a liquid’s measure of acidity or alkalinity. A pH of 7 is defined as neutral. Large variations above or below this value are considered harmful to most aquatic life.

**pH Monitoring Period** means the time period in which the pH of stormwater runoff from a site must be tested a minimum of once every seven days to determine if stormwater pH is between 6.5 and 8.5.

**Point Source** means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, and container from which pollutants are or may be discharged to surface waters of the State. This term does not include return flows from irrigated agriculture. (See Fact Sheet for further explanation.)

**Pollutant** means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, domestic sewage sludge (biosolids), munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste. This term does not include sewage from vessels within the meaning of section 312 of the CWA, nor does it include dredged or fill material discharged in accordance with a permit issued under section 404 of the CWA.

**Pollution** means contamination or other alteration of the physical, chemical, or biological properties of waters of the State; including change in temperature, taste, color, turbidity, or odor of the waters; or such discharge of any liquid, gaseous, solid, radioactive or other substance into any waters of the State as will or is likely to create a nuisance or render such waters harmful, detrimental or injurious to the public health, safety or welfare; or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses; or to livestock, wild animals, birds, fish or other aquatic life.

**Process Wastewater** means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. If stormwater commingles with process wastewater, the commingled water is considered process wastewater.

**Receiving Water** means the waterbody at the point of discharge. If the discharge is to a storm sewer system, either surface or subsurface, the receiving water is the waterbody to which the storm system discharges. Systems designed primarily for other purposes such as for ground water drainage, redirecting stream natural flows, or for conveyance of irrigation water/return flows that coincidentally convey stormwater are considered the receiving water.
Representative means a stormwater or wastewater sample which represents the flow and characteristics of the discharge. Representative samples may be a grab sample, a time-proportionate composite sample, or a flow proportionate sample. Ecology’s Construction Stormwater Monitoring Manual provides guidance on representative sampling.

Responsible Corporate Officer for the purpose of signatory authority means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Sanitary Sewer means a sewer which is designed to convey domestic wastewater.

Sediment means the fragmented material that originates from the weathering and erosion of rocks or unconsolidated deposits, and is transported by, suspended in, or deposited by water.

Sedimentation means the depositing or formation of sediment.

Sensitive Area means a waterbody, wetland, stream, aquifer recharge area, or channel migration zone.

SEPA (State Environmental Policy Act) means the Washington State Law, RCW 43.21C.020, intended to prevent or eliminate damage to the environment.

Significant Amount means an amount of a pollutant in a discharge that is amenable to available and reasonable methods of prevention or treatment; or an amount of a pollutant that has a reasonable potential to cause a violation of surface or ground water quality or sediment management standards.

Significant Concrete Work means greater than 1000 cubic yards poured concrete or recycled concrete used over the life of a project.

Significant Contributor of Pollutants means a facility determined by Ecology to be a contributor of a significant amount(s) of a pollutant(s) to waters of the State of Washington.

Site means the land or water area where any "facility or activity" is physically located or conducted.

Source Control BMPs means physical, structural or mechanical devices or facilities that are intended to prevent pollutants from entering stormwater. A few examples of source control
BMPs are erosion control practices, maintenance of stormwater facilities, constructing roofs over storage and working areas, and directing wash water and similar discharges to the sanitary sewer or a dead end sump.

**Stabilization** means the application of appropriate BMPs to prevent the erosion of soils, such as, temporary and permanent seeding, vegetative covers, mulching and matting, plastic covering and sodding. See also the definition of Erosion and Sediment Control BMPs.

**Storm Drain** means any drain which drains directly into a storm sewer system, usually found along roadways or in parking lots.

**Storm Sewer System** means a conveyance, or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains designed or used for collecting or conveying stormwater. This does not include systems which are part of a combined sewer or Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

**Stormwater** means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a stormwater drainage system into a defined surface waterbody, or a constructed infiltration facility.

**Stormwater Management Manual (SWMM) or Manual** means the technical Manual published by Ecology for use by local governments that contain descriptions of and design criteria for BMPs to prevent, control, or treat pollutants in stormwater.

**Stormwater Pollution Prevention Plan (SWPPP)** means a documented plan to implement measures to identify, prevent, and control the contamination of point source discharges of stormwater.

**Surface Waters of the State** includes lakes, rivers, ponds, streams, inland waters, salt waters, and all other surface waters and water courses within the jurisdiction of the State of Washington.

**Temporary Stabilization** means the exposed ground surface has been covered with appropriate materials to provide temporary stabilization of the surface from water or wind erosion. Materials include, but are not limited to, mulch, riprap, erosion control mats or blankets and temporary cover crops. Seeding alone is not considered stabilization. Temporary stabilization is not a substitute for the more permanent “final stabilization.”

**Total Maximum Daily Load (TMDL)** means a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet state water quality standards. Percentages of the total maximum daily load are allocated to the various pollutant sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The TMDL calculations must include a "margin of safety" to ensure that the waterbody can be protected in case there are unforeseen events or unknown sources of the pollutant. The calculation must also account for seasonable variation in water quality.
**Transfer of Coverage (TOC)** means a request for transfer of coverage under this general permit as specified by General Condition G9 of this permit.

**Treatment BMPs** means BMPs that are intended to remove *pollutants* from *stormwater*. A few examples of treatment BMPs are detention ponds, oil/water separators, biofiltration, and constructed wetlands.

**Transparency** means a measurement of water clarity in centimeters (cm), using a 60 cm transparency tube. The transparency tube is used to estimate the relative clarity or transparency of water by noting the depth at which a black and white Secchi disc becomes visible when water is released from a value in the bottom of the tube. A transparency tube is sometimes referred to as a “turbidity tube.”

**Turbidity** means the clarity of water expressed as nephelometric turbidity units (NTUs) and measured with a calibrated turbidimeter.

**Uncontaminated** means free from any contaminant. See definition of “*contaminant*” and WAC 173-340-200.

**Waste Load Allocation (WLA)** means the portion of a receiving water’s loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality based effluent limitation (40 CFR 130.2[h]).

**Water-only Based Shaft Drilling** is a shaft drilling process that uses water only and no additives are involved in the drilling of shafts for construction of building, road, or bridge foundations.

**Water quality** means the chemical, physical, and biological characteristics of water, usually with respect to its suitability for a particular purpose.

**Waters of the State** includes those waters as defined as "waters of the United States" in 40 CFR Subpart 122.2 within the geographic boundaries of Washington State and "waters of the State" as defined in Chapter 90.48 RCW, which include lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and water courses within the jurisdiction of the state of Washington.

**Well** means a bored, drilled or driven shaft, or dug hole whose depth is greater than the largest surface dimension. (See Injection well.)

**Wheel Wash Wastewater** means any water used in, or resulting from the operation of, a tire bath or wheel wash (BMP C106: Wheel Wash), or other structure or practice that uses water to physically remove mud and debris from vehicles leaving a construction site and prevent track-out onto roads. When *stormwater* comingles with wheel wash wastewater, the resulting water is considered wheel wash wastewater and must be managed according to Special Condition S9.D.9.
## APPENDIX B – ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AKART</td>
<td>All Known, Available, and Reasonable Methods of Prevention, Control, and Treatment</td>
</tr>
<tr>
<td>BMP</td>
<td>Best Management Practice</td>
</tr>
<tr>
<td>CESCL</td>
<td>Certified Erosion and Sediment Control Lead</td>
</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
</tr>
<tr>
<td>CKD</td>
<td>Cement Kiln Dust</td>
</tr>
<tr>
<td>cm</td>
<td>Centimeters</td>
</tr>
<tr>
<td>CTB</td>
<td>Cement-Treated Base</td>
</tr>
<tr>
<td>CWA</td>
<td>Clean Water Act</td>
</tr>
<tr>
<td>DMR</td>
<td>Discharge Monitoring Report</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
</tr>
<tr>
<td>ERTS</td>
<td>Environmental Report Tracking System</td>
</tr>
<tr>
<td>ESC</td>
<td>Erosion and Sediment Control</td>
</tr>
<tr>
<td>FR</td>
<td>Federal Register</td>
</tr>
<tr>
<td>LID</td>
<td>Low Impact Development</td>
</tr>
<tr>
<td>NOI</td>
<td>Notice of Intent</td>
</tr>
<tr>
<td>NOT</td>
<td>Notice of Termination</td>
</tr>
<tr>
<td>NPDES</td>
<td>National Pollutant Discharge Elimination System</td>
</tr>
<tr>
<td>NTU</td>
<td>Nephelometric Turbidity Unit</td>
</tr>
<tr>
<td>RCW</td>
<td>Revised Code of Washington</td>
</tr>
<tr>
<td>SEPA</td>
<td>State Environmental Policy Act</td>
</tr>
<tr>
<td>SWMM</td>
<td>Stormwater Management Manual</td>
</tr>
<tr>
<td>SWPPP</td>
<td>Stormwater Pollution Prevention Plan</td>
</tr>
<tr>
<td>TMDL</td>
<td>Total Maximum Daily Load</td>
</tr>
<tr>
<td>UIC</td>
<td>Underground Injection Control</td>
</tr>
<tr>
<td>USC</td>
<td>United States Code</td>
</tr>
<tr>
<td>USEPA</td>
<td>United States Environmental Protection Agency</td>
</tr>
<tr>
<td>WAC</td>
<td>Washington Administrative Code</td>
</tr>
<tr>
<td>WQ</td>
<td>Water Quality</td>
</tr>
<tr>
<td>WWHM</td>
<td>Western Washington Hydrology Model</td>
</tr>
</tbody>
</table>
Instructions

This form is used to process two types of permit transfers: 1) Complete Transfer, or 2) Partial Transfer. Determine which type of transfer applies to your situation before filling out this form.

1. Complete Transfer: The original permittee has sold, or otherwise released control of the entire site to another party.

   Required Paperwork for Complete Transfer:
   - Either the current permittee, or the new permittee(s), must submit a complete and accurate Transfer of Coverage form to Ecology for each new party. The form must be signed by the current permittee and the new permittee.

2. Partial Transfer: The original permittee retains control over some portion of the site after selling or releasing control over a portion of the site.

   Required Paperwork for Partial Transfer
   - Either the current permittee or the new permittee(s) must submit a complete and accurate Transfer of Coverage Form for each new operator to Ecology. The form must be signed by the current permittee and the new permittee.
   - For partial transfers, once all transfers are submitted, the original permittee should submit the Notice of Termination only if the portion(s) they still own or control have undergone final stabilization and meet the criteria for termination.

For Your Information

- When this form is 1) completed, 2) signed by the current and new permittee, and 3) submitted to Ecology, permit transfers are effective on the date specified at the top of page 1 (unless Ecology notifies the current permittee and new permittee of its intention to revoke coverage under the General Permit or if Ecology sends notice that the application is incomplete). If no date for the transfer of coverage is specified, Ecology will use the date of the last signature.
- The new permittee should keep a copy of the signed Transfer of Coverage form (which serves as proof of permit coverage) until Ecology sends documentation in the mail.
- Following the transfer, the new permittee must either: (1) use the Stormwater Pollution Prevention Plan (SWPPP) developed by the original operator, and modified as necessary, or (2) develop and use a new SWPPP that meets the requirements of the Construction Stormwater General Permit.
- For projects for which the original permittee has completed a Proposed New Discharge to an Impaired Waterbody Form (ECY 070-399), or for projects that are operating on sites with soil or groundwater contamination: Upon completion of the Transfer of Coverage form, the new permittee will adopt any special provisions made to protect water quality for sites that have existing contamination or that discharge to an impaired waterbody.

To request ADA accommodation including materials in a format for the visually impaired, call the Water Quality Program at 360-407-6600 or visit https://ecology.wa.gov/accessibility. People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call 877-833-6341.
Transfer of Coverage

Construction Stormwater General Permit

This form transfers permit coverage for all, or a portion of a site to one or more new operators.

Type of permit transfer (check one):  ☐ Partial transfer (complete the Partial Transfer acreage below)  ☐ Complete transfer

Specific date that permit responsibility, coverage, and liability is transferred to new operator: ________

*If no date is indicated Ecology will determine the date of transfer.

Please see instructions for details on type of transfer.

For PARTIAL TRANSFERS indicate the acreage remaining under your operational control:

• List total size of project/site remaining under your operational control following the partial transfer: ______ acres.
• List total area of soil disturbance remaining under your operational control following the partial transfer: ______ acres.
• Submitting this form meets the requirement to submit an updated NOI (General Permit Condition G9)

Current Operator/Permittee Information

<table>
<thead>
<tr>
<th>Current Operator/Permittee Name:</th>
<th>Company:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Phone:</td>
<td>Ext:</td>
</tr>
<tr>
<td>Mailing Address:</td>
<td></td>
</tr>
<tr>
<td>Cell Phone:</td>
<td>Fax (optional):</td>
</tr>
<tr>
<td>Email:</td>
<td>City:</td>
</tr>
<tr>
<td></td>
<td>State:</td>
</tr>
<tr>
<td>Signature* (see signatory requirements in Section VIII):</td>
<td>Title:</td>
</tr>
<tr>
<td></td>
<td>Date:</td>
</tr>
</tbody>
</table>

New Operator/Permittee Information

I. New Operator/Permittee (Party with operational control over plans and specifications or day-to-day operational control of activities which ensure compliance with Stormwater Pollution Prevention Plan (SWPPP) and permit conditions. Ecology will send correspondence and permit fee invoices to the permittee on record.)

Name:                           | Company: |
Business Phone:                | Ext:    |
Unified Business Identifier (UBI):  |
(UBI is a nine-digit number used to identify a business entity. Write “none” if you do not have a UBI number.)
Cell Phone (Optional):         | Fax (Optional): |
E-mail:                        |         |
Mailing Address:               | City:   |
State:                         | Zip + 4: |

II. Property Owner (The party listed on the County Assessor’s records as owner and taxpayer of the parcel[s] for which permit coverage is requested. Ecology will not send correspondence and permit fee invoices to the Property Owner. The Property Owner information will be used for emergency contact purposes.)

Name:                           | Company: |
Business Phone:                | Ext:    |
Unified Business Identifier (UBI):  |
(UBI is a nine-digit number used to identify a business entity. Write “none” if you do not have a UBI number.)
Cell Phone (Optional):         | Fax (Optional): |
E-mail:                        |         |
Mailing Address:               | City:   |
State:                         | Zip + 4: |
### III. On-Site Contact Person(s) (Typically the Certified Erosion and Sediment Control Lead or Operator/Permittee)

<table>
<thead>
<tr>
<th>Name:</th>
<th>Company:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Phone:</td>
<td>Ext:</td>
</tr>
<tr>
<td>Mailing Address:</td>
<td></td>
</tr>
<tr>
<td>Cell Phone:</td>
<td>Fax(Optional):</td>
</tr>
<tr>
<td>City:</td>
<td>State:</td>
</tr>
<tr>
<td>Email:</td>
<td></td>
</tr>
</tbody>
</table>

### IV. Site/Project Information

<table>
<thead>
<tr>
<th>Site or Project Name</th>
<th>Site Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street Address or Location Description (If the site lacks a street address, list its specific location. For example, Intersection of Highway 61 and 34.)</td>
<td>Total size of your site/project (that you own/control): _____ acres. (Note: 1 acre = 43,560 sq. ft.)</td>
</tr>
<tr>
<td>Parcel ID#:</td>
<td>Total area of soil disturbance for your site/project over the life of the project: _____ acres. Include grading, equipment staging, excavation, borrow pit, material storage areas, dump areas, haul roads, side-cast areas, off-site construction support areas, and all other soil disturbance acreage associated with the project. (Note: 1 acre = 43,560 sq. ft.)</td>
</tr>
<tr>
<td>Optional</td>
<td></td>
</tr>
</tbody>
</table>

| Type of Construction Activity (check all that apply): |
| Residential | |
| Commercial | |
| Industrial | |
| Highway or Road (city, county, state) | |
| Utilities (specify): | |
| Other (specify): | |

<table>
<thead>
<tr>
<th>City (or nearest city):</th>
<th>Zip Code:</th>
</tr>
</thead>
<tbody>
<tr>
<td>County:</td>
<td></td>
</tr>
</tbody>
</table>

Estimated project start-up date (mm/dd/yy): |

Estimated project completion date (mm/dd/yy): |

Record the latitude and longitude of the main entrance to the site or the approximate center of site. |

<table>
<thead>
<tr>
<th>Latitude:</th>
<th>Longitude:</th>
</tr>
</thead>
</table>

### V. Existing Site Conditions

1. Are you aware of contaminated soils present on the site?  
   - Yes  
   - No

2. Are you aware of groundwater contamination located within the site boundary?  
   - Yes  
   - No

3. If you answered yes to questions 1 or 2, will any contaminated soils be disturbed or will any contaminated groundwater be discharged due to the proposed construction activity?  
   - Yes  
   - No

(“Contaminated” and “contamination” here mean containing any hazardous substance (as defined in WAC 173-340-200) that does not occur naturally or occurs at greater than natural background levels.)

If you answered yes to Question 3, please provide detailed information with the NOI (as known and readily available) on the natures and extent of the contamination (concentrations, locations, and depth), as well as pollution prevention and/or treatment Best Management Practices (BMPs) proposed to control the discharge of soil and/or groundwater contaminants in stormwater. This should include information that would be included in related portions of the Stormwater Pollution Prevention Plan (SWPPP) that describe how contaminated and potentially contaminated construction stormwater and dewatering water will be managed.
VI. WQWebDMR (Electronic Discharge Monitoring Reporting)

You must submit monthly discharge monitoring reports using Ecology's WQWebDMR system. To sign up for WQWebDMR, or to register a new site, go to https://www.ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance/WQWebPortal-guidance. If you are unable to submit your DMRs electronically, you may contact Ecology to request a waiver. Ecology will generally only grant waiver requests to those permittees without internet access. Only a permittee or representative, designated in writing, may request access to or a waiver from WQWebDMR. To have the ability to use the system immediately, you must submit the Electronic Signature Agreement with your transfer of coverage form. If you have questions on this process, contact Ecology’s WQWebDMR staff at WebDMRPortal@ecy.wa.gov or 800/633-6193 or 360-407-7097 (local). Note: DMRs are optional for permitted sites under 1 acre that do not discharge to impaired waterbodies.

VII. Discharge/Receiving Water Information

Indicate whether your site’s stormwater and/or dewatering water could enter surface waters, directly and/or indirectly:

- Water will discharge directly or indirectly (through a storm drain system or roadside ditch) into one or more surface waterbodies (wetlands, creeks, lakes, and all other surface waters and water courses).
  - If your discharge is to a storm sewer system, provide the name of the operator of the storm sewer system: (e.g., City of Tacoma): __________________________

- Water will discharge to ground with 100% infiltration, with no potential to reach surface waters under any conditions.

If your project includes dewatering, you must include dewatering plans and discharge locations in your site Stormwater Pollution Prevention Plan.

Location of Outfall into Surface Waterbody

Enter the outfall identifier code, waterbody name, and latitude/longitude of the point(s) where the site has the potential to discharge into a waterbody (the outfall). Enter all locations. See illustration of Surface Waterbody Outfall locations at the end of this form.

- Include the names and locations of both direct and indirect discharges to surface waterbodies, even if the risk of discharge is low or limited to periods of extreme weather. Attach a separate list if necessary.
- Give each point a unique 1-4 digit alpha numeric code. This code will be used for identifying these points in WQWebDMR.
- Some large construction projects (for example, subdivisions, roads, or pipelines) may discharge into several waterbodies.
- If the creek or tributary is unnamed, use a format such as “unnamed tributary to Deschutes River.”
- If the site discharges to a stormwater conveyance system that in turn flows to a surface waterbody, include the surface waterbody name and location.

<table>
<thead>
<tr>
<th>Outfall Identifier Code. These cannot be symbols. (Maximum of 4 characters)</th>
<th>Surface Waterbody Name at the Outfall</th>
<th>Latitude Decimal Degrees</th>
<th>Longitude Decimal Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: 001A</td>
<td>Example: Puget Sound</td>
<td>47.5289247° N</td>
<td>-122.3123550° W</td>
</tr>
<tr>
<td></td>
<td></td>
<td>° N</td>
<td>° W</td>
</tr>
<tr>
<td></td>
<td></td>
<td>° N</td>
<td>° W</td>
</tr>
<tr>
<td></td>
<td></td>
<td>° N</td>
<td>° W</td>
</tr>
</tbody>
</table>

If your site discharges to a waterbody that is on the impaired waterbodies list (e.g., 303[d] list) for turbidity, fine sediment, high pH, or phosphorus, Ecology will require additional documentation before issuing permit coverage and these sites will be subject to additional sampling and numeric effluent limits (per Permit Condition S8). Ecology will notify you if any additional sampling requirements apply. Information on impaired waterbodies is available online at: https://www.ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Assessment-of-state-waters-303d.
Before signing, please use the following checklist to ensure this form is complete:

☐ All spaces on this form have been completed. (Attach additional sheets if necessary)

☐ The transfer form has been signed by both the current permittee (see Page 1) and the new permittee (see Section VIII below).

☐ The date permit responsibility was transferred is specified. (See Page 1)

☐ New Operator/Permittee: Before you submit this form to Ecology, please retain a copy for your records – this will serve as proof of permit coverage until documentation arrives from Ecology.

☐ For partial transfers: If the original permittee no longer owns or controls any portions of the site that meet the criteria for termination, the original permittee must submit a Notice of Termination (NOT) to terminate permit coverage. See the CSWGP website for a link to the NOT form: www.ecology.wa.gov/constructionstormwaterpermit.

☐ For sites with contaminated soils/groundwater or a new discharger to an impaired waterbody: Any special provisions to protect water quality put in place at the time of initial coverage have been reviewed and adopted by the new permittee.

Administrative Order Docket No.

**VIII. Certification of New Permittee**

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

<table>
<thead>
<tr>
<th>Printed/Typed Name</th>
<th>Company (operator/permittee only)</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Signature of New Operator/Permittee

**Signature of Operator/Permittee requirements:**

A. For a corporation: By a responsible corporate officer.
B. For a partnership or sole proprietorship: By a general partner or the proprietor, respectively.
C. For a municipality, state, federal, or other public facility: By either a principal executive officer or ranking elected official.

Please sign and return this **ORIGINAL** document to the following address:

Department of Ecology – Construction Stormwater
PO Box 47696
Olympia, WA 98504-7696

If you have questions about this form, contact the following Ecology staff:

<table>
<thead>
<tr>
<th>Location</th>
<th>Contact Name</th>
<th>Phone</th>
<th>E-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Seattle, and Kitsap, Pierce, and Thurston counties</td>
<td>Josh Klimek</td>
<td>360-407-7451</td>
<td><a href="mailto:josh.klimek@ecy.wa.gov">josh.klimek@ecy.wa.gov</a></td>
</tr>
<tr>
<td>Island, King, and San Juan counties</td>
<td>RaChelle Stane</td>
<td>360-407-6556</td>
<td><a href="mailto:rachelle.stane@ecy.wa.gov">rachelle.stane@ecy.wa.gov</a></td>
</tr>
<tr>
<td>Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Skagit, Snohomish, Spokane, Stevens, Walla, Whatcom, and Whitman counties.</td>
<td>Shawn Hopkins</td>
<td>360-407-6442</td>
<td><a href="mailto:shawn.hopkins@ecy.wa.gov">shawn.hopkins@ecy.wa.gov</a></td>
</tr>
</tbody>
</table>
You must submit monthly discharge monitoring reports using Ecology’s WQWebDMR system. To sign up for WQWebDMR, or to register a new site, go to [www.ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance/WQWebPortal-guidance](http://www.ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance/WQWebPortal-guidance). If you are unable to submit your DMRs electronically, you may contact Ecology to request a waiver. Ecology will generally only grant waiver requests to those permittees without internet access. Only a permittee or representative, designated in writing, may request access to or a waiver from WQWebDMR. To have the ability to use the system immediately, you must submit the Electronic Signature Agreement with your application.

If you have questions on this process, contact Ecology’s WQWebDMR staff at [WQWebPortal@ecy.wa.gov](mailto:WQWebPortal@ecy.wa.gov) or 800-633-6193 or 360-407-7097 (local).

Example Surface Waterbody Outfall location for Section VII:

**Outfall A:** On the NOI application, list the name of the lake and the latitude & longitude where construction stormwater enters the lake.

**Outfall B:**

On the NOI application, list the name of the stream and the latitude and longitude where construction stormwater enters the stream.

*Note: The monitoring points are for illustration only and are not required on this Notice of Intent application form. Monitoring point information will be entered on the monthly discharge monitoring report as required for active permits.*

To request ADA accommodation including materials in a format for the visually impaired, call the Water Quality Program at 360-407-6600 or visit [https://ecology.wa.gov/accessibility](https://ecology.wa.gov/accessibility). People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call TYY at 877-833-6341.
APPENDIX F

POTHOLE DATA
**TEST HOLE DATA SHEET**

**APS Job #:** 5200  
**Date:** 7-8-19

**Overlay type:** Asphalt, Concrete, Brick  
**Utility type:** Gas

**Test hole #:** 1  
**Overlay Thickness:** 21 inches  
**Utility Size:** 2 inches  
**Utility Material:** Pe.

**Pipe Direction (circle one):**  
- E & W  
- N & S

**Top of utility from grade:** 30 inches

**Bottom of utility from grade:** 32 inches

**Soil Cond.:** Gravel

**Width of Structure if necessary:**

**Additional utilities found in same Test-Hole:**  
- E & W  
- N & S  
- SW & NE  
- SE & NW

**Utility Configuration:** North

**Pipe Condition:** Check one with X

1) Poor-broken/cracks/damage
2) Fair-Brittle pipe/pitted/rusty
3) Good-well defined/no pits
4) Great-looks brand new

**Notes:**
- Couldn't get clear shot of utility due to thick mesh netting under asphalt.

**Vacuum Crew:**
- Lead: Aaron Riley

**Sketch to include street name(s), North arrow, distance to (3) permanent markers & distance to fog line or centerline**

Be sure to include a description of each permanent marker.

Any known building address or side street address in the vicinity should be included.
 APS Job # 5200

Data: 7-9-18

Overlay type: Asphalt

Overlay layers:
- Asphalt
- Rock
- Clay

Test hole#: 2
Overlay Thickness: 18" inches
Utility type: com (gas, water, etc.)

Utility Size: X inches
Utility Material: X

Pipe Direction (circle one):
- E & W
- N & S
- SW & NE
- SE & NW

Top of utility from grade: DNE
Bottom of utility from grade: X
Width of Structure if necessary: X

Soil Cond: Clay

Additional utilities found in same Test-Hole:

Test hole#: 41
Utility Type: Power
Top: DNE
Bot: X

Size: X
Utility Material: X

Utility Configuration:

Pipe Condition: Check one with X

1) Poor-broken/cracks/damage
2) Fair-Brittle pipe/pitted/rusty
3) Good-well defined/no pits
4) Great-looks brand new

Notes:
Dug on Power/com located to 6' found no utilities, contacted Nick Olson (KPC) said 6 feet in hard rock was okay to call DNE 7/19/18

Willows Rd NE
Dale Yellow

12'
20'

Outlet Pass in

Vacuum Crew:
Lead: Aaron
Helper: Riley

Sketch to include street name(s), North arrow, distance to (3) permanent markers & distance to fog line or centerline
Be sure to include a description of each permanent marker
Any known building address, or side street address in the vicinity should be included.
APPLIED PROFESSIONAL SERVICES, INC.

TEST HOLE DATA SHEET

APS Job # 5200

Date: 7-9-18

Overlay type: Asphalt
Concrete
Brick

Test hole: 3
Overlay Thickness: 18 inches.
Utility type: H2O
(gas, water, etc.)

Overlay layers:

Asphalt
Clay

Utility Size: X inches
Utility Material: X

Pipes Direction (circle one):

E & W
N & S
SE & NE
SE & NW

Top of utility from grade: DNF inches.
Bottom of utility from grade: X inches.
Width of Structure if necessary: X inches.

Additional utilities found in same Test-Hole:

E & W
N & S
SW & NE
SE & NW

Test hole:
Utility Type:
Top:
Bot:
Size:
Utility Material:

Utility Configuration:

Pipe Condition: Check one with X

1) Poor-broken/cracks/damage
2) Fair-Brittle pipe/pitted/rusty
3) Good-well defined/no pits
4) Great-looks brand new

Notes:

Dug 6' found no water line, despite there being water locates on the ground.
Water company says no water in area. As seen in picture.

Vacuum Crew:
Lead:
Helper:

Sketch to include street name(s), North arrow, distance to (3) permanent markers & distance to fog line or centerline.
Be sure to include a description of each permanent marker.
Any known building address, or side street address in the vicinity should be included.
**TEST HOLE DATA SHEET**

**APS Job #: 5200**

**Date: 7-8-19**

**Overlay type:** Asphalt **Concrete** Brick

**Overlay layers:**
- **Concrete**
- **Sand**
- **Clay**

**Test hole #: 5/6/7**

**Overlay Thickness:** 6" inches

**Utility type:** **UNK** (gas, water, etc.)

**Utility Size:** 16" inches

**Utility Material:** Steel

**Soil Cond.:** Clay

**Pipe Direction (circle one):**
- **E & W**
- **N & S**
- **SW & NE**
- **SE & NW**

**Top of utility from grade:** 89" inches

**Bottom of utility from grade:** 105" inches

**Width of Structure if necessary:** __________ inches

**Additional utilities found in same Test-Hole:**

**Test hole #:**

**Utility Type:**

**Top:**

**Bot:**

**Size:**

**Utility Material:**

---

**Utility Configuration:**

<table>
<thead>
<tr>
<th>Pipe Condition: Check one with X</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Poor-broken/cracks/damage</td>
</tr>
<tr>
<td>2) Fair-Brittle pipe/pitted/rusty</td>
</tr>
<tr>
<td>3) Good-well defined/no pits</td>
</tr>
<tr>
<td>4) Great-looks brand new X</td>
</tr>
</tbody>
</table>

**Notes:**

*Found unknown utility. Supposed to be water communications and power all in same spec. No other utilities found.*

---

**Sketch to include street name(s), North arrow, distance to (3) permanent markers & distance to fog line or centerline. Be sure to include a description of each permanent marker. Any known building address or side street address in the vicinity should be included.*
## TEST HOLE DATA SHEET

**APS Job #** 5000  
**Date:** 7-8-19

### Overlay Type
- **Asphalt**
- **Concrete**
- **Brick**

### Test Hole Details
- **Test hole:** 8
- **Overlay Thickness:** 4" inches
- **Utility Type:** Gas
  (gas, water, etc.)
- **Overlay layers:**
  - Asphalt 4"
  - Sand + Gravel

### Utility Details
- **Utility Size:** 2" inches
- **Utility Material:** PE
- **Soil Cond.:** Sand
  Sand + Gravel

### Pipe Direction (circle one)
- E & W
- N & S
- SW & NE
- SE & NW

### Additional utilities found in same Test-Hole:
- **Top of utility from grade:** 28" inches
- **Bottom of utility from grade:** 30" inches
- **Width of Structure if necessary:**

### Additional Information
- **Utility Configuration:** Facing North

### Pipe Condition
- Check one with X
- **1) Poor-broken/cracks/damage**
- **2) Fair-Brittle pipe/pitted/rusty**
- **3) Good-well defined/no pits**
- **4) Great-looks brand new**

### Notes:

### Sketch
- Include street name(s), North arrow, distance to permanent markers & distance to fog line or centerline
- Include a description of each permanent marker
- Any known building address, or side street address in the vicinity should be included.
## Test Hole Data Sheet

**APS Job #:** 5200  
**Date:** 7/8/19

### Overlay Type:
- Asphalt  
- Concrete  
- Brick

### Test Hole Details:
- Test hole #: 9  
- Overlay Thickness: 14" inches  
- Utility Type: PWR (gas, water, etc.)

### Utility Details:
- Utility Size: 4" inches  
- Utility Material: PVC  
- Soil Cond: Compact
- Pipe Direction (circle one):
  - E & W  
  - N & S  
  - SW & NE  
  - SE & NW
- Top of utility from grade: 30" inches  
- Bottom of utility from grade: 34" inches
- Width of Structure if necessary: ____________ inches

### Additional Utilities Found in Same Test-Hole:
- E & W  
- N & S  
- SW & NE  
- SE & NW

### Utility Configuration:
- Facing West

### Pipe Condition:
- Check one with X
- Poor-broken/cracks/damage
- Fair-Brittle pipe/pitted/rusty  
- Good-well defined/no pits  
- Great-looks brand new

### Notes:

### Sketch:
- Sketch to include street name(s), North arrow, distance to (3) permanent markers & distance to fog line or centerline
- Be sure to include a description of each permanent marker
- Any known building address, or side street address in the vicinity should be included
TEST HOLE DATA SHEET

APS Job #5200  Date: 7-8-19

Overlay type: Asphalt  Concrete  Brick

Test hole#: 10  Overlay Thickness 13" inches.

Utility type: Gas (gas, water etc.)

Utility Size: 2" inches  Utility Material: PE

Soil Cond: Rocky

Pipe Direction (circle one)
E & W  N & S  SW & NE  SE & NW

Top of utility from grade: 36" inches

Bottom of utility from grade: 36" inches

Width of Structure if necessary: __________ inches

Additional utilities found in same Test-Hole:

Test hole# ______
Utility Type ______  Top ______  Bot ______  Size ______  Utility Material: ______

Utility Configuration: Facing North

Pipe Condition: Check one with X

1) Poor-broken/cracks/damage
2) Fair-Britt pipe/pitted/rusty
3) Good-well defined/no pits
4) Great-looks brand new

Notes:

Vacuum Crew:
Lead: __________
Helper: __________

Sketch to include street name(s), North arrow, distance to (3) permanent markers & distance to fog line or centerline.

Be sure to include a description of each permanent marker.

Any known building address, or side street address in the vicinity should be included.
APPS

TEST HOLE DATA SHEET

APS Job # 5206
Data: 07/08/17

Overlay type: Asphalt
Concrete
Brick

Test hole#: 11
Overlay Thickness 11" inches.
Utility type: Gas
(gas, water, etc.)

Utility Size: NA
inches
Utility Material: PE

Soil Cond: Rocky

Pipa Direction (circle one)
E & W
N & S
SW & NE
SE & NW

Top of utility from grade: NA
inches.

Bottom of utility from grade: NA
inches.

Width of Structure if necessary: NA
inches.

Additional utilities found in same Test-Hole:

Test hole#
Utility Type: 
Top: 
Bot: 
Size: 
Utility Material:

Utility Configuration: North

N/A

Pipe Condition: Check one with X

1) Poor-broken/cracks/damage
2) Fair-Brittle pipe/pitted/rusty
3) Good-well defined/no pits
4) Great-looks brand new

Notes:

dug 60", 4" wide on locating utility should be shallow. DNF.

Vacuum Crew:

Lead: 
Helper:

Sketch to include street name(s), North arrow, distance to permanent markers & distance to fog line or centerline

Be sure to include a description of each permanent marker

Any known building address, or side street address in the vicinity should be included.
## Test Hole Data Sheet

**APS Job #: 5200**  
**Date: 7-9-19**

<table>
<thead>
<tr>
<th>Overlay type:</th>
<th>Asphalt</th>
<th>Concrete</th>
<th>Brick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test hole #:</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overlay Thickness:</td>
<td>9.5” inches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utility Type:</td>
<td>T.V.C.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(gas, water, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utility Size:</td>
<td>4”</td>
<td>inches</td>
<td></td>
</tr>
<tr>
<td>Utility Material:</td>
<td>PVC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil Condition:</td>
<td>Gravel + Sand + Plastic debris</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipe Direction (circle one):</td>
<td>E &amp; W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top of utility from grade:</td>
<td>57.5” inches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom of utility from grade:</td>
<td>61.5” inches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width of Structure if necessary:</td>
<td>inches</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Additional Utilities found in same Test-Hole:

**E & W**  
**N & S**  
**SW & NE**  
**SE & NW**

<table>
<thead>
<tr>
<th>Test hole #:</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Utility Type</td>
<td></td>
<td>Top</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Utility Material</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Utility Configuration: Facing west

- 4”

### Pipe Condition: Check one with X

1. Poor-broken/cracks/damage
2. Fair-Brittle pipe/pitted/rusty
3. Good-well defined/no pits
4. Great-looks brand new

### Notes:

Vacuum Crew:

<table>
<thead>
<tr>
<th>Lead:</th>
<th>Rob</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helper:</td>
<td>OJ</td>
</tr>
</tbody>
</table>

Sketch to include street names, North arrow, distance to (3) permanent markers & distance to fog line or centerline. Be sure to include a description of each permanent marker. Any known building address or side street address in the vicinity should be included.
APSS Job #: 5200  

**TEST HOLE DATA SHEET**

**Overlay type:** Asphalt

**Test hole #:** 13

**Overlay Thickness:**  inches

**Utility type:** PVC

**Pipe Direction (circle one):**
- E & W
- N & S
- NW & SE
- SW & NE

**Top of utility from grade:** 21 inches

**Bottom of utility from grade:** 25 inches

**Soil Cond.:** Rocky

**Width of Structure if necessary:** inches

**Additional utilities found in same Test-Hole:**

**Utility Configuration:** Facing SW

**Pipe Condition:** Check one with X

1. Poor-broken/cracks/damage X
2. Fair-Brittle pipe/pitted/rusty
3. Good-well defined/no pits
4. Great-looks brand new

**Notes:**

**Vacuum Crew:**
- **Lead:** Rob
- **Helper:** JS

---

Sketch to include street name(s). North arrow. Distance to (1) permanent markers & distance to fog line or centerline.

Be sure to include a description of each permanent marker.

Any known building address or side street address in the vicinity should be included.
**APPS**

**TEST HOLE DATA SHEET**

**APPS Job #: 5200**
**Date: 7-9-19**

**Overlay type:** Asphalt  
**Concrete**  
**Brick**

**Metro**

**Utility type:** F.M.  
**(gas, water, etc.)**

**Black Plastic**  
**Steel**  
**Soil Cond:** Gravel + Sand

**Overlay layers:**
- **asphalt 8”**
- **Dirt**

**Test hole #: 14**

**Overlay Thickness:** 8” inches

**Utility Size:** 30” inches

**Pipe Direction:**
- E & W
- N & S
- SW & NE
- SE & NW

**Utility Material:**

**Pipe Direction (circle one):**
- **E & W**
- **N & S**
- **SW & NE**
- **SE & NW**

**Top of utility from grade:** 103” inches

**Bottom of utility from grade:** N.A. inches

**Width of Structure if necessary:** N.A. inches

**Additional utilities found in same Test-Hole:**

**Test hole #:**

**Utility Type:**

**Pipe Condition:**

1) Poor-broken/cracks/damage
2) Fair-Brittle pipe/pitted/rusty
3) Good-well defined/no pits
4) Great-looks brand new

**Notes:**

- **Ground kept caving in and could not get size of sewer pipe. Might be a 30” but not sure.**

**Vacuum Crew:**

- **Lead:** Rob
- **Helper:** JJ

**Sketch to include street names:** North arrow, distance to (3) permanent markers & distance to fog line or centerline.

Be sure to include a description of each permanent marker.

Any known building address or side street address in the vicinity should be included.
TEST HOLE DATA SHEET

APS Job # 5200
Data 7-9-19

See notes:
Overlay type: Asphalt

Test hole# 15 Overlay Thickness 8" inches

Utility type: Sewer

Utility Size N.A. inches Utility Material: Steel

Did not see pipe. Top of utility from grade 107" inches

No Ground Water

Pipe Direction (circle one) Bottom of utility from grade N.A.
E & W
N & S N.A.
SW & NE
SE & NW

Width of Structure if necessary: N.A. inches

Additional utilities found in same Test-Hole:

Test hole# ____________________________
Utility Type ____________________________
Top __________ Box __________ Size __________ Utility Material ____________________________

Utility Configuration:

Did not see. By feel only.

N.A.

Pipe Condition: Check one with X

1) Poor-broken/ cracks/damage N.A.
2) Fair-Brittle pipe/ pitted/ rusty N.A.
3) Good-wall defined/no pits N.A.
4) Great-looks brand new N.A.

Notes:

At 5' deep ground kept undermining because of loose sand and water in hole. Dug to 7' deep but could vacuum no further. Could feel something at 107" deep but could not see. By feel only.

Vacuum Crew:

Lead: Rob
Helper: JS

Sketch to include street names, N. arrow, distance to (3) permanent markers & distance to fog line or centerline.
Be sure to include a description of each permanent marker.
Any known building address or side street address in the vicinity should be included.
**TEST HOLE DATA SHEET**

**APS Job #** 5200  
**Date** 7-9-19

<table>
<thead>
<tr>
<th>Overlay type:</th>
<th>Asphalt</th>
<th>Concrete</th>
<th>Brick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test hole#:</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overlay Thickness:</td>
<td>6&quot; inches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utility type:</td>
<td>Sewer (gas, water etc)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utility Material:</td>
<td>Concrete</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil Cond:</td>
<td>Sand/Gavel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utility Size:</td>
<td>8&quot; inches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top of utility from grade:</td>
<td>88&quot; inches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom of utility from grade:</td>
<td>96&quot; inches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width of Structure if necessary:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Overlay layers:**
- Asphalt 6"  
- Dirt

**Pipe Direction (circle one):**
- E & W  
- N & S  
- SW & NE  
- SE & NW

**Additional utilities found in same test hole:**

<table>
<thead>
<tr>
<th>Test hole#</th>
<th>Utility Type</th>
<th>Top</th>
<th>Bot</th>
<th>Size</th>
<th>Utility Material</th>
</tr>
</thead>
</table>

**Utility Configuration:** Facing West

- 8"

**Pipe Condition:**
- 1) Poor-broken/cracks/damage
- 2) Fair-Brittle pipe/pitted/rusty
- 3) Good-wall defined/no pits
- 4) Great-looks brand new

**Notes:**

**Vacuum Crew:**
- Lead: Rob  
- Helper: SS

Sketch to include street name(s), North arrow, distance to (3) permanent markers & distance to fog line or centerline. Be sure to include a description of each permanent marker. Any known building address or side street address in the vicinity should be included.
**Test Hole Data Sheet**

**APS Job #:** 5200  
**Date:** 7-9-19

<table>
<thead>
<tr>
<th>Overlay Type:</th>
<th>Asphalt</th>
<th>Concrete</th>
<th>Brick</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Test hole#:</th>
<th>17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overlay Thickness:</td>
<td>5.5&quot; inches</td>
</tr>
<tr>
<td>Utility Type:</td>
<td>Gas</td>
</tr>
<tr>
<td>(gas, water, etc.)</td>
<td></td>
</tr>
<tr>
<td>Utility Size:</td>
<td>2&quot; inches</td>
</tr>
<tr>
<td>Utility Material:</td>
<td>PE</td>
</tr>
<tr>
<td>Soil Cond:</td>
<td>Sand/Gravel</td>
</tr>
<tr>
<td>Pipe Direction (circle one):</td>
<td>E &amp; W</td>
</tr>
<tr>
<td>Top of utility from grade:</td>
<td>35&quot; inches</td>
</tr>
<tr>
<td>SW &amp; NE</td>
<td>SE &amp; NW</td>
</tr>
<tr>
<td>Bottom of utility from grade:</td>
<td>37&quot; inches</td>
</tr>
<tr>
<td>Width of Structure if necessary:</td>
<td></td>
</tr>
</tbody>
</table>

**Additional utilities found in same Test-Hole:**

<table>
<thead>
<tr>
<th>Test hole#:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Utility Type:</td>
<td></td>
</tr>
<tr>
<td>Top</td>
<td>Bar</td>
</tr>
<tr>
<td>Size</td>
<td>Utility Material</td>
</tr>
</tbody>
</table>

**Utility Configuration:**

- **Facing North**
- **2"**

**Pipe Condition:** Check one with X

1. Poor-broken/cracks/damage
2. Fair-Brittle pipe/pitted/rusty
3. Good-wall defined/no pits
4. Great-looks brand new

**Notes:**

**Vacuum Crew:**
- **Lead:** Rob
- **Helper:** SS

---

Sketch to include street names. North arrow. Distance to (3) permanent markers & distance to fog line or centerline.

Be sure to include a description of each permanent marker.

Any known building address or side street address in the vicinity should be included.
**TEST HOLE DATA SHEET**

**APS Job # 5200**

**Date: 7-9-19**

<table>
<thead>
<tr>
<th>Overlay type:</th>
<th>Soft</th>
<th>Asphalt</th>
<th>Concrete</th>
<th>Brick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test hole#:</td>
<td>18/19</td>
<td>Overlay Thickness</td>
<td>X</td>
<td>inches.</td>
</tr>
<tr>
<td>Utility type:</td>
<td>Gas, water etc</td>
<td>Cow</td>
<td>Soil Cond.</td>
<td>Slack</td>
</tr>
<tr>
<td>Utility Size:</td>
<td>4&quot;</td>
<td>Utility Material:</td>
<td>PVC</td>
<td>Sound</td>
</tr>
<tr>
<td>Pipe Direction (circle one):</td>
<td>E &amp; W</td>
<td>Top of utility from grade:</td>
<td>36&quot;</td>
<td>inches.</td>
</tr>
<tr>
<td>SW &amp; NE</td>
<td>Bottom of utility from grade:</td>
<td>40&quot;</td>
<td>inches.</td>
<td></td>
</tr>
<tr>
<td>SE &amp; NW</td>
<td>Width of Structure if necessary:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Additional utilities found in same Test-Hole:**

<table>
<thead>
<tr>
<th>Test hole#</th>
<th>E &amp; W</th>
<th>N &amp; S</th>
<th>SW &amp; NE</th>
<th>SE &amp; NW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utility Type:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top</td>
<td>Bot</td>
<td>Size</td>
<td>Utility Material:</td>
<td></td>
</tr>
</tbody>
</table>

**Utility Configuration:**

<table>
<thead>
<tr>
<th>North</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
</tr>
</tbody>
</table>

**Pipe Condition:**

1. Poor-broken/cracks/damage
2. Fair-Brittle pipe/pitted/rusty
3. Good-well defined/no pits
4. Great-looks brand new

**Notes:**

18 and 19 run together, on map it shows them coming together and iranly pick up one locate spot where 18 and 19 are shown 2' apart from each other on.

**Vacuum Crew:**

Lead: Aaron
Helper: Riley

Sketch to include street name(s), North arrow, distance to (3) permanent markers & distance to fog line or centerline. Be sure to include a description of each permanent marker. Any known building address, or side street address in the vicinity should be included.
TEST HOLE DATA SHEET

APS Job # 5200 Date: 7-10-19

Overlay type: Asphalt

Test hole#: 20 Overlay Thickness 12" inches Utility type: H2O
(gas, water, etc.)

Utility Size: 12" inches Utility Material: DT

Pipe Direction (circle one) Top of utility from grade: 50"

E & W N & S SW & NE SE & NW

Overlay layers: Bottom of utility from grade: 62"

Asphalt

Gravel

Width of Structure if necessary: ______ inches.

Additional utilities found in same Test-Hole:

Test hole# ______

Utility Type: ______ Top: ______ Bot: ______ Size: ______ Utility Material: ______

Utility Configuration: east

Pipe Condition: Check one with X

1) Poor-broken/cracks/damage
2) Fair-Brittle pipe/pitted/rusty
3) Good-well defined/no pits
4) Great-looks brand new X

Notes:

Sketch to include street name(s). North arrow, distance to (3) permanent markers & distance to fog line or centerline.

Be sure to include a description of each permanent marker.

Any known building address, or side street address in the vicinity should be included.
**TEST HOLE DATA SHEET**

**APS Job #** 5200  
**Date:** 7-10-19

**Overlay type:** Asphalt  
Concrete  
Brick

**Test hole #:** Z1  
**Overlay Thickness:** 8 inches.

**Utility type:** Gas  
(gas, water, etc.)

**Pipe Direction (circle one):**
- E & W
- N & S
- SW & NE
- SE & NW

**Overlay layers:**
- Asphalt
- Native

**Utility Size:** 2" inches  
**Utility Material:** PE

**Top of utility from grade:** 33" inches

**Bottom of utility from grade:** 35" inches

**Width of Structure if necessary:**

---

**Additional utilities found in same Test-Hole:**

- E & W
- N & S
- SW & NE
- SE & NW

**Test hole #:**

**Utility Type:**

**Top:**

**Bot:**

**Size:**

**Utility Material:**

---

**Utility Configuration:**

**Pipe Condition:** Check one with X

1) Poor-broken/cracks/damage
2) Fair-Brittle pipe/pitted/rusty
3) Good-well defined/no pits
4) Great-looks brand new  
**X**

**Notes:**

---

**Vacuum Crew:**

**Lead:**

**Helper:**

**Sketch to include street name(s), North arrow, distance to (3) permanent markers & distance to fog line or centerline.**

**Be sure to include a description of each permanent marker.**

**Any known building address, or side street address in the vicinity should be included.**
APPS

TEST HOLE DATA SHEET

APPS Job #: 5200 Date: 7-10-19

Overlay type: Asphalt Concrete Brick

Test hole#: 22 Overlay Thickness 6" inches.

Utility type: Gas Water Etc.

Utility Size: 4" inches Utility Material: PVC

Soil Cond:

Pipe Direction (circle one):

E & W

N & S

SW & NE

SE & NW

Top of utility from grade: 47" inches

Bottom of utility from grade: 46" inches

Width of Structure if necessary: __________ inches

Additional utilities found in same Test-Hole:

E & W N & S SW & NE SE & NW

Test hole#

Utility Type: __________ Top: __________ Bot: __________ Size: __________ Utility Material: __________

Utility Configuration: North

Pipe Condition: Check one with X

1) Poor-broken/cracks/damage
2) Fair-Brittle pipe/pitted/rusty
3) Good-well defined/no pits
4) Great-looks brand new

Notes:

Vacuum Crew:

Lead: __________
Helper: __________

Sketch to include street name(s), North arrow, distance to (3) permanent markers & distance to log line or centerline.

Be sure to include a description of each permanent marker.

Any known building address, or side street address in the vicinity should be included.
TEST HOLE DATA SHEET

APS Job # 5200  Date: 7-10-19

Overlay type: 2A  Asphalt  Concrete  Brick

Test hole#: 23  Overlay Thickness: X inches.

Utility type: Gas
(gas water, etc.)

Utility Size: 2" inches  Utility Material: PE  Soil Cond. Sand

Pipe Direction (circle one)
E & W
N & S
SW & NE
SE & NW

Top of utility from grade: 40" inches.

Bottom of utility from grade: 42" inches.

Width of Structure if necessary: __________ inches.

Additional utilities found in same Test-Hole:

E & W  N & S  SW & NE  SE & NW

Test hole# __________
Utility Type: __________ Top: __________ Bot: __________ Size: __________ Utility Material: __________

Utility Configuration: Facing North

Pipe Condition: Check one with X

1) Poor-broken/cracks/damage
2) Fair-Brittle pipe/plitted/rusty
3) Good-well defined/no pits
4) Great-looks brand new

Notes:

Vacuum Crew:
Lead:  
Helper:  

Sketch to include street name(s), North arrow, distance to (3) permanent markers & distance to fog line or centerline

Be sure to include a description of each permanent marker

Any known building address, or side street address in the vicinity should be included.
## TEST HOLE DATA SHEET

**APS Job #: 5200**  
**Date: 7-10-19**

### Overlay Type

- **Overlay Type**: Soft  
- **Asphalt**:  
- **Concrete**:  
- **Brick**:  

### Test Hole Information

- **Test Hole #: 24**  
- **Overlay Thickness**: X inches  

### Utility Information

- **Utility Type**: Gas  
- **Utility Material**: DNF  
- **Soil Cond.**: Asphalt

### Pipe Direction

- **Pipe Direction (circle one)**:  
  - E & W  
  - N & S  
  - SW & NE  
  - SE & NW

### Additional Utilities

**Additional utilities found in same Test-Hole:**  
**E & W**  
**N & S**  
**SW & NE**  
**SE & NW**

### Utility Configuration

- **Utility Configuration**: DNF

### Pipe Condition

- **Pipe Condition: Check one with X**
  1. Poor-broken/cracks/damage  
  2. Fair-Brittle pipe/pitted/rusty  
  3. Good-well defined/no pits  
  4. Great-looks brand new

### Notes

- **Notes**: We couldn't get past 5' ft due big chunks of asphalt debris.

### Vacuum Crew

- **Lead**:  
- **Helper**:  

### Sketch Instructions

- Sketch to include street name(s), North arrow, distance to (3) permanent markers & distance to fog line or centerline.
- Be sure to include a description of each permanent marker.
- Any known building address or side street address in the vicinity should be included.
** APS Job # 5200 Date: 7-11-19 **

** TEST HOLE DATA SHEET **

<table>
<thead>
<tr>
<th>Overlay type:</th>
<th>Asphalt</th>
<th>Concrete</th>
<th>Brick</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Test hole#:</th>
<th>25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overlay Thickness</td>
<td>8&quot; inches</td>
</tr>
<tr>
<td>Utility type:</td>
<td>Conm (gas, water, etc)</td>
</tr>
<tr>
<td>Soil Cond:</td>
<td>Hard</td>
</tr>
</tbody>
</table>

| Utility Size: | 4" inches |
| Utility Material: | PVC |

<table>
<thead>
<tr>
<th>Pipe Direction (circle one)</th>
<th>E &amp; W</th>
</tr>
</thead>
<tbody>
<tr>
<td>N &amp; S</td>
<td>SW &amp; NE</td>
</tr>
</tbody>
</table>

| Top of utility from grade: | 66" inches |
| Bottom of utility from grade: | 70" inches |
| Width of Structure if necessary: | |

** Additional utilities found in same Test-Hole: **

<table>
<thead>
<tr>
<th>Test hole#:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Utility Type:</td>
<td></td>
</tr>
<tr>
<td>Top:</td>
<td></td>
</tr>
<tr>
<td>Bot:</td>
<td></td>
</tr>
<tr>
<td>Size:</td>
<td></td>
</tr>
<tr>
<td>Utility Material:</td>
<td></td>
</tr>
</tbody>
</table>

** Utility Configuration: **

** Pipe Condition: ** Check one with X

1) Poor-broken/cracks/damage
2) Fair-Brittle pipe/pitted/rusty
3) Good-well defined/no pits
4) Great-looks brand new ** X **

** Notes: **

---

** Vacuum Crew: **

** Lead: **

** Helper: **

---

Sketch to include street name(s). North arrow, distance to (3) permanent markers & distance to fog line or centerline

Be sure to include a description of each permanent marker

Any known building address, or side street address in the vicinity should be included
**TEST HOLE DATA SHEET**

**APS Job #: 5200**  
**Date: 7-11-19**

<table>
<thead>
<tr>
<th>Overlay type:</th>
<th>Asphalt</th>
<th>Concrete</th>
<th>Brick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test hole#:</td>
<td>26</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Overlay Thickness: | x inches | Utility type: | Comm  
  (gas, water, etc.) |
| Utility Size: | 4" inches | Utility Material: | PVC |
| Pipe Direction (circle one) | E & W | N & S | SW & NE | SE & NW |
| Top of utility from grade: | 47" inches | Bottom of utility from grade: | 51" inches |
| Width of Structure if necessary: | |

**Overlay layers:**
- Native

**Additional utilities found in same Test-Hole:**

<table>
<thead>
<tr>
<th>Test hole#:</th>
<th>E &amp; W</th>
<th>N &amp; S</th>
<th>SW &amp; NE</th>
<th>SE &amp; NW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utility Type:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bot:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utility Material:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Utility Configuration:**
- North

**Pipe Condition:** Check one with X

| 1) Poor-broken/cracks/damage |
| 2) Fair-Brittle pipe/pitted/rusty |
| 3) Good-well defined/no pits |
| 4) Great-looks brand new |
| X |

**Notes:**

**Vacuum Crew:**
- Lead: Aoxon
- Helper: Bxby

*Sketch to include street name(s), North arrow, distance to (3) permanent markers & distance to fog line or centerline. Be sure to include a description of each permanent marker. Any known building address or side street address in the vicinity should be included.*
APs Job # 6700  Date 7-10-19

Overlay type: Soil  Asphalt  Concrete  Brick

Test hole#: 27  Overlay Thickness: x inches.

Utility type: Gas  (gas, water, etc.)

Utility Size: _______ inches  Utility Material: PE

Pipe Direction (circle one)
E & W
N & S
SW & NE
SE & NW

Top of utility from grade: 34" inches

Bottom of utility from grade: 36" inches

Width of Structure if necessary: __________ inches

Additional utilities found in same Test-Hole:

Test hole# _______

Utility Type: _______

Top: _______

Bot: _______

Size: _______

Utility Material: _______

Utility Configuration: North

Pipe Condition: Check one with X

1) Poor-broken/cracks/damage
2) Fair-Britle pipe/pitted/rusty
3) Good-well defined/no pits
4) Great-looks brand new

Notes:

Vacuum Crew:
Lead: _______
Helper: _______

Sketch to include street name(s), North arrow, distance to (3) permanent markers & distance to fog line or centerline.

Be sure to include a description of each permanent marker.

Any known building address, or side street address in the vicinity should be included.
**Test Hole Data Sheet**

**APS Job #: 5200**

**Data:** 7-11-19

<table>
<thead>
<tr>
<th>Overlay Type:</th>
<th>Asphalt</th>
<th>Concrete</th>
<th>Brick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Hole #: 28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overlay Thickness: 10&quot; inches</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utility Type: H2O (gas, water, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utility Size: 16&quot; inches</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utility Material: D.I.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil Cond: Native</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipe Direction (circle one): E&amp;W</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N&amp;S</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SW &amp; NE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE &amp; NW</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top of utility from grade: 24&quot; inches</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom of utility from grade: 40&quot; inches</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width of Structure if necessary:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Additional Utilities Found in Same Test-Hole:**

| Test Hole #: |
| Utility Type: |
| Top: |
| Bot: |
| Size: |
| Utility Material: |

**Utility Configuration:**

| 16" |

**Pipe Condition:** Check one with X

1) Poor-broken/cracks/damage
2) Fair-Brittle pipe/pitted/rusty
3) Good-well defined/no pits
4) Great-looks brand new

**Notes:**

**Vacuum Crew:**

Lead: Aacon
Helper: Ailey

---

Sketch to include street name(s), North arrow, distance to (3) permanent markers & distance to fog line or centerline. Be sure to include a description of each permanent marker. Any known building address or side street address in the vicinity should be included.
TEST HOLE DATA SHEET

APS Job # 5200  Data: 7-11-19

Overlay type: Asphalt  Concrete  Brick

Test hole#: 30  Overlay Thickness 6" inches.

Utility type: Com  (gas, water, etc.)

Utility Size: 2x4" inches  Utility Material: Pvc

Soil Cond. Native

Pipe Direction (circle one)

E & W  N & S  SW & NE  SE & NW

Top of utility from grade: 35" inches.

Bottom of utility from grade: 43" inches.

Width of Structure if necessary: 

Additional utilities found in same Test-Hole:

E & W  N & S  SW & NE  SE & NW

Test hole#: 29  Utility Type Pvc  Top 39  Bot 39

Size: 4"  Utility Material: Pvc

Utility Configuration: West

Pipe Condition: Check one with X

1) Poor-broken/cracks/damage
2) Fair-Brittle pipe/pitted/rusty
3) Good-well defined/no pits
4) Great-looks brand new  X

Notes:

Vacuum Crew: 
Lead:  Helper:

Sketch to include street name(s), North arrow, distance to (3) permanent markers & distance to fog line or centaline

Be sure to include a description of each permanent marker.

Any known building address or side street address in the vicinity should be included.
**APs Professional Services, Inc.**

**Test Hole Data Sheet**

**APS Job #: 5200**
**Date: 7-11-19**

**Overlay Type:**
- Asphalt
- Concrete
- Brick

**Test Hole #: 31**
**Overlay Thickness:** 8" inches

**Utility Type:**
- Common (gas, water, etc.)

**Overlay Layers:**
- Asphalt
- Native

**Utility Size:** 4" inches
**Utility Material:** PVC

**Pipe Direction (circle one):**
- E & W
- N & S
- SW & NE
- SE & NW

**Top of Utility from Grade:** 42" inches
**Bottom of Utility from Grade:** 46" inches

**Width of Structure if Necessary:**

**Additional Utilities Found in Same Test-Hole:**
- E & W
- N & S
- SW & NE
- SE & NW

**Utility Configuration:**
- North

**Pipe Condition:** Check one with X
1) Poor/broken/cracks/damage
2) Fair-Brittle pipe/pitted/rusty
3) Good/well defined/no pits
4) Great-looks brand new

**Notes:**

**Guard Rail**

**Sketch to Include:** street name(s), North arrow, distance to (3) permanent markers & distance to fog line or centerline.

Be sure to include a description of each permanent marker.

Any known building address, or side street address in the vicinity should be included.
**TEST HOLE DATA SHEET**

**APS Job #** 5200  
**Date:** 7-11-19

<table>
<thead>
<tr>
<th>Overlay type:</th>
<th>Asphalt</th>
<th>Concrete</th>
<th>Brick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test hole#:</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overlay Thickness</td>
<td>X</td>
<td>inches</td>
<td></td>
</tr>
<tr>
<td>Utility type:</td>
<td>Gas</td>
<td>(gas, water, etc)</td>
<td></td>
</tr>
<tr>
<td>Utility Material:</td>
<td>PE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil Cond:</td>
<td>Native</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top of utility from grade:</td>
<td>42&quot;</td>
<td>inches</td>
<td></td>
</tr>
<tr>
<td>Bottom of utility from grade:</td>
<td>44&quot;</td>
<td>inches</td>
<td></td>
</tr>
<tr>
<td>Width of Structure if necessary</td>
<td></td>
<td>inches</td>
<td></td>
</tr>
<tr>
<td>Overlay layers:</td>
<td>Native</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Additional utilities found in same Test-Hole:**

<table>
<thead>
<tr>
<th>Test hole#</th>
<th>E &amp; W</th>
<th>N &amp; S</th>
<th>SW &amp; NE</th>
<th>SE &amp; NW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test hole#</td>
<td>33</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utility Type</td>
<td>com</td>
<td>Top: 64</td>
<td>Bot: X</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utility Material</td>
<td>Mill</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Utility Configuration:**

```
<table>
<thead>
<tr>
<th>North</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
```

**Pipe Condition:** Check one with X

1) Poor-broken/cracks/damage  
2) Fair-Brittle pipe/pitted/rusty  
3) Good-well defined/no pits  
4) Great-looks brand new  

<table>
<thead>
<tr>
<th>Notes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>unable to view com line due to too many tree roots in hole.</td>
</tr>
</tbody>
</table>

**Vacuum Crew:**

<table>
<thead>
<tr>
<th>Lead:</th>
<th>Helper:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sketch to include street name(s), North arrow, distance to (3) permanent markers & distance to fog line or centerline. Be sure to include a description of each permanent marker. Any known building address, or side street address in the vicinity should be included.
**TEST HOLE DATA SHEET**

**APS Job #: 5200**
**Date: 7-11-19**

**Overlay type:** Asphalt

**Test hole#: 34**
**Overlay Thickness 8 inches.**

**Utility type: Com (gas, water, etc.)**
**Soil Cond. Gravel**

**Utility Size: 2x4" inches**
**Utility Material: PVC**

**Pipe Direction (circle one):**
- E & W
- SW & NE

**Top of utility from grade: 32" inches.**
**Bottom of utility from grade: 46" inches.**

**Width of Structure if necessary:**

**Additional utilities found in same Test-Hole:**

**Test hole#: 35**
**Utility Type: water**
**Top 50" Bot 54"**

**Size: 4" Utility Material: PVC**

**Utility Configuration:**

Pipe Condition: Check one with X

1) Poor-broken/cracks/damage
2) Fair-Brittle pipe/pitted/rusty
3) Good-well defined/no pits
4) Great-looks brand new  **X**

Notes:

**Vacuum Crew:**
**Lead: Agan**
**Helper: Philley**

Sketch to include street name(s), North arrow, distance to (3) permanent markers & distance to fog line or centerline.

Be sure to include a description of each permanent marker.

Any known building address, or side street address in the vicinity should be included.
**TEST HOLE DATA SHEET**

**APS Job #**: 5200  
**Date**: 7-11-19

**Overlay type**:  
- Asphalt
- Concrete
- Brick

**Test hole**: 36  
**Overlay Thickness**: 10" inches

**Utility type**: H2O  
(gas, water, etc.)

**Utility Size**: X inches  
**Utility Material**: X

**Soil Cond.**: CDF

**Pipe Direction (circle one)**:  
- E & W
- N & S
- SW & NE
- SE & NW

**Top of utility from grade**: DNF inches

**Bottom of utility from grade**: X inches

**Width of Structure if necessary**: X inches

---

**Additional utilities found in same Test-Hole**  
**Test hole #**:  
**Utility Type**  
**Top**:  
**Bot**:  
**Size**:  
**Utility Material**:

---

**Utility Configuration**:

```
\[ Image of a diagram with 'X' marks indicating utility locations. \]
```

**Pipe Condition**: Check one with X

1) Poor-broken/cracks/damage
2) Fair-Brittle pipe/pitted/rusty
3) Good-well defined/no pits
4) Great-looks brand new

**Notes**:

Opened two pot holes, found CDF in both locations. Measured down in water valve to the west. Top of valve is 34".

**Vacuum Crew**:

**Lead**: Acer
**Helper**: Riley

**Sketch to include street name(s)**, North arrow, distance to (3) permanent markers & distance to fog line or centerline. Be sure to include a description of each permanent marker. Any known building address, or side street address in the vicinity should be included.
**Test Hole Data Sheet**

**APS Job # S200**

**Date:** 7-10-19

<table>
<thead>
<tr>
<th>Overlay type:</th>
<th>Asphalt</th>
<th>Concrete</th>
<th>Brick</th>
</tr>
</thead>
</table>

| Test hole: | 37A |

| Overlay Thickness: | 6" inches |

<table>
<thead>
<tr>
<th>Utility type:</th>
<th>Asphalt Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>(gas, water, etc.)</td>
<td></td>
</tr>
</tbody>
</table>

| Utility Size: | x inches |

| Utility Material: | x |

| Soil Cond. | x |

<table>
<thead>
<tr>
<th>Pipe Direction (circle one)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E &amp; W</td>
</tr>
<tr>
<td>N &amp; S</td>
</tr>
<tr>
<td>SW &amp; NE</td>
</tr>
<tr>
<td>SE &amp; NW</td>
</tr>
</tbody>
</table>

| Top of utility from grade: | x inches |

| Bottom of utility from grade: | x inches |

| Width of Structure if necessary: | x inches |

---

**Additional utilities found in same Test-Hole:**

<table>
<thead>
<tr>
<th>Utility Type:</th>
<th>E &amp; W</th>
<th>N &amp; S</th>
<th>SW &amp; NE</th>
<th>SE &amp; NW</th>
</tr>
</thead>
</table>

| Top: | | |

| Bot: | | |

| Size: | | |

| Utility Material: | |

---

**Utility Configuration:**

- [X]

**Pipe Condition:** Check one with X

1. Poor-broken/cracks/damage
2. Fair-Brittle pipe/pitted/rusty
3. Good-well defined/no pits
4. Great-looks brand new

**Notes:**

---

**Vacuum Crew:**

<table>
<thead>
<tr>
<th>Lead:</th>
<th>Aaron</th>
</tr>
</thead>
</table>

| Helper: | Qiley |

---

Sketch to include street name(s), North arrow, distance to (3) permanent markers & distance to fog line or centerline.

Be sure to include a description of each permanent marker.

Any known building address, or side street address in the vicinity should be included.
TEST HOLE DATA SHEET

APS Job # 5200  Date: 7-11-19

Overlay type: Asphalt  Concrete  Brick

Test hole: 37B  Overlay Thickness 6" inches.

Utility type: Depth of asphalt

Utility Size: X inches  Utility Material: X  Soil Cond X

Pipe Direction (circle one)
E & W  N & S  SW & NE  SE & NW

Top of utility from grade: X inches
Bottom of utility from grade: X inches

Width of Structure if necessary: X inches

Additional utilities found in same Test-Hole:

Test hole:
Utility Type:  Top:  Bot:
Size:  Utility Material:

Utility Configuration:

Pipe Condition: Check one with X

1) Poor-broken/cracks/damage
2) Fair brittle pipe/pitted/rusty
3) Good well defined/no pits
4) Great looks brand new

Notes:

Vacuum Crew:
Lead: Alex  Helper: Nils

Sketch to include street name(s), North arrow, distance to (3) permanent markers & distance to fog line or centerline.
Be sure to include a description of each permanent marker.
Any known building address, or side street address in the vicinity should be included.