PROJECT MANUAL

West Seattle Junction Landbank Park

OWNER:
City of Seattle, Department of Facilities and Administrative Services,
Purchasing and Contracting

FUNDING SOURCE:
Seattle Park District Fund

ADMINISTERING DEPARTMENT:
City of Seattle, Department of Parks and Recreation
Planning and Capital Development Division
300 Elliott Avenue West, Suite 100
Seattle, WA 98119
Project Manager: Fred Gu
Contact: (206) 684-7936

PREPARED BY:
GGLO
1301 5th Avenue, Suite 2200
Seattle, WA 98101
Principal-in-Charge: Marieke Lacasse
Contact: (206) 467-5828

PRK730308-09
PW #2019-094
Ord#125475, 126490, 126725, 126955

The City of Seattle

Department of Finance and Administrative Services

Project Manual

for

West Seattle Junction Landbank Park

as Authorized by Ordinance No(s). 125475,
126490, 126725, 126955
Funding Source: REET II CAPITAL FUND, Seattle Park District Fund, General Fund

PRK: PRK730308-09
PW # 2019-094

Prepared by:

City of Seattle, Parks and Recreation Department
Planning and Capital Development Branch
300 Elliott Avenue West, Suite 100
Seattle, WA 98119

Date 06/15/2026

Eduardo Aban, Interim Park Engineer

APPROVED FOR ADVERTISING
FAS PURCHASING AND CONTRACTING

06/15/2026
Date

By: _____
Director, Purchasing and Contracting

LANDSCAPE ARCHITECT

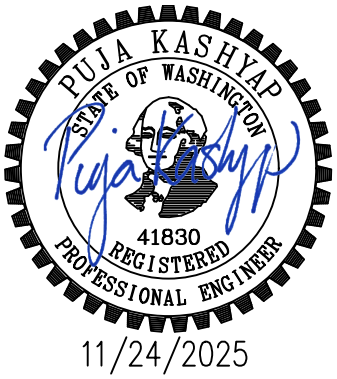
Prepared by Marieke Lacasse/GGLO Design



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CIVIL ENGINEER

Prepared by Puja Kashyup/KPFF Engineering



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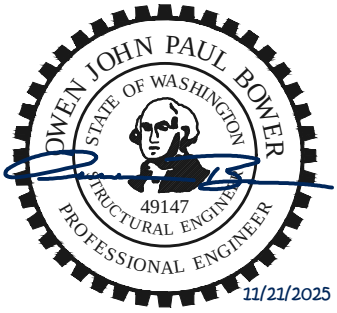
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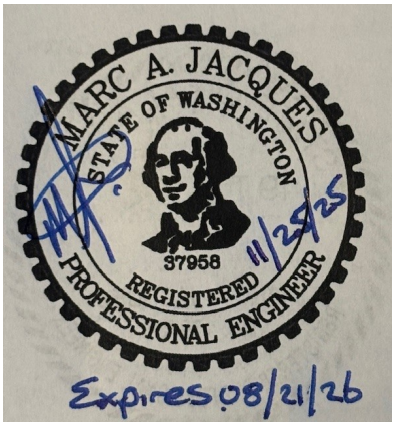
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Prepared by Marc A Jacques/WSP Engineers



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Bidding Requirements, Contract Forms, & Conditions of the Contract

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. This Section provides some preliminary information about this project to the prospective Bidders. At the end of this section, it includes a copy of the advertisement for this project in the official newspaper.

1.02 TYPE OF CONTRACT

A. This is a Lump Sum contract.

1.03 CONTRACT TIME

A. See **Section 00 52 00 – Agreement Form** for number of working days.

1.04 LIQUIDATED DAMAGES

A. If the successful Contractor fails to complete Work within the time set forth, Contractor shall be charged Liquidated Damages per **Section 4 of the 00 52 00 Agreement Form**.

B. Additional details are specified in **Paragraph 1.08.J of Section 00 72 00 – General Conditions**.

1.05 ADVERTISEMENT FOR BIDS

A. The pre-bid information arranged as it will appear in the Advertisement for Bids in the official newspaper follows:

1.06 CONTACTS

A. Prior to Bid Opening: Fred Gu
Email: Fred.Gu@seattle.gov
Phone Number: 206-666-7795

B. After Bid Opening, before Execution: Purchasing and Contracting
Email: FAS_PW_Admin@seattle.gov
Phone Number: 206-684-0444

C. Prior to Bid Opening: Fred Gu
Email: Fred.Gu@seattle.gov
Phone Number: 206-666-7795

1.07 CONSENT DECREE ACKNOWLEDGEMENT

The City of Seattle (“City”), the United States Environmental Protection Agency (“EPA”) and the Washington State Department of Ecology (“Ecology”), have entered into a Consent Decree to settle the Complaint filed against the City by the United States in the United States District Court for the Western District of Washington, captioned United States of American and the State of Washington v. City of Seattle, Civil Action No. 2:13-cv-678, (“Consent Decree”). The Complaint alleged that the City of Seattle (“City”) violated Sections 301 and 402 of the Clean Water Act, 33

U.S.C. §§1311 and 1342 (“CWA”), and the conditions and limitations of its National Pollutant Discharge Elimination System (“NPDES”) permit issued to the City by Ecology as authorized by EPA under Section 402(b) and the CWA.

Article II, Section 7 of the Consent Decree establishes that “any action taken by any entity retained by the City to implement the City’s obligations under this Consent Decree shall be considered an action of the City for purposes of determining compliance with the Consent

Decree.”

Article II, Section 6 of the Consent Decree requires that the City provide a copy of the Consent Decree to all agents of the City, as well as to any engineering, consulting, or contracting firms or any other entity hired by the City to perform work that might reasonably require compliance with any provision of the Consent Decree. Section 6 expressly requires that “the City shall condition any contract upon performance of the work in conformity with the terms of this Consent Decree.”

The Consent Decree requires, among other things, that the City, its agents and its contractors operate in a manner that does not cause sanitary sewer overflows (“SSOs”) or dry weather overflows (“DWOs”). These requirements are incorporated into this contract, and the Contractor is required to comply with these and all terms of the Consent Decree.

Based on the foregoing, the City has determined that this contract shall be and is subject to the provisions of the Consent Decree, and that the Contractor is expressly required to comply with all terms of the Consent Decree as a condition of this contract with the City, and that a copy of the Consent Decree is attached to this contract as an Appendix.

By signing this contract, Contractor acknowledges receipt of the Consent Decree, and affirmatively represents that it has read the same, understands the requirements of the Consent Decree, and agrees that all Work in this contract shall be performed in conformity with the terms of the Consent Decree. Contractor further acknowledges that in the event that actions by the Contractor causes a violation of the Consent Decree that results in increased costs to the City through increased contractor costs, penalties or other claims, the City reserves all rights and legal remedies to recover such costs.

CITY OF SEATTLE

West Seattle Junction Landbank Park

Bid Opening: **July 15th, 2026, at 2:00 PM**

PW#2019-094

PROJECT LOCATION: 4731 40TH Ave SW, Seattle, WA 98116

PROJECT DESCRIPTION: Developing a 0.38 acres vacant lot to become a neighborhood open green space for public use. Improvements include but are not limited to grading, drainage and sewer connections, landscaping, planting, artificial play surface, lawn, concrete and permeable concrete paving, Right-of-way improvement, drinking fountain installation, lighting and irrigation systems. **Additive#1** is for bench, pebble seating and Boardwalk system.

A/E ESTIMATE: $1,206,866.00 **Additive#1: $**404,360.00

PRE-BID SITE INSPECTION/MEETING:

There is an **OPTIONAL** pre-bid (site inspection/meeting) for this project. All those that wish to bid on the project are encouraged to attend. The pre-bid will be scheduled for **Tuesday, June 23rd at 1:30 pm.**

For purposes of the Inclusion Plan, this is considered a **Park Development** type of project with a Past Performance of **PERCENT 28**% WMBE utilization rates based on completed projects. For questions on the Inclusion Plan, please contact Miguel Beltran at Miguel.Beltran@seattle.gov or 206-684-4525. Back-up contact is Carmen Kucinski at Carmen.Kucinski@seattle.gov or 206-684-0188.

PAID SICK AND SAFE TIME: Bidders must understand the requirements of SMC 14.16 and RCW 49.46 and demonstrate compliance prior to award.

QUESTIONS: Deadline for Contractor questions regarding this **Parks and Recreation** project shall be submitted by close of business on **Wednesday, July 8TH, 2026,** to the **Parks** project manager via **Fred.Gu@seattle.gov**.

BID DOCUMENTS: Contract Documents, contacts and Bid Instructions are available at https://procurement.opengov.com/portal/seattle.

PART 1 – GENERAL

1.01 BID PROCEDURES AND CONDITIONS

A. Responsible Bidder

1. For a Bidder to be considered responsible, the Bidder must meet all criteria in this section and must provide the Supplemental Bidder Responsibility Criteria form (SBRC) along with any documentation necessary for the Owner to establish that the Bidder can meet expectations and perform the Work. The documentation must demonstrate that the Bidder is experienced in performing the Work based on the firm's completion of past work and the firm's compliance with legal and contractual requirements. The Owner may take whatever action is necessary to establish the ability of the Bidder to perform the Work to the Owner's satisfaction.

2. To be considered responsible, the Bidder must meet the following mandatory responsibility criteria:

   a. At the time of Bid submittal, have a certificate of registration in compliance with Chapter 18.27 RCW;

   b. At the time of Bid submittal, have a current State unified business identifier number;

   c. If required by the business type, have industrial insurance coverage for the Bidders' employees working in Washington as required in Title 51 RCW, an employment security department number as provided in Title 50 RCW, and a State excise tax registration number as provided in Title 82 RCW. If the Contractor has no employees, the Contractor must comply with the alternative election process and provide documentation under Title 50 and Title 51;

   d. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065 and not listed on the US Government's System of Award Management database (http://www.sam.gov/) with an active exclusion; and

   e. Prior to Notice of Intent to Award, have received training on the requirements related to public works and prevailing wage by Labor and Industries or approved training provider per RCW 39.04.350, chapter 39.12. Bidders are exempt from training if Bidder has been in business with active unified business identifier number for 3 or more years and have performed work on 3 or more public works project.

   f. Meet the supplemental criteria requirements in **Paragraph 1.01.B.** (Apparent low Bidder only.)

3. The apparent low Bidder, see **subparagraph 1.02.A.3,** must also demonstrate compliance with the following City requirements:

   a. The Bidder must show substantial compliance with social equity Contract requirements on past projects or evidence to responsibly perform, including, but not limited to, compliance with the Inclusion Plan, Social Equity Plan, or Community Workforce Agreement.

b. The Bidder must have a current Seattle Business License and must be current on all Business and Occupancy Taxes pursuant to SMC 5.55.030A, before Award when the Work is in the City of Seattle, the Bidder conducts business in the City of Seattle, or the Contractor owes Taxes to the City of Seattle.

c. The Bidder must not owe any monetary disincentive assessments or penalties regarding Apprentice Utilization on prior projects before Award.

d. The Bidder must be registered on the City of Seattle's Procurement Portal, powered by OpenGov, before Award: https://procurement.opengov.com/portal/seattle

e. Equal Benefits (SMC 20.45): Except as may be provided in the Equal Benefits Program Rules, the apparent low Bidder must submit the Equal Benefits Declaration as part of the SBRC.

f. Labor Standards (SMC 14.16,14.17,14.19,14.20): Except as may be provided in the Office of Labor Standards rules, the Apparent Low Bidder must demonstrate compliance with the City's fair labor standards.

g. Campaign Contributions (SMC 2.04): The Bidder must not be found in violation of earning more than $250,000 in City contracts in the last fiscal year and contributed to a City elected official's campaign.

h. The Bidder must comply with any additional requirements as a condition of state or federal funding, loans, or grants for the Work.

4. The Bidder may request that the supplemental bidder responsibility criteria be modified. Such request must be submitted to PC via the submittal methods listed on the SBRC before 5:00 p.m., 5 Business Days before the Bid Opening Date. The request must be marked, Request to Modify Supplemental Bidder Responsibility Criteria – PW#_____. If the City determines a modification is necessary, an Addendum to the Bid Documents will be issued to identify the new criteria.

5. It is the sole opinion of the Owner if the Bidder is considered responsible. If the Owner determines a Bidder to be not responsible, the Owner will provide, by email or other writing, the reasons for the determination. The Bidder may protest the determination within the time period specified in **Paragraph 1.02.F** by presenting additional information to the Owner. The Owner will consider the additional information before issuing its final determination. If the final determination affirms that the Bidder is not responsible, the Owner will not Execute a Contract with any other Bidder until 2 Business Days after the Bidder determined to be not responsible has been sent the final determination.

6. Additionally, the Bidder must verify the mandatory and supplemental responsibility criteria for each Subcontractor. Likewise, a Subcontractor of any tier that hires other Subcontractors must verify responsibility criteria for each. Verification must include that each Subcontractor, during subcontract execution, meets the responsibility criteria listed in items in **Paragraph 1.01.A** and **Paragraph 1.01.B** and possesses an electrical or plumbing Contractor license, if required by Chapter 19.28 RCW, or an elevator Contractor license, if required by Chapter 70.87 RCW. This verification requirement and the responsibility criteria are included in every public works Contract and subcontract of every tier.

7. If the Bidder fails to supply documentation or falsely represents the information, the Owner may reject the Bidder as not responsible by taking the following actions:

a. Rejection of the Bidder's Bid under **Paragraph 1.01.N**;

b. Revocation of the Award;

c. Termination of the Contract under **Section 00 72 00 Paragraph 1.08.K**; or

d. Proceeding with debarment under **Section 00 72 00 subparagraph 1.08.K.8.**

B. Supplemental Bidder Responsibility Criteria Form (SBRC)

1. Submission and Evaluation of the SBRC

a. The apparent low Bidder must submit the SBRC and any additional documentation to PC within 3 Business Days of receipt of the request or as otherwise acceptable to PC. The documentation must detail the Bidder's, or Subcontractor's, experience with the precise experience requirements as stated in the Contract.

2. Compliance History

a. The Bidder must answer questions on the SBRC demonstrating their compliance history and capabilities in performing these categories. The Owner may use a Bidder's past compliance history as part of the determination of responsibility.

3. Personnel

a. The Bidder certifies, by submitting the SBRC, that it will assign the named personnel to the Project. In the event it becomes necessary for the Bidder to substitute personnel during the life of the Contract, the following provisions apply:

1) Before substituting a new project manager or superintendent, the Contractor must submit for the approval of the Owner, a current resume for the new personnel documenting that the new personnel comply with the supplemental bidder responsibility criteria established for the project.

2) The Owner may suspend the project if the Contractor substitutes a project manager or superintendent without the Owner's approval. The Contractor is fully liable for the additional costs resulting from the suspension of work and no adjustments in Contract Time resulting from the suspension of work will be allowed.

4. Work Experience

a. If specific work experience criteria are required in the Project Manual, the Bidder must document on the SBRC that meets the specified criteria.

b. The Owner will verify that the specified work experience criteria is met by the apparent low Bidder. It is the Bidder's responsibility to verify that the names and phone numbers provided for references are current to ensure the Owner's ability to contact references and verify Bidder work experience. If the Owner is unable to contact references to verify Bidder or Subcontractor experience due to circumstances beyond its control, the

Owner reserves the right to determine work experience based on the information available to the Owner.

c. The Bidder must document on the SBRC Form that the bidder and the Bidders personnel or Subcontractors have completed projects of a similar size and scope as required by the following criteria - as required by the specifications and SBRC Form for this project:

For the purposes of meeting this SBRC criteria, the Owner has determined that "similar size and scope of the project is defined as: completion of at least three (3) projects in the last seven (7) years that meets the following criteria:

1. For one (1) project the Bidder and its Key Personnel must show experience in improving street Right of Way requiring replacement of concrete sidewalks, excavation around existing infrastructures.

2. For two (2) projects the Bidder and Key Personnel must show experience managing similar scopes of work as defined as grading, drainage and sewer connections, planting, installation of artificial play surface or natural lawn, permeable concrete paving, drinking fountain or outdoor plumbing installation, outdoor lighting and irrigation systems.

C. Estimated Quantities

1. The quantities shown on the Bid Form are estimates and are stated for Bid comparison purposes only. The Owner does not warrant, expressly or by implication, that the actual quantities of the Work will correspond with those estimated. The Engineer may increase or decrease the amount of any Bid Item of Work or change the Work as necessary. Payment will be made on the basis of the actual quantities of each Bid Item of Work completed as specified in the Contract.

2. Subparagraph 1 above is not applicable for a lump sum contract.

D. Examination of Bid Documents and Project Site

1. General

a. Bid Documents are available for download at:

http://www.seattle.gov/purchasing-and-contracting/construction-contracting

b. The Bidder is responsible for examining the Bid Documents. Submittal of a Bid is evidence that the Bidder has made these examinations and understands all requirements of the Bid process and for the performance of the Work. By submitting a Bid, the Bidder further warrants, agrees, and acknowledges that they:

1) Have taken all steps necessary to ascertain the full scope, nature and location of the Work.

2) Have investigated and are satisfied as to the general and local conditions that can affect the Work and its cost, including but not limited to:

a) Conditions bearing on acquisition, transportation, disposal, handling, and storage of materials;

b) Availability of labor, materials, water, electric power, and roads;

c) Uncertainties of weather, river stages, tides, or similar physical conditions at the Project Site;

d) Conformation and condition of the ground;

e) The equipment and facilities needed preliminary to and during Work; and

f) Site and environmental conditions which by statute, law, or regulation require specific training and certifications for employees;

3) Are satisfied as to the character, quality, and quantity of surface and subsurface information or obstacles that may be encountered insofar as this information can reasonably be ascertained from an inspection of the Project Site, including Materials sites, as well as from the Bid Documents and other information made a part of this Contract.

4) Are satisfied that adequate time has been allowed for Physical Completion of the project.

5) Take responsibility for properly estimating the difficulty and cost of performing the Work.

6) Are familiar with and will comply with all federal, state, and local laws, ordinances; and regulations that might affect the Work or those engaged in the Work. The Bidder is not relieved of this obligation because of the Bidder's misunderstanding or ignorance of such requirements.

7) Are satisfied that their Bid Item prices reflect their cost for completing the Work, including Materials, labor, equipment and costs including insurance and bonding.

c. The Bidder has a responsibility to ask about any perceived defect or ambiguity in the Bid Documents. Bidders who need an explanation or clarification of the Bid Documents must make this request in writing before 5:00 p.m. on that Wednesday preceding the Bid opening. A claim will not be allowed if a Bidder failed to request clarification or if a reasonably prudent contractor would have discovered such defects or ambiguities while preparing their Bid.

2. Subsurface Information

a. If the Engineer has made a subsurface investigation of the Project Site of the proposed Work, the boring log data, soil sample test data, and geotechnical reports accumulated by the Engineer will be provided for inspection by the Bidders. The boring logs are part of the Contract. However, the Engineer makes no representation, guaranty, or warranty, expressed or implied, that:

1) The Bidder's interpretation from the boring logs or geotechnical reports is correct;

2) Moisture conditions and indicated water tables do not vary from those found at the time the borings were made;

3) The ground at the location of the borings has not been physically disturbed or altered after the boring was made; and

4) The conditions, materials, or proportions of the materials is consistent between the specific borings.

b. In addition to the above data, SDCI has geotechnical reports for private property located in an Environmentally Critical Area Geographically Hazardous zone if the private property has been under SDCI permit review. This data is available for the Contractor's review at:

SDCI
Soils Reports
700 Fifth Avenue
22nd Floor
Seattle, WA 98104
(206) 684-8950
(206) 233-7902 (FAX)

c. The availability of subsurface information from the Engineer does not relieve the Bidder or the Contractor of any responsibility to make examinations and investigations as required by **subparagraph 1.01.D.1** and any other responsibility under the Contract, or as may be required by law.

E. Form and Style of Bid

1. A Bid must only be submitted on the Bid Form provided on OpenGov. A price must be submitted for each Bid Item listed.

2. The Bidder must not make a stipulation on the Bid Forms or qualify the Bid in any manner. A Bid amount must be included for every bid item listed in the Bid Form. A person authorized to legally bind the Bidder must provide an Electronic Signature on the Declaration page.

F. Addenda

1. If the Engineer determines modifications or clarifications to the Bid Documents are required before the Bid Opening Date, they will be provided by Addendum. Oral explanations, interpretations, or instructions are not binding on the Owner. Only modifications or clarifications issued by a written Addendum are binding. Notifications of Addenda and other project information will only be sent to official plan holders who downloaded or ordered documents through the City's official electronic Bid solicitation website, including plan centers that obtained documents through the website. A link to the current electronic Bid solicitation website is found at http://www.Seattle.gov/purchasing-and-contracting/construction-contracting . All Bidders are encouraged to check the electronic Bid solicitation website for Addenda at least 24 hours before Bid Opening.

2. The Bidder must acknowledge receipt of each Addendum by checking the appropriate boxes on OpenGov.

G. Bid Guaranty

1. A Bid Guaranty must be equal to 5 percent of the maximum Bid amount that could be awarded based on the Bidder's Bid, including Base Bid, sales tax, Alternates, Additives, and Deductives, if applicable. A Bid will not be accepted or considered unless accompanied by a Bid Guaranty with power of attorney.

2. A Bid must be accompanied by a Bid Guaranty in the form of:

   a. A certified or cashier's check payable to The City of Seattle; or

   b. A Bid bond on the form issued by the Surety and accompanied by power of attorney.

3. Bid bonds must be issued by a Surety company that is authorized to do business in the State of Washington and appears on the current list of authorized insurance companies published by the Office of the Washington State Insurance Commissioner.

4. Bid bonds must be original and contain the following:

   a. Project name and public works number (PW#);

   b. The City of Seattle named as oblige;

   c. The amount of the Bid bond stated as 5 percent of the maximum Bid amount that could be awarded (including sales tax);

   d. The signature and title of the Bidder's officer who is legally authorized to bind the Bidder; and

   e. The signature of the Surety's officer empowered to sign the bond and the power of attorney.

5. A Bid Guaranty must accompany all Bids. Bidders must upload a scanned copy of the wet signed and notarized Bid Guaranty through OpenGov as a PDF file. The Bidder must mail Bid Guaranty originals with a postmark no later than one (1) Business Day following the Bid Opening Date. PC will not accept Electronic Signatures or electronic notarizations on the Bid Guaranty originals. Mail original Bid Guaranty documents to:

   FAS – Purchasing and Contracting
   City of Seattle
   P.O. Box 94687
   Seattle, WA 98124-4687

6. A Bid may be declared non-responsive if a Bidder submitting an electronic Bid fails to mail a hard copy original of the Bid Guaranty with the required USPS postmark.

H. Noncollusion Requirement

1. The Bidder declares by signing the Declaration that they have 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 the preparation and submission of its Bid. The Bidder and other potential Bidders or participants in collusion may be declared not responsible under **Paragraph 1.01.A** and may be debarred under SMC Chapter 20.70.

I. Bid Submittal

1. General

a. The Bid must be submitted through OpenGov by the time and date specified in the Advertisement for Bids or as modified by Addenda. The Bid, together with the Bid Guaranty and any other required documents, due at the Bid submittal deadline, must be submitted through OpenGov. Any required documents that are due after the Bid submittal deadline must be emailed as a PDF file(s) to FAS_PWSecureBid@seattle.gov by the appropriate deadline; OpenGov cannot accept submittals after the Bid submittal deadline.

b. PC designates the official Bid clock. The Bidder is responsible for the timely submittal of the Bid. A Bid submitted or received after the Bid submittal deadline will not be accepted, unless determined by the Owner that the lateness was outside of the Bidder's control and that there is no bidding advantage to accepting a late Bid.

c. Bidders must submit Bids electronically through OpenGov by the Bid submittal deadline. PC will accept Electronic Signature for the Declaration and the Bidder/Subcontractor List, if applicable.

1) Email additional required documents, that are due after the Bid submittal deadline as a PDF file(s) with a maximum individual file size of 15MB. Email additional required documents to the following address by the appropriate deadline. FAS_PWSecureBid@seattle.gov. Identify both the email and the attached PDF file(s) with the full Public Works Contract Number (PW#) and name of the Bidder (e.g. "PW#2020-001 – Joe Construction").

a) Bids must be entered and submitted by 2:00 PM through OpenGov on the Bid Opening Date. OpenGov will not allow any Bid submission after the 2:00PM Bid submittal deadline. For any required documents that are due after the 2:00PM deadline will be submitted by email as a PDF file(s) to FAS_PWSecureBid@seattle.gov. PC will use the Email Time Stamp as the official time for electronic supplemental Bid submission receipt.

d. The Email Time Stamp constitutes the official time for electronic submittal receipt for required documents that are due after the Bid submittal deadline and are submitted by email.

e. If mandatory pre-bid meeting were required as part of the Bid's solicitation, the Bidder's company must be represented on the pre-bid meeting sign-in sheet, or the Bid will not be accepted.

f. If the Bidder/Subcontractor List is required, it must be included with the Bid Forms as described in RCW 39.30.060.

2. Change of Bid Submittal Date

   a. The Owner may change the date and time for Bid submittal. Notification of the change will be by Addendum.

3. Bidder/Subcontractor List

   a. In compliance with RCW 39.30.060 for all projects estimated to cost $1,000,000 or more, all Bidders must complete and submit the Bidder/Subcontractor List, **Section 00 41 00, Attachment B**. The completed Bidder/Subcontractor list must identify the Subcontractors that the Bidder will contract with for HVAC, plumbing, electrical, structural steel, or rebar installation work; or indicate that the Bidder intends to self-perform the work, if awarded the Contract; or that category of work is not applicable. The Bidder/Subcontractor List must be submitted with the Bid Forms. The Bidder is responsible for the timely delivery of the Bidder/Subcontractor List.

   b. For purpose of evaluating the Bidder/Subcontractor list, and notwithstanding any interpretations therein or in the Contract to the contrary, the Owner has determined that the project includes the following trades: (**Plumbing, Electrical, and Structural Steel Installation)** Accordingly, Bidder must name a Subcontractor(s) licensed to perform the category of work per the instructions in the Bidder/Subcontractor List. If the Bidder is licensed to perform the category of work, Bidder may self-perform per the instructions in the Bidder/Subcontractor List. Failure to name a Subcontractor(s) or name itself to perform the category of work may render the Bidder's Bid non-responsive and rejected.

   c. The Bidder may list no more than 1 Subcontractor for each category of work, unless Subcontractors vary with Bid Alternates, Additives, or Deductives, in which case the Bidder must indicate on a separate Bidder/Subcontractor List which Subcontractor will be used for which Alternate, Additive, or Deductive. If the HVAC, plumbing, electrical, structural steel, or rebar installation specialty is left blank (meaning either the name of a Subcontractor is blank, or a checkbox is not checked) the City will accept the blank as self-performance. The Bidder is bound to self-performance of that specialty for the duration of the Project.

   d. The Bid will be rejected as non-responsive if the Bidder/Subcontractor list is not provided. The Bidder/Subcontractor List must be submitted with the Bid Forms as described in RCW 39.30.060. If awarded the Contract, the Bidder agrees to use the Subcontractors identified on the Bidder/ Subcontractor List unless the City agrees to a substitution.

4. Inclusion Plan

   a. For all public works projects having an Engineer's Estimate of $300,000 or more, unless waived by PC, all Bidders must complete and submit the Inclusion Plan, **Section 00 41 00, Attachment A** with the Bid. A Bid will be rejected as non-responsive for failure to submit a completed Inclusion

Plan. The Bidder's completed Inclusion Plan will be given points to determine responsiveness, as directed on the Inclusion Plan.

b. For the Inclusion Plan, this is considered a **Park Development** type of project with a Past Performance of 28 **%** WMBE utilization rates based on completed projects.

J. Modification or Withdrawal of Bid

1. After submitting a Bid, but prior to the Bid submittal deadline, a Bidder may either (1) withdraw or (2) revise its Bid through OpenGov.

K. Alternate, Additive, Deductive

1. The Owner reserves the right to arrange the Bid Form with Alternate, Additive, and/or Deductive items in any order. The Bidder must bid on all Alternates, Additives, and Deductives in the Bid Form.

L. Public Opening of Bids

1. Bid Reading:

a. Bids submitted through OpenGov will be opened and read aloud via Microsoft Teams following the 2:00 p.m. Bid submittal deadline specified in the Advertisement for Bids or in an Addendum. There is no in-person Bid opening.

b. Microsoft Teams call-in information is as follows:

1. Microsoft Teams Phone number to connect:

a. 1-206-686-8357 (Seattle) or (United States)

2. Meeting Number Access Code: 190 706 876#

M. Irregular Bids

1. The Owner has the right to review Bids for material irregularities. If the Owner determines a Bid to be irregular and rejects it, notification will be sent to the Bidder in writing containing the reason for the determination. A Bid will be considered irregular and non-responsive if:

a. The authorized Bid Forms are not used;

b. The completed Bid Forms contains any unauthorized additions, deletions, alternate Bids, or conditions;

c. The Bidder did not Bid on all Alternates, Additives, or Deductives, when required;

d. The Bid Guaranty is not included with the Bid;

e. For projects estimated to cost $1,000,000 or more, the Bidder did not comply with the Bidder/Subcontractor list requirements, see **subparagraph 1.01.I.3** of this Section and **Attachment B to Section 00 41 00 – Bid Forms**, Bidder/Subcontractor List;

f. The Bid does not constitute a definite and unqualified offer to comply with the material terms of the Bid invitation;

g. The Inclusion Plan is not submitted with the Bid when required; or

h. The Inclusion Plan does not receive the minimum score as identified in the plan to be considered responsive when submitted with the Bid when required.

2. A Bid may be considered irregular and non-responsive if:

a. The Bid Guaranty is not complete or not sufficient.

b. Any of the Bid Item prices are excessively above or below the amount of a reasonable Bid, to the potential detriment of the Owner; or

c. A lump sum Bid is excessively lower than other Bids.

d. Receipt of Addenda is not acknowledged.

e. The Bidder is a member of a joint venture or partnership, and the joint venture or partnership submits a Bid for the same project. In such an instance, both Bids may be rejected.

f. The Bid is not properly Executed.

g. Proof of license for named subcontractors (if applicable) is not provided per RCW 39.30.60

N. Disqualifications of Bidders

1. A Bidder will be deemed not responsible, and its Bid rejected if:

a. The Bidder does not meet the mandatory responsibility criteria in RCW 39.04.350(1) as amended and as specified in **Paragraph 1.01.A**;

b. The Bidder (apparent low Bidder only) does not meet the Supplemental Bidder Responsibility Criteria as specified in **Paragraphs 1.01.A and 1.01.B**, did not provide the completed and signed SBRC or required documentation to evaluate the Bidder qualifications, or fails to disclose or submits false or misleading information on the SBRC or in the attached documentation;

c. Evidence of collusion exists with any other Bidder or potential Bidder; or

d. The Bidder failed to attend a mandatory pre-bid conference, if applicable.

2. A Bidder may be deemed not responsible and its Bid rejected if:

a. More than 1 Bid is submitted for the same project from a Bidder under the same or different names;

b. An unsatisfactory performance record exists as shown by past or current Work for the Owner, or for others, as judged from the standpoint of the conduct of the Work, environmental or safety compliance records, workmanship, progress, social equity, Community Workforce Agreement, or equal employment opportunity practices; or termination for cause;

c. The Bidder has failed to settle bills for labor or Materials on past or current contracts;

d. The Bidder has failed to complete a public contract;

e. The Bidder has been convicted of a crime arising from a previous public contract;

f. The Bidder is unable, financially, or otherwise, to perform the Work; or

g. For any other reason deemed proper by the Owner.

3. The Owner will notify the Bidder by email or by other writing if the Bidder is determined to be not responsible under this Section.

1.02 AWARD OF CONTRACT

A. Consideration of Bids

1. Bid Tabulation

a. General

1) 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 Owner will revise the unit or lump sum price, to the minimum specified amount and recalculate the extension and/or the total Bid price.

b. Reciprocal Preference For Resident Contractors

1) Per RCW 39.04.380, a Bid which is received from a nonresident Contractor from a state that provides a percentage bidding preference, a comparable percentage disadvantage must be applied to the Bid of that non-resident Contractor. The comparable percentage disadvantage will be per the Contractor's resident state. A non-resident Contractor will be one who, at the time of Bid, does not have an office located in the State of Washington. The resident state is the state in which the Contractor was incorporated or where the Contractor's business entity was formed.

2) Research on bidding preferences is maintained at:

http://www.des.wa.gov/SERVICES/facilities-leasing/public-works-design-construction/state-agencies-and-educational-facilities/instructions-public-agencies

3) For the purpose of determining the apparent low Bidder, the Owner will multiply the non-resident Contractor's Bid amount by the comparable percentage disadvantage (CPD). The Bid amount is the total of the Base Bid and all selected Alternates, Additives, or Deductives to be awarded. The Owner will add the product of the CPD percentage and the Bid amount to the nonresident Contractor's Bid amount, which determines the nonresident disadvantaged total Bid pertaining to the nonresident Contractor to be used for comparison of competing bids. The nonresident disadvantage total will be compared to the resident Contractor's Bid amount. The calculated lowest total is the lowest Bid.

c. Identical Bid Totals

1) If two or more responsive Bids are exactly equal, in order to establish the apparent low Bidder, the winning Bid will be determined by random draw among the equal Bids.

2. Claim Of Error and Relief of Award

a. A Bidder who wishes to claim error or miscalculation of their Bid and would like to withdraw their Bid after the Bids have been opened, must submit a signed statement, accompanied by copies of the worksheets used in the Bid preparation, requesting to withdraw. The statement must describe the error, or circumstance, and certify that the worksheets are copies of originals used in the preparation of the Bid. The statement and the worksheets must be submitted to: Purchasing and Contracting, City of Seattle, Department of Finance and Administrative Services, 700 Fifth Avenue, Suite 4350, Seattle Municipal Tower, Seattle, WA 98104-5008, or by email to FAS_PW_Admin@Seattle.gov by 5:00 p.m. the next Business Day or as acceptable to the Owner.

b. The Owner will determine the validity of the claim of error. If the Owner concurs, the Bidder will be relieved of responsibility of Award, the Bid will be withdrawn, and the Bid Guaranty will be returned. Thereafter, at the discretion of the Owner, all Bids may be rejected, or Award made to the responsible Bidder with the next lowest responsive Bid. A low Bidder who claims error is prohibited from bidding on the same project if the project is re-bid.

3. Declaration of the Apparent Low Bidder

a. The Owner will evaluate all Bids to determine the apparent low Bidder. The apparent low Bidder is the Bidder meeting the mandatory bidder responsibility criteria and offering the lowest responsive Bid.

b. The lowest Bid will be determined by the sum of the Base Bid, with Bid Item price extensions corrected where necessary, plus any Alternates, Additives, and/or Deductives that the Owner decides to include in the Contract Price. Alternates, Additives, and/or Deductives may be selected in any order that the Owner determines to be within available funds.

c. The Owner will determine if the Bidder providing the lowest Bid meets the mandatory responsibility criteria specified in **Paragraph 1.01.A.**

d. Once the Owner has determined the apparent low Bidder, all Bidders will be notified through the City's on-line bidding website.

4. Pre Award Information and Rights of the Owner

a. The apparent low Bidder must submit the SBRC described in **Paragraph 1.01.B** for Owner evaluation. The Owner will also evaluate if the supplemental responsibility criteria in **Paragraph 1.01.A** are met. In addition, the apparent low Bidder under consideration for Award may be required to furnish:

1) A complete statement as to the origin, composition, and manufacture of any and all Materials to be used in the project, together with samples which may in turn be subjected to tests to determine their quality and fitness for the Work, as provided for in the Contract.

2) A critical path schedule in the form required by the Engineer showing the order of the Work and the time required on the various phases of the Work.

3) A breakdown of costs assigned to any Bid Item or a schedule of values for lump sum Bids.

4) Any additional information requested by the Owner to understand the Bid price or ascertain the Bidder's general ability to perform the Work.

5) A Social Equity Plan.

b. In addition to such other rights as may be reserved elsewhere in the Contract, the Owner reserves the right to:

1) Reject any or all Bids at the Owner's discretion;

2) Re-advertise for Bids;

3) Waive informalities or immaterial irregularities in the Bidding and Award processes;

4) Accept the lowest responsive Bid of a responsible Bidder;

5) Correct arithmetical errors in a Bid;

6) Cancel the Work; and

7) Award such Alternate, Additive, or Deductive, as may be set forth in the Bid Forms in the order most advantageous to the Owner.

B. Award of Contract

1. After the Owner has determined that the apparent low Bidder has met all of the mandatory and supplemental bidder responsibility criteria, the Owner will provide Notice of Intent to Award to all Bidders through the City's official Bid solicitation website.

2. The Owner will endeavor to Award the Contract within 60 Days after the Bid Opening Date. If the Contract is not awarded within that 60 Day period, a Bidder may withdraw their Bid in writing at any time on or after the 60 Days. All Bids will otherwise continue to be eligible for consideration until the Award of the Contract.

C. Required Documents to Establish the Execution Date

1. General

a. Within 10 Business Days of issuing the Notice of Intent to Award, unless extended by mutual agreement, the apparent low Bidder must submit to PC: proof of insurance, fully executed original Payment and Performance Bond, Retainage Bond if applicable, and the original signed Agreement Form. The apparent low Bidder must also submit the Social Equity Plan as specified in **subparagraph 1.02.C.5**.

2. Evidence of Insurance

a. The apparent low Bidder must submit to PC the evidence of insurance as required in **Section 00 73 16.** E-mail delivery is acceptable to FAS_PW_Admin@Seattle.gov.

3. Payment and Performance Bond

   a. The apparent low Bidder must provide to PC an original, executed Payment and Performance Bond for the awarded Contract Price. The Payment and Performance Bond must:

      1) Be on a form furnished by the Owner;

      2) Be signed by the principal and notarized;

      3) Be signed and notarized by an approved Surety or Sureties that:

         a) Is registered with the Washington State Insurance Commissioner;

         b) Appears on the current Authorized Insurance List in the State of Washington published by the Office of the Insurance Commissioner;

         c) Has a current rating of at least A-VII in A.M. Best's Key Rating Guide or is included in the U.S. Department of the Treasury's Listing of Approved Sureties (Circular 570); and

      4) Be accompanied by an original power of attorney document with the same date as the notarization by the Surety.

   b. The Owner may require the Surety or Sureties named on the Payment and Performance Bond to appear and qualify itself. Whenever the Owner determines the security to be inadequate, the Owner may require in writing that the Contractor furnish additional security to cover any remaining Work. No payments will be made until the added security is furnished.

4. Agreement Form

   a. The apparent low Bidder must submit to PC the original Agreement Form signed by a person authorized to bind the Bidder's business based on the business entity and/or Governing Persons listed on the Washington State Secretary of State website.

   b. After the Owner has countersigned the Agreement Form, establishing the Execution Date of the Contract, the Owner will forward a copy of the fully executed Agreement Form to the successful Bidder (the Contractor.)

   c. No physical work is allowed within the Project Site or within sites furnished by the Owner until the Notice to Proceed has been provided to the Contractor as specified in **Section 00 72 00, Paragraph 1.08.E**. The Contractor bears all risks for any work begun before the issuance of the Notice to Proceed except for submittal and procurement work as specified in **Section 00 72 00, Paragraph 1.08.E**

5. Social Equity Plan

   a. The apparent low Bidder must submit to PC a completed Social Equity Plan within 3 Business Days of the Owner's issuance of the Notice of Intent to Award. A completed plan must include all sections applicable to the project including the Inclusion Plan Supplement, Apprenticeship, and Workforce Projections when required. The Social Equity Plan must indicate the firms and scopes with estimated dollars for all WMBE

subcontractors, and must, if applicable, list all apprentice trade assignments and estimated hours. The apparent low Bidder should contact PC for help preparing the Plan to ensure completeness. The Social Equity Plan must be approved by PC prior to the Execution Date.

D. Failure to Execute the Contract

1. The Bidder's Bid Guaranty is forfeited if the Bidder to whom the Award was made fails to:

   a. Execute the Agreement Form within the required time period; or

   b. Furnish satisfactory bonds and insurance within the required time period.

2. In such case, the Owner may then Award the Contract to the second lowest responsible Bidder. If the second lowest responsible Bidder fails to execute the Agreement Form and furnish satisfactory bonds and insurance within 10 Business Days after Notice of Intent to Award has been made to the second Bidder, or within the time period mutually agreed on by the Owner and second Bidder, the second Bidder's Bid Guaranty will also be forfeited. The Contract may continue in a like manner to the remaining responsible Bidders until the Agreement Form is executed and bonds and insurance furnished by a responsible Bidder or the remaining Bids are rejected.

E. Return of Bid Guaranty

1. If the Bid Guaranty submitted by unsuccessful Bidders is in the form of a certified or cashier's check, the funds will be returned after the Execution Date.

2. The Bid Guaranty of the apparent low Bidder submitted in the form of a check will be returned after the Contract Execution Date. A Bid Guaranty in the form of a bond from the apparent low Bidder must be filed with the Executed Contract.

F. Protests

1. A Bidder may protest a determination or action of the Owner. Any protest must be filed in writing by 5:00 p.m. on the second Business Day after notification such as:

a. A Notice of Intent to Award, see **Paragraph 1.02.B**.

   b. A notice that a Bid is non-responsive, see **subparagraph 1.01.M.2**.

   c. A notice that a Bidder is not responsible, see **subparagraph 1.01.N.3**.

2. All such protests must be in writing and submitted to the Director. The protester accepts all risks of the delivery method they choose. The Owner is not responsible to assure the protest is received by PC within the protest deadlines. If PC does not receive the protest in a timely manner, the protest may be refused.

3. Submit the protest to:

   a. Director, Purchasing and Contracting,
   Department of Finance and Administrative Services

   Physical Address:

   City of Seattle
   Seattle Municipal Tower

700 Fifth Avenue, Suite 4350
Seattle, WA 98104-5008

By mail, or email:
City of Seattle
FAS-Purchasing and Contracting
P.O. Box 94687
Seattle, Washington 98124-4687

Email: FAS_PW_Admin@Seattle.Gov

4. To be considered, the protest must comply with these requirements:

   a. The protester must have submitted a Bid.

   b. The protest must not be on a matter which should have been known to the Bidder before the bid deadline, including matters specified in **Paragraph 1.01.D**.

   c. The protest must allege:

      1) A matter of bias, discrimination, or conflict of interest;

      2) Errors in responsiveness or responsibility; and/or

      3) Non-compliance with procedures described in the Bidding Documents.

   d. All protests must be in writing and state that the Bidder is submitting a formal protest. A notice that a Bidder intends to protest does not reserve the right to protest. The Bidder must file a comprehensive protest within the required deadlines, following the proper format. A casual inquiry, complaint, or protest that does not comply with the form, content, or deadlines herein may not be acted on as a protest. Failure to provide any of the following information may result in refusal of the protest:

      1) Company name, mailing address, phone number, and name of company individual responsible for submission of the protest;

      2) Specify the Public Works Number (PW#) and project name;

      3) State the specific action or decision protested;

      4) Indicate the basis and support for the protest including specific facts and all documentation to support the protest. Additional documentation or information regarding any portion of the bidding or Award process will not be accepted after the protest submittal;

      5) Indicate what relief or corrective action the Bidder believes the Owner should make;

      6) Demonstrate that the Bidder made every reasonable effort within the bidding process to resolve the issue, including asking questions, attending the pre-bid conference, seeking clarification, requesting addenda, and otherwise alerting the Owner to any perceived problems; and

      7) Be signed by an authorized agent of the company.

4. The Director, or designee, of Purchasing and Contracting will review and decide all such protests. The Director's decision on the protest is final and exhausts all administrative remedies.

PART 2 - PRODUCTS

(Not Applicable)

PART 3 - EXECUTION

(Not Applicable)

End Of Section 00 21 13

The City of Seattle

Department of Finance and Administrative Services

BID FORMS

West Seattle Junction Landbank Park

Administering Department:
Parks Department

PW # 2019-094
Ordinance # 126955, 126725, 126479, 125475

Prepared by:
GGLO
Principal-in-Charge: Marieke Lacasse
Contact: (206) 467-5828
1301 Fifth Avenue, Suite 2200,
Seattle, WA 98101

BIDDER NAME:_____

1.01 - BID

TO THE DIRECTOR OF PURCHASING AND CONTRACTING FOR THE CITY OF SEATTLE:

A. The undersigned Bidder hereby certifies to have personally and carefully examined the Bid Documents issued for: (West Seattle Junction Landbank Park) as authorized under Ordinance No. 126955, 126725, 126479, 125475

B. The Bidder has examined the site where the Work is to be performed and the conditions affecting the Work;

C. The Bidder has attached a Bid Guaranty in the amount of five percent (5%) of the Total Bid that could be awarded including additives and retail sales tax if applicable in the form of cashier's check, certified check, or bid bond;

D. The Bidder hereby proposes to furnish all material and labor and to perform all work which may be required, and to complete the work within the time fixed and upon the terms and conditions provided in the Bid Documents for the price provided on the OpenGov Bid Form:

BIDDERS MUST COMPLETE PRICING TABLE IN OPENGOV

1.02 DECLARATION

I DECLARE, UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE STATE OF WASHINGTON, AS FOLLOWS:

A. **BID:** I agree to perform the Work in compliance with the Bid Documents, for the prices stated in OpenGov Bid Form to be incorporated into Section 00 41 00, Paragraph 1.01 of the Contract.

B. **NON-DISCRIMINATION:** I agree to ensure equal opportunity for employment and to engage in Affirmative Efforts in the solicitation of women and minorities and WMBE firms for participation on this Contract in accordance with SMC Ch. 20.42 and RCW 35.22.650.

C. **NON-COLLUSION:** I have 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 the preparation and submission of a Bid to the Owner for consideration in the award of a contract on the improvement described in the Bid Documents.

D. My bid takes into account the requirements imposed by Section 00 73 16, Article 1.09, which waives, with respect to the Owner only, the Contractor's immunity under RCW Title 51, (Industrial Insurance) of the Revised Code of Washington.

E. I agree to comply with the requirements regarding subcontracting, and the purchase of supplies or materials from firms that are not debarred or otherwise disqualified from doing business with the City under the provisions of SMC Ch. 20.42 or SMC Ch. 20.70.

F. Responsible Bidder Requirements: My bid acknowledges that I am in compliance with all of the responsible bidder requirements under RCW 39.04.350, including: having a certificate of registration under RCW 18.27 prior to bidding; a UBI number; industrial insurance coverage if required under Title 51 RCW; an employment security number under Title 50; and a state excise tax registration number under Title 82 and have received training on requirements related to public works and prevailing wage by Labor and Industries or approved training provider under RCW 39.04.350, and chapter 39.12 or are exempted by Labor and Industries. https://secure.lni.wa.gov/verify. I affirm I am not disqualified from bidding on any public works contract under RCW 39.06 or RCW 39.12.065(3) or on the System for Award Management, (sam.gov). I will provide proof of these requirements if requested.

GENERAL BUSINESS INFORMATION			
Business Name:			
Business Street Address:			
Business Mailing Address:			
Business Phone, general:		**Business Fax:**	
If the above address is not in the State of Washington please fill in the following:			
Washington State Office Address:			
State in which the Company is formed:			
Please complete the following:			
State of WA UBI No.:			
State of WA Contractor Registration No.:			
Employment Security Department No.			
City of Seattle Business License No.:			
CONTACT INFORMATION			
Primary Contact for Award (Name and Title):			
Primary Contact Phone:		**Email:**	
Administration Contact (Name and Title):			
Administration Contact Phone:		**Email:**	
Social Equity Contact (Name and Title):			
Social Equity Phone:		**Email:**	
INSURANCE INFORMATION			
Name of Insurance Company:			
Name of Insurance Contact:			
Insurance Contact Phone:		**Email:**	

OFFICIAL AUTHORIZED TO SIGN FOR BIDDER:

I certify (or declare) under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct:	
Location or Place Executed (City, State):	**Print Name and Title:**
Date:	**Signature:**

End of Section 00 41 00

Inclusion Plan
Construction – Public Works

Bidders must complete and submit this form with their bid. Carefully read all instructions.

For questions or assistance contact:

- Miguel Beltran, City Contract Compliance Manager, 206-684-4525 (Miguel.Beltran@seattle.gov)
- Carmen Kucinski, 206-684-0188 (carmen.kucinski@seattle.gov)

Bidder Company Name	
Public Works Number	
Project Title	
Name of person authorized to speak on behalf of the company regarding this Plan	
Email	
Phone	

Aspirational WMBE GOALS. Total available score: 6 points.
Identify the Aspirational WMBE Goals Bidder believes can reasonably be achieved through good faith efforts during this project. It is not mandatory that these goals be achieved; they are not contractually or legally binding. Goals must be developed in good faith and represented as attainable by reasonable efforts.

Estimated percentage of the base bid to Minority Owned contractors and suppliers	%
Estimated percentage of the base bid to Woman Owned contractors and suppliers	%
Total estimated percentage of the base bid to all WMBE contractors and suppliers	%

BUSINESS SUPPORT STRATEGIES. Total available score: 4 points

Each of the two options below is worth 2 points. Bidder may select one, both, or neither. Once selected, it applies to:

1. Registered as a Women or Minority Owned Business in the City Online Business Directory, and/or
2. Small Business Concern as certified by King County, and/or
3. Disadvantaged Business Enterprise of any definition certified by the State of Washington, and/or
4. Women or Minority Owned Business Enterprise as certified by the State of Washington; and/or
5. Small Business Concern certified by the State of Washington.

Business Support Strategy	Accept (Y / N)
Early Retainage Release. The prime (and any sub-tier primes) will release retainage held for the subcontractor, within thirty (30) days of acceptance of the work performed by the qualified subcontractor.	
Advance Mobilization Pay: The Prime (and any sub-tier primes) shall advance 10% of the specified and agreed-upon mobilization costs that were identified by line item within the WMBE firms bid, to each qualified firm at least 5 days in advance of the mobilization event.	

WMBE GUARANTEES. Total available score: 6 points.
A Bidder may offer to guarantee work to WMBE firms for the project, by identifying the WMBE and minimum dollar value of such work in the table below. You may add additional rows.

WMBE Business Name	Minimum Guaranteed Dollar Amount
	$
	$
	$
	$
	$
	$
TOTAL	$

City of Seattle: Public Works
Women and Minority Business
Inclusion Plan Instructions

Carefully review all instructions. All Bidders must complete this form. The City public works inclusion plan requires the Bidder identify the good faith efforts the Bidder will use to include woman-owned and minority-owned business (WMBE) firms on the City project. There are 3 options for evidencing good faith efforts. Each option is worth points which can vary depending on information supplied by the Bidder. There are a maximum of 16 points available. The Bidder must earn at least 10 points. Bidders that earn less than 10 points will be found non-responsive and the Bid will be rejected. This Inclusion Plan becomes a material part of the Bidder's contract if the project is awarded to Bidder.

WMBE firms are state certified or self-identified firms that are at least 51% WMBE owned (per SMC 20.42). A WMBE need not be self-identified within the City Online Directory at bid time, but in such case must self-identify and register by time of award. These resources may assist bidders:

City On-Line Directory: http://web6.seattle.gov/fas/registration/
OMWBE Directory: https://omwbe.diversitycompliance.com/

1. INSTRUCTIONS

a. All Bidders (including WMBE Primes) must complete and submit this form as part of the Bid for City design-bid-build public works project having an Engineer's Estimate of $300,000 or greater, unless the City expressly instructs otherwise in the bid package.
b. There are three commitments Bidders can use to establish an Inclusion Plan – Aspirational WMBE Goals, Business Support Strategies, and WMBE Guarantees:
    1. Aspirational WMBE Goals are goals Bidder believes can be achieved by good faith efforts. This option is worth a maximum of 6 points;
    2. Business Support Strategies are those the Bidder commits to employ for qualified firms. This option is worth a maximum of 4 points;
    3. WMBE Guarantees identify WMBE firms the Bidder guarantees to contract with for this project, with agreement reached about the work and pricing for the WMBE scope, including any terms and conditions important to the WMBE for their performance. This option is worth a maximum of 6 points.

c. Work performed by a WMBE must be commercially useful and a distinct element of work that includes managing and supervising the work. The Contractor should evaluate the amount of work subcontracted, industry practices, and other relevant factors to determine whether the work is commercially useful.
d. A Bidder scored less than 10 points will be deemed non-responsive. See Scoring section below.
e. All dollars cited shall exclude sales tax (including references to the Total Bid Cost and estimates made by Prime when completing this form).

2. SCORING INSTRUCTIONS

a. The average percentage of WMBE utilization on past City projects has been calculated by PC and is provided in the table below. This average is used to score the points that will be awarded for the aspirational goals and guarantees. These percentages are updated annually. Note that these averages include total WMBE utilization, not subcontracting alone, since aspirational goals may include prime self-performance.

b. In addition to the Past Performance, scoring also recognizes an intent to exceed past performance by at least 2 percentage points above past performance.
c. If the project is characterized by work of various types, PC may calculate a unique utilization rate for the project given the weight of each. PC determination is not subject to challenge.
d. The project type and percentage of past WMBE utilization will be stated in the bids advertisement and documents.
e. If past utilization for a project type was zero, an Aspirational Goal above two percent will receive 6 points. Bidder must still identify Business Support Strategies and Guarantees it is willing to employ and will be scored accordingly.
f. Points awarded for WMBE Guarantees will be calculated based upon total available work for subcontract given past performance. This section can be awarded as many as 6 points.
g. A Bidder who has received a formal Deficiency Report issued by the City as a result of unfulfilled WMBE Inclusion Plan commitments on past projects will lose one point from the total score.
h. When calculations are used to evaluate the points, the City will calculate points to the nearest tenth decimal place. The City will round up to the nearest tenth.

2020	Roadway	Facility	Parks*	Under ground	Boundary	Structural Paint	Structural	Natural Habitat	Roof	Trenchless / Sewer Lining
3 year average Past performance	21%	25%	25%	14%	2%	2%	8%	16%	14%	8%

Note: Boundary refers to projects performed in Pend Oreille County (Boundary). Parks utilization rate excludes the mandatory self-performed WMBE work for a prime.

3. ASPIRATIONAL WMBE GOAL INSTRUCTIONS

a. Aspirational WMBE Goals represent a serious commitment to use good faith efforts to reach the stated goals.
b. The City will rely upon the Total WMBE Goal to determine responsiveness. The City will correct the Total WMBE Goal if that provided by the Bidder does not match the MBE and WBE goals.
c. Aspirational WMBE Goals are a percentage of the Base Bid and during the course of the project will apply to the total contract amount including all contract change orders, additives, alternates and deductives. Contractor may seek a goal adjustment if such changes may merit a greater or lesser goal; PC will consider such requests, approve if appropriate, and modify the Plan accordingly.
d. A WMBE Bidder may include in their goals and guarantees that percentage of contract base bid for work which the WMBE intends to self-perform that is in excess of the mandatory 30% they are otherwise required to perform as required by the City Specifications Section 1-08.1(3).
e. Bidder will receive between 0 and 6 points for its Aspirational WMBE Goals, with proportional points based on a straight line formula to Past Performance (plus 2%) identified for the project as advertised in the bid solicitation. Bidder receives 3 points if the Total Aspirational Goal is half of Past Performance + 2%. Six points are awarded if the Bidder meets or exceeds Past Performance by 2 or more percentage points. For example, a project with Past Performance of 14%, would receive 3 points if the Total Aspirational Goal was 8% or 6 points if the Total Aspirational Goal was 16%.

$$P_A = 6A/(P + 2),$$

Where P_A = Points awarded for Bidder's Aspiration Goal
A = Bidder's Aspiration Goal (%)
P = Applicable Past Performance Trend (%)

4. BUSINESS SUPPORT STRATEGIES INSTRUCTIONS

The Bidder may elect to provide the business support identified on Page 2 for qualified firms. The City will provide two points for each choice selected. There are two options, allowing a total of 4 points if both options are chosen:

1. Early Retainage Release. The prime and any sub-tier primes will release retainage held for the subcontractor, within thirty (30) days of acceptance of the work performed by the qualified subcontractor.
2. For mobilization, the Prime and any sub-tier primes will pay all qualified firms five days in advance of the on-site performance, except if a unique situation prohibits such as an emergency or event requiring an immediate mobilization response. In those events, the Prime (including any sub-tier primes) shall deliver the payment no later than 5 days after job mobilization begins.

5. WMBE GUARANTEE INSTRUCTIONS

a. This guarantees the City and WMBE that they shall be used for at least the amount given, following the remaining rules below.
    1. A WMBE Guarantee expects the Bidder achieved agreement about scope, terms and cost of the work for the WMBE at bid time. The burden is upon the Bidder to resolve any differences, once the guarantee is given.
    2. The amount guaranteed to WMBEs is not conditional on award of additives, deductives or alternates.
    3. The Prime should clearly document in writing, agreements made with the WMBE firm upon which the guarantee was predicated, such as unit price or lump sum pricing as applicable, scope, terms or conditions, and subcontractor concurrence. This protects both parties when completing and executing the resultant subcontract before work begins.
    4. The City may contact the WMBE firm or Prime after Bid opening to verify the firm has agreement to perform work as described in the plan. Failure to have agreement may result in rejection of the Inclusion Plan, rendering the Bid non-responsive.
    5. A bidder will receive between 0 and 6 points for WMBE Guarantees, receiving a proportional number of points based on a straight line formula to Past Performance. A bidder will receive 3 points if the dollar-value of the Guarantees equals half of the Past Performance percentage. Six points are awarded if the Bidder commitments meet or exceed Past Performance.
    $P_G = 6\ G\ /\ P$
    Where P_G = Points awarded for Bidder's Guaranteed Goal
    G = Bidder's Guaranteed WMBE Goal (%)
    P = Applicable Past Performance Trend (%)

b. A WMBE bidder may only include self-performed work <u>above</u> 30%. This is based on the self-performance minimum required by the City Specifications Section 1-08.1(3).
c. Substitution or reduction of a Guaranteed WMBE firm is prohibited absent a waiver granted by the PC as a result of:
    1. Bankruptcy of the WMBE firm;
    2. Failure of the WMBE firm to provide the required bond;

3. The WMBE firm cannot perform the work because they are debarred, not properly licensed, does not meet the subcontractor approval criteria, or in some other way is ineligible to work;
4. Failure of the Subcontractor to comply with a requirement of law applicable to subcontracting;
5. Death or disability of the principal of the WMBE firm rendering it unable to perform the work;
6. Dissolution of the WMBE firm;
7. Failure of the WMBE firm to perform satisfactorily in previous projects not known to Bidder at the time of bid;
8. Failure or refusal of the WMBE to perform work for reasons other than contract term or pricing disputes;
9. A change in scope of the contract which removes the guaranteed work from the project.
10. WMBE Subcontractor does not execute an offered contract that reflects the terms and pricing that was agreed upon as a condition of the Guarantee. The Prime must evidence that the WMBE Subcontractor failed to execute a contract offered by the Prime which reflected such agreements, after the Subcontractor was given adequate time to execute the offered subcontract.
11. Change order that reduces the scope of work of a WMBE guarantee or other reason if approved by PC Division Director.

6. INCORPORATION OF PLAN INTO CONTRACT AND REPORTING REQUIREMENTS

a. PC may discuss the Plan with the Apparent Successful Bidder before incorporating into the contract and may amend the Plan by mutual consent.
b. PC reserves the right to require a completed Social Equity Plan as a condition for contract execution if no WMBE guarantees are provided in order to demonstrate results of good faith efforts.
c. The Contractor must provide reports and documents as required by PC within 15 days.
d. PC will evaluate Contractor's WMBE utilization throughout the project.
e. Contractor may not substitute a WMBE firm identified in the guaranteed portion of the plan unless the substitution is approved by PC. Such a substitution will not be considered unless Contractor can demonstrate clear necessity for such substitution. A Contractor granted permission to substitute for a guaranteed WMBE firm shall use good faith efforts to recruit another WMBE firm to perform the Work.
f. If PC determines the Contractor is not making good faith efforts, it may take action as described in the project specification such as withholding invoice payments and breach of contract.
g. The City will evaluate the WMBE utilization at close-out and may assign a Deficiency rating for failure to demonstrate good faith efforts. Deficient ratings are used by the City to determine Bidder responsibility on future work and debarment. To avoid a deficiency rating, the Contractor must demonstrate:
    1. A good faith effort to achieve Aspirational goals. Attainment under 80% of the goal will likely be considered deficient;
    2. Timely submittal of required and requested materials and reports to PC;
    3. Having advance agreements with each WMBE Guarantee, such that the WMBE understands and agrees that the WMBE Guarantee represents mutual agreement at time of the bid submittal;
    4. Using all "WMBE Guarantees" named in the Inclusion Plan, unless Prime received written authorization from PC for substitution;
    5. WMBE relationships are harmonious, clearly communicated and free of undue dispute; and
    6. WMBE work was commercially useful as defined above.

West Seattle Junction Landbank Park

As required in RCW 39.30.060, all Bidders for projects estimated to cost $1,000,000 or more shall identify Subcontractors that the Bidder will subcontract for the performance of rebar and structural steel installation, HVAC, plumbing as described in RCW 18.106 and electrical as described in RCW 19.28, or indicate that the Bidder intends to self-perform the work. If the Trade is left blank (either the name of a subcontractor is blank or a checkbox is not checked), the City shall accept the blank as "self performance." If left blank, the City shall determine through clarification whether rebar and structural steel installation, HVAC, plumbing and electrical work is required to execute the project; if so, the Bidder must be licensed and qualified to self-perform at the time of Bid submittal or the Bid shall be rejected. The Bidder shall be bound to self-performance of that specialty for the duration of the Project. The Bidder may contract with more than one Subcontractor in each of these trades, but may not list more than one Subcontractor for each category of work. If Subcontractors vary with Bid Alternates, Additives, or Deductives, the Bidder must indicate on a separate Bidder/Subcontractor List which Subcontractor(s) will be used for which Alternate, Additive, or Deductive.

The Bidder/Subcontractor List must be submitted to the Purchasing and Contracting (PC) with the Bid, or separately within one hour of the time and date for Bid submittal per Section 1-02.9(3). Failure to complete and submit the Bidder/Subcontractor List by the required time will result in the Bid being declared non-responsive and rejected. The Bidder is responsible for the timely delivery of the Bidder Subcontractor List. If awarded the contract, the Bidder agrees to utilize the subcontractors identified on the Bidder/Subcontractor List unless the City agrees to a substitution.

Trade	**You must check one box for each trade. If subcontracting, you must name the subcontractor(s) you will use and the category of work.**
Heating, Ventilation & Air Conditioning (HVAC)	☐ Name of Sub: _____UBI#_____ Category of Work: _____ ☐ Bidder will self-perform this work ☐ N/A (this project does not include this work)
Plumbing	☐ Name of Sub: _____UBI#_____ Category of Work: _____ ☐ Bidder will self-perform this work ☐ N/A (this project does not include this work)
Electrical	☐ Name of Sub: _____UBI#_____ Category of Work: _____ ☐ Bidder will self-perform this work ☐ N/A (this project does not include this work)
Structural Steel Installation	☐ Name of Sub: _____UBI#_____ Category of Work: _____ ☐ Bidder will self-perform this work ☐ N/A (this project does not include this work)
Rebar Installation	☐ Name of Sub: _____UBI#_____ Category of Work: _____ ☐ Bidder will self-perform this work ☐ N/A (this project does not include this work)

PW# Bidder's Business Name

Name of Bidder's Representative Signature of Bidder's Representative

Title of Bidder's Representative

1.01 GENERAL

A. Bid Submittal:

1. **Electronic Bid Submittal:**
Submit Bids only through OpenGov. Bids are due at 2:00 PM on the Bid Opening Date. PC will accept Electronic Signature for the Declaration and the Bidder / Subcontractor List, if applicable. Required documents to support the Bid that are due after the bid submittal deadline must be submitted as a PDF file(s) with a maximum individual file size of 15MB. The Bidder must email the PDF file(s) by the appropriate deadline to the following address:

FAS_PWSecureBid@seattle.gov

Identify both the email and the attached PDF file(s) with the full Public Works Contract Number (PW#) and name of the bidder (e.g. “PW#2020-001 – Joe’s Construction).

1.02 BID (SECTION 00 41 00)

A. Have you enclosed with your Bid the Bid Guaranty for not less than 5% of the maximum Bid amount that could be awarded including retail sales tax?

B. Have you Bid on all items including Additives, Alternates, and Deductives (when indicated)?

1.03 DECLARATION (SECTION 00 41 00)

A. Have you provided all information requested?

B. Has the official authorized to represent the Bidder signed the Declaration?

C. Have you acknowledged all Addenda?

1.04 INCLUSION PLAN (ATTACHMENT A TO SECTION 00 41 00 – BID FORMS)

A. Have you completed **the Inclusion Plan**? This form must be submitted with your bid if the Owner has estimated the Project will cost over $300,000.

1.05 COMPLIANCE

A. All of the above items in Articles 1.01 through 1.04 must be completed or your bid may be declared non-responsive.

1.06 BIDDER/SUBCONTRACTOR LIST (ATTACHMENT B TO SECTION 00 41 00 – BID FORMS

A. Have you completed and signed the Bidder/Subcontractor List? **This list is required to be submitted if the Owner has estimated the Project will cost $1,000,000 or more.**

B. For the purpose of evaluating the Bidder/Subcontractor List, refer to Section 00 21 13 part 1.01.I.3 for the determination by the Owner of what trades are included in the project. Failure to name a Subontractor(s) or name itself to perform the trades of work may render the Bidder’s Bid non-responsive and rejected

C. Failure to complete, sign, and submit the Bidder/Subcontractor list with the Bid Forms will result in the bid being delcared non-responsive.

1.07 SUPPLEMENTAL BIDDER RESPONSIBILITY CRITERIA FORM

A. The Supplemental Bidder Responsibilty Critieria Form and any additional documentation shall be submitted to PC within three (3) Business Days of receipt of request. See **Section 00 21 13, Paragraph 1.01.B**.

B. Failure to complete, sign, and submit the above may result in the Bidder being declared not responsible.

End Section 00 43 93

This agreement by and between the Director of Finance and Administrative Services, acting on behalf of The City of Seattle, a municipal corporation of the State of Washington, hereinafter referred to as the Owner, and _____, hereinafter referred to as the Contractor, witnessed that in accordance with the terms and conditions of Contract PW # **PW#2019-094** awarded the _____ day of _____, 20_____ the parties agree as follows:

SECTION 1. That the Contractor shall do or cause to be done all Work and shall furnish or cause to be furnished all tools, Materials, Equipment, Supplies and labor necessary to improve

West Seattle Junction Landbank Park

as ordered by Ordinance No. **126955, 126725, 126479, 125475** in all respects, in accordance with, and as described in the Contract now on file in the office of the Engineer for the following Awarded Contract Price:

Base Bid	$_____
Additives	$_____
Subtotal	$_____
State Sales Tax **at 10.55%**	$_____
Awarded Contract Price	$_____

The Contractor shall provide and bear the expense of all Equipment, Material, Supplies, work, and labor of any sort whatsoever that may be required for the transfer of Materials and for constructing and completing the Work provided for in this Contract and every part thereof, except such as are mentioned in the Contract furnished by the Owner.

SECTION 2. The parties shall be bound by the Constitution and Laws of the State of Washington and the Charter, Ordinances, Rules and Regulations of the City of Seattle and by all applicable federal laws and government regulations, which provisions are incorporated by reference herein.

For the convenience of the parties of this Contract it is mutually agreed that any claims or causes of action which the Contractor has against the Owner arising from this Contract shall be brought within 180 calendar days from the Completion Date of the Contract. It is further agreed by the parties that any such claims, disputes, or causes of action which cannot be resolved pursuant to the procedures set forth in the Contract Documents shall be brought only in the Superior Court of King County. 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.

SECTION 3. The Contractor shall begin the Work of the Contract on the Notice to Proceed Date stated in the Notice to Proceed issued to said Contractor by the Engineer, and to carry said Work on regularly and without interruption thereafter (unless the Engineer shall otherwise, in writing, specifically direct) with such forces as to complete said Work in a manner acceptable to the Engineer as follows:

Substantially Complete within **100** working days of the Notice to Proceed and
Physically Complete within **110** working days of the Notice to Proceed

after such notice to begin Work; the time of beginning, rate of progress, and time of completion being essential and material provisions of the Contract.

SECTION 4. If the Work is not Substantially Complete within the number of Working Days indicated above, the Contractor shall pay to the Owner, as Liquidated Damages, the sum of **100** for each Working Day that the Work has not achieved Substantial Completion exclusive of those days where the Engineer has granted an extension of time.

The Owner and the Contractor agree that establishing the precise amount of actual damage incurred by Owner due to delay would be difficult to determine. The Contractor hereby agrees the amounts set forth as Liquidated Damages are reasonable amounts and are not a penalty.

SECTION 5. The Owner agrees to employ the Contractor to complete the Work in accordance with the Contract and agrees to pay for the same according to the schedule of Bid item prices listed in the Bid Form, at the time and in the manner and upon the conditions provided for in the Contract.

The Contractor shall inform all Subcontractors who work on the Improvement named in Section 1 of this Agreement of the manner and method of payment and the manner and method of measuring or computing the quantities of subcontracted work.

SECTION 6. In accordance with Chapter 39.12 RCW, the City Charter, and the Project Manual, the Contractor shall pay, or cause to be paid to persons employed on or in connection with this Work, not less than the prevailing rate of wage for an hour's work specified for the labor performed.

SECTION 7. The Contractor on behalf of his or her heirs, executors, administrators, successors, and assigns, does hereby agree to the full performance of all the covenants to which the Contractor is obligated under the terms of the Contract.

SECTION 8. It is further provided that no liability shall attach to the Owner by reason of entering into this Contract except as expressly provided herein.

SECTION 9. If the Contractor violates any material covenant or provision of this Contract the Owner may: withhold payment due on any work done under the Contract until the Contractor complies with the Contract; order that the Work be stopped, terminate the Contract, debar the Contractor in accordance with SMC 20.70.

SECTION 10. The Contractor shall acknowledge that the Contractor has received and read the Consent Decree in United States of America and The State of Washington vs. The City of Seattle, Washington and agrees that all Work in the Contract shall be performed in conformity with the terms of the Consent Decree.

Contractor shall declare option for management of statutory retained percentage of this Contract by checking applicable box below.

☐ Contractor elects to submit a bond in lieu of retained funds.

☐ Contractor hereby elects to have the retained percentage of this Contract held in a non-interest bearing fund by The City of Seattle until sixty (60) days following the Completion Date.

☐ Contractor hereby elects to have The City of Seattle invest the retained percentage of the Contract from time to time as such retained percentage accrues and in accordance with RCW 60.28.011, .021 and .051. Contractor hereby designates:

_____
Name of Financial Institution

_____
Street Address, City, State, Zip Code

_____
City, State, Zip Code of Financial Institution

as the repository for the escrow of said funds. Contractor hereby further agrees to be fully responsible for payment of all costs or fees incurred as a result of placing said retained percentage in escrow and investing it as authorized by statute. The City of Seattle shall not be liable in any way for any cost or fees in connection therewith.

IN WITNESS WHEREOF, the Owner has caused these presents to be signed by the designee of Director of Finance and Administrative Services; and the Contractor has hereunto affirmed his or her signature.

THE CITY OF SEATTLE
Director of Finance and Administrative Services

By: _____ Date_____
Director, Purchasing and Contracting

CONTRACTOR

_____
Business Name

By: _____ Date _____
Signature

Printed Name _____

Title _____

End of Section 00 52 00

PART 1 - GENERAL

1.01 SAMPLE FORMS

A. A sample copy of each of the following forms is included in this Section.

B. The number indicated after the title of each form refers to the subsection of the Project Manual where requirements relating to the form are located.

C. For forms 1-7 the date following the section reference indicates the Purchasing and Contracting revision date.

D. For all other forms, the date following the section reference indicates the revision date by other City of Seattle departments.

1. Social Equity Plan (**Section 00 72 00**), (09/19/2022)
   (includes Apprenticeship Plan within it)
2. Public Works WMBE Inclusion Plan Change Request Form (**Section 00 72 00, subparagraph 1.05.C.2.a.3**) (10/30/2024)
3. Payment And Performance Bond (**Section 00 21 13, Paragraph 1.02 D**) (11/2021)
4. Supplemental Bidder Responsibility Criteria Form (**Section 00 21 13, subparagraph 1.02.A.4**) (11/2024) (This includes Equal Benefits Compliance Declaration (**Section 00 72 00, Paragraph 1.05.B**)
5. Retainage Bond Form (2/1/2020)
6. Public Works Prevailing Wage Certification & Subcontractor List Form (**Section 00 73 43**) (1/2020)
7. Subcontractor Approval Application (**Section 00 72 00, subparagraph 1.08.B.3**) (8/2025)
8. Contractor's Shop Drawing Review & Approval Request (**Section 01 33 10**)
9. Project Labor List - Contractor (**Section 00 72 00, subparagraph 1.09.F.2**) (9/3/14)

PART 2 – PRODUCTS

Not applicable.

PART 3 - EXECUTION

Not applicable.

End of Section 00 60 00

Seattle
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PW#: _____ **Date:** _____

Award Amount
Project Name: _____ **(*No tax*):** _____
Prime: _____
Contact Name: _____
Phone Number: _____

City Staff approval:
Date:

Social Equity Plan

This Plan compiles all the Social Equity components of the project. The Social Equity Plan is updated as the project progresses. The first version of this Plan is due after you receive your Intent to Award. This Plan is a condition of award, and must be delivered prior to award. Additional updates as the project progresses shall be requested as needed by Purchasing and Contracting (PC). You will first incorporate your Inclusion Plan (which was submitted within your bid) and provide any other decisions or subcontract awards that have been made. The following sections apply to this project:

- ☐ WMBE Inclusion Plan Supplement
- ☐ Apprenticeship Utilization Plan
- ☐ Priority Hire Projections

Return the completed plan to PC for approval.

PC Contract Analyst:
Phone: 206-
Email: @seattle.gov

PC Labor Equity Staff (If Applicable):
Phone: 206-
Email: @seattle.gov

Mailing Address: PO Box 94669, Seattle WA 98124-4669
Physical Address: Seattle Municipal Tower, 700 5th Avenue, Seattle WA 98104, Suite 4350

Title your email with the name of your project and please include the PW# so it can be easily identified by the Contract Analyst.

The City will not award until an approved Social Equity Plan is received. Undue delay may result in rejection of the bid. PC reserves the right to request updates and to set a deadline for re-submittal. Failure to meet the deadline for the updated submittal may result in withholding of remaining payments until the Social Equity Plan is received and accepted.

PC will discuss the social equity requirements and workforce projections prior to approving and completing award. PC may require improvements to your proposed plan before approving.

Seattle
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Administrative Services

PW#: _____

PROJECT NAME: _____

PRIME: _____

Contract WMBE Goal (percent): _____

Award Amount *(No tax)*: **$0.00**

WMBE Inclusion Plan Supplement

For non-federal projects with a base-bid Engineers Estimate of $300,000 or more.

I. WMBE SUBCONTRACTOR/SUPPLIERS INTEND TO AWARD: *A WMBE Guarantee does not require a signed contract with the WMBE at bid time, however utilization of the WMBE Guarantee firm is mandatory when the contract is awarded. The work performed must be a commercially useful function in the amount equal or greater than the minimum guaranteed in the Inclusion Plan*

Scopes of Work that you Intend to Award to WMBEs	Intended WMBE Name	Y/N			Approximate Subcontract $ Amount
		Is this a Guaranteed WMBE?	Is the Subcontract Executed?	Is the sub/supplier registered in OBD?	
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
Total Amount Intended to be Performed by WMBEs to Date:					**$ -**

Complete the folowing section if the percentage of Award Amount provided above remains less than the aspirational goal given within your original Inclusion Plan that you submitted at time of bid.
Total amount Intended to be performed by WMBEs to Date + Total Amount Not Yet Committed to a WMBE Sub/Supplier = >Total Contract amount WMBE Goal (must meet or exceed the Aspirational Goal).

II. WMBE UTILIZATION NOT YET DETERMINED OR COMMITTED

Scopes where the sub/supplier is not yet determined or committed	When do you anticipate making a selection?	Do you anticipate using a WMBE?	Can only a Sole Source do the work?	Approximate Subcontract $ Amount
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
Total Amount Not Yet Committed to a Sub/Supplier:				**$ -**

Total WMBE (intended and not yet commited)	**#DIV/0!**	**#DIV/0!**

Note: After contract award, the prime contractor can seek a change to the WMBE Inclusion Plan by informing the PC/Contract Analyst, making a request to the Project manager through a Change Order and demonstrating " G ood C ause." Include an updated version of this Plan to show how such a change impacts the goals and guarantees. PC will evaluate the request, and if appropriate, a Change Order will be prepared by the Project Engineer. If PC determines that the change to the WMBE Inclusion Plan is not justified, PC will inform the Prime Contractor. Requests without the WMBE inclusion plan supplement form will not be accepted.

Seattle
Finance &
Administrative Services

Date _____

Apprentice Utilization Proposal Plan

For non-federal projects estimated at $1 million or more.

PW#: _____ **PRIME:** _____

PROJECT NAME: _____

For projects $1 million or more, the prime contractor shall ensure that ___% of the total contract labor hours utilized on the Project are performed by apprentices registered with the Washington State Apprenticeship and Training Council (WSATC). The prime contractor should explore different avenues to meet the apprenticeship requirement and should include the apprentice utilization requirements in all subcontracts as a flowdown provision to ensure that all subcontractors working on the project contribute to attaining the apprentice utilization requirements. The prime contractor remains responsible for meeting the apprentice utilization requirements of the contract, including overall compliance on all contract labor hours worked by subcontractors. For assistance with available resources for apprenticeship programs, contact the Contract Analyst assigned to the project.

List the prime and all subcontractors scheduled to work on this project, and indicate trade craft or classification and the estimated number of hours to be performed by journey level and apprentice workers for each.

		Estimated information				
Prime Contractor and all Subcontractors	**Trade/Craft/Job Classification**	**Journey Labor Hours**	**Apprentice Labor Hours**	**Total Labor Hours for Project**	**Apprentice Percentage**	**Number of Apprentices**
TOTALS:		**0**	**0**	**0**	**0.00%**	**0**
				Apprenticeship Utilization Requirement:		

Note *: To change the apprentice utilization requirement after contract award, the prime contractor must fill out the Apprentice Utilization Proposal Plan and make a written request to PC to reduce the required apprentice utilization percentage. The request must include documentation of the contractor's good faith efforts to hire apprentices with WSATC-approved programs. Documents shall demonstrate that an inadequate number of apprentices are available to meet the required apprentice utilization percentage or that there is a disproportionately high ratio of material costs to labor hours, which does not make the required minimum levels of apprentice participation feasible for this contract, and that the contractor has made good faith efforts to comply with the requirement.* ***Requests without the Apprentice Utilization Proposal Plan form will not be accepted.*** *PC will evaluate the request, and if appropriate, a Change Order will be prepared by the Project Engineer. If PC determines that a reduction in the required utilization percentage is not justified, PC will communicate the decision in writing to the prime contractor.*

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Priority Hire Workforce Projections

For CWA-covered projects estimated $5 million and over.

PW#: _____
PROJECT NAME: _____ **PRIME:** _____
DATE: _____

Priority Hire Journey Requirement:
Priority Hire Apprentice Requirement:

Prime contractors on CWA-covered projects of $5 million and over are required to update estimated priority hire workforce projections. List all contractors scheduled to work on the project. Priority Hire workers are those living in economically distressed ZIP codes: http://www.seattle.gov/Documents/Departments/FAS/PurchasingAndContracting/Labor/Zip_Codes.pdf.

Example:

Prime Contractor and all Subcontractors	Total Hours	PH Journey Hours	PH Journey - Est. %	PH Apprentice Hours	PH Apprentice - Est. %	Number of Preferred Entry New Hires*
ABCD Contracting	*10,000*	*2,000*	*20.0%*	*750*	*7.5%*	*3*

Prime Contractor and all Subcontractors	Total Hours	PH Journey Hours	PH Journey - Est. %	PH Apprentice Hours	PH Apprentice - Est. %	Number of Preferred Entry New Hires*
			0.0%		0.0%	
			0.0%		0.0%	
			0.0%		0.0%	
			0.0%		0.0%	
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			0.0%		0.0%	
			0.0%		0.0%	
			0.0%		0.0%	
			0.0%		0.0%	
Total	**0.0**	**0.0**	**0.0%**	**0.0**	**0.0%**	**0**

*New hires are union dispatches. Preferred Entry apprentices must work at least 350/700 hours on the project to count toward the requirement.

Seattle
Finance &
Administrative Services

Purchasing & Contracting

PUBLIC WORKS WMBE INCLUSION PLAN CHANGE REQUEST FORM

Departments use this form to request modification to a project WMBE Inclusion Plan. Modifications are subject to advance approval from the department WMBE Advisor and Purchasing and Contracting (PC).

PROJECT INFORMATION	
Project Name	
PW#	
Date of Request	
Prime Contractor	
Name of Requestor and Title	

When the Prime seeks a change to the WMBE Inclusion Plan, the City Project Manager completes this form, routes to their WMBE Advisor, who then sends to PC for approval. Absent PC approval, changes to the Inclusion Plan are prohibited. This form is for public works projects with a WMBE Inclusion Plan that needs an adjustment and/or change to a Guaranteed firm. Check all that apply to this request:

☐ 1. Request to Remove or Reduce the scope of work of a Guaranteed WMBE Firm

☐ 2. Request to Change WMBE Inclusion Plan Aspirational Goal

1.

REMOVAL OR REDUCTION OF E SCOPE OF WORK OF A GUARANTEED WMBE FIRM	
WMBE Firm Proposed for Removal or Reduction of Work	
Original Guaranteed Amount	$
Guaranteed Amount (after reduction of scope of work), if any	$
Dollar amount of guaranteed work completed, if any	$

Reason for Removal or Reduction of Scope (check all that apply and attach evidence)

☐ Bankruptcy of Subcontractor.
☐ Failure of Subcontractor to provide the required bond.
☐ Subcontractor cannot perform the work because they are debarred, not properly licensed, or does not meet subcontractor approval criteria, or in some other way is ineligible to work.
☐ Failure of Subcontractor to comply with a requirement of law applicable to subcontracting.
☐ The death or disability of Subcontractor (if Subcontractor is an individual).
☐ Dissolution of Subcontractor (if Subcontractor is a corporation or partnership).
☐ Failure by Subcontractor to perform under previous contracts.
☐ Failure or refusal of Subcontractor to perform the work for reasons other than contract term or pricing disputes
☐ Owner approved change order or unique circumstances if approved by PC Director.

PC will review in collaboration with the appropriate department WMBE Advisor, request documentation as necessary to evidence the change, and will respond to the department Project Manager with direction. The Prime **must** make good faith efforts to find another WMBE subcontractor to substitute.

Representative	Printed Name	Approved /Denied	Signature	Date
Department Construction				
Department WMBE Advisor				
FAS/PC				

2.

CHANGE OF THE ASPIRATIONAL GOAL	
Original WMBE Goal	%
Proposed WMBE Goal as a share of the entire contract value.	%

The Total Aspirational WMBE Goal represents the percentage of base bid the Bidder intends to perform with WMBE contractors and also applies to the entire contract cost. If a contract change, addendum or additive merits modification to the Goals, the City and Prime will discuss whether a greater or lesser goal is appropriate and seek approval to amend the Plan.

Reason for the Aspirational Goal Reduction Request (check all that apply and attach evidence)

☐ The City requires a change order for a body of work that has no WMBE opportunity. The goal would be adjusted based on the statistical impact that would have given the associated dollars compared to the total project spend.

☐ Other:

_____

_____

Representative	Printed Name	Approved /Denied	Signature	Date
Department Construction				
Department WMBE Advisor				
FAS/PC				

Cc:
Resident Engineer or Project Manager
Contractor PM, Requestor
Sub-Contractor
City WMBE Equity Office
City Purchasing and Contracting, Contract Analyst

Bond No. _____

PAYMENT AND PERFORMANCE BOND
THE CITY OF SEATTLE

We,_____("Principal"), and
[Insert full legal name of Vendor / Contractor]
_____,
a_____corporation
[Insert legal name of Surety and its state of incorporation]
authorized to transact surety business in the State of Washington, ("Surety"), are held and firmly bound unto **The City of Seattle** ("City"), as Obligee, in an amount equal to the total compensation and expense reimbursement payable to Principal for satisfactory completion of Principal's work under Contract No._____between Principal and City, which total is ***initially***_____Dollars ($_____), lawful money of the United States of America, for the payment of which sum Principal and Surety bind themselves, their heirs, legal representatives, successors and assigns, jointly and severally, firmly by these presents. Said contract (hereinafter referred to as "the Contract") is for _____
_____ and is made a part hereof by this reference. The Contract includes the original agreement as well as all documents attached thereto or made a part thereof and all addenda, amendments, change orders, and any other document modifying, adding to or deleting from said Contract any portion thereof.

This Bond is executed in accordance with the laws of the State of Washington and is subject to all provisions thereof and the Charter and ordinances of City insofar as they are not in conflict therewith, and is entered into for the use and benefit of City, and all laborers, mechanics, subcontractors, and materialmen, and all persons who supply such person or persons, or subcontractors, with provisions or supplies for the carrying on of the work covered by the Contract.

THE CONDITION OF THIS OBLIGATION is such that if Principal faithfully performs all the provisions of the Contract and pays all laborers, mechanics, and subcontractors and materialmen, and all persons who supply such person or persons, or subcontractors, with provisions and supplies for the carrying on of such work; and pays all other just debts incurred in the performance of such work (provided, however, that the conditions of this obligation shall not apply to any money loaned or advanced to any such contractor or subcontractor or other person in the performance of such work); and to the extent permitted by law indemnifies, defends, and holds City harmless from all cost and damage by reason of Principal's default, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

THE PARTIES FURTHER ACKNOWLEDGE AND AGREE AS FOLLOWS:

(1) Surety hereby consents to, and waives notice of, any alteration, change order, or other modification of the Contract and any extension of time made by City, except that any single or cumulative change order amounting to more than twenty-five percent (25%) of the penal sum of this bond shall require Surety's written consent.

(2) Surety recognizes that the Contract includes provisions for additions, deletions, and modifications to the work or Contract Time and the amounts payable to Principal *(i.e.*, Vendor/Contractor). No such change or any combination thereof shall void or impair Surety's obligation hereunder.

(3) Whenever City has declared Principal (*i.e.*, Vendor/Contractor) to be in default and City has given Surety written notice of such declaration, Surety shall promptly (in no event more than thirty [30] days following receipt of such notice) specify, in written notice to City, which of the following actions Surety intends to take to remedy such default, and thereafter shall:

(a) Remedy the default within fifteen (15) days after its notice to City; or

(b) Assume within fifteen (15) days following its notice to City, full responsibility for the completion of the Contract in accordance with all of its provisions, and become entitled to payment of the balance of the Contract sum as provided in the Contract; or

(c) Pay City upon completion of the Contract, in cash, the cost of completion together with all other reasonable costs and expenses incurred by City as a result of Principal's *(i.e.,*Vendor/Contractor's) default, including but not limited to those incurred by City to mitigate its losses, which may include but are not limited to attorneys' fees and the cost of efforts to complete the work prior to Surety's exercising any option available to it under this Bond; or

(d) Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon a

determination by City and Surety jointly of the lowest responsible bidder, arrange for one or more agreements between such bidder and City, and make available as work progresses (even though there is a default or a succession of defaults under such agreement(s) for completion arranged for under this paragraph) sufficient funds to pay the cost of completion of the Contract less the balance of the Contract price, but not exceeding, including other costs and damages for which Surety may be liable hereunder, the penal sum of this Bond. The term "balance

of the Contract price," as used in this paragraph, shall mean the total amount payable by City to Principal (*i.e.,* Vendor/Contractor) under the Contract, less the amount properly paid by City to Principal *(i.e.,* Vendor/Contractor).

In addition to (a) through (d) above, Surety shall pay City all other reasonable costs and expenses incurred by City as a result of Principal's (i.e. Vendor/Contractor's) default, and prior to Surety's exercising any option available to Surety under this bond.

(4) The venue for any action arising out of or in connection with this bond shall be in King County, Washington.

(5) No right or action shall accrue on this Bond to or for the use of any person or corporation other than The City of Seattle and, to the extent required under RCW Chapter 39, all laborers, mechanics, subcontractors, and materialmen, and all persons who supply such person or persons, or subcontractors, with provisions or supplies for the carrying on of the work covered by the Contract.

(6) Nothing of whatever kind or nature whatsoever that will not discharge the Principal shall operate as a discharge or a release of liability of the Surety, any law, rule of equity, or usage relating to the liability of sureties to the contrary notwithstanding.

(7) No rider, amendment, or other document modifies this Bond unless made in writing and accepted by Principal, Surety and the City.

(8) Surety shall give to Principal and to City not less than sixty (60) days' prior written notice by certified mail, return receipt requested, of the effective date of the expiration or cancellation of this bond. Notice to City shall be mailed to: FAS, P. O. Box 94669, Seattle, WA 98124-4669 or delivered to FAS at 700 5th Av., Ste. 4350, Seattle, WA98104-5008.

(9) Principal must provide City with a replacement bond, acceptable to City, not less than thirty (30) days before the effective date of this bond's expiration or cancellation as specified in the Surety's notice provided pursuant to Condition (8) above.

(10) If Principal fails to provide the replacement bond not less than thirty (30) days before the effective date of this bond's expiration or cancellation as specified in the Surety's notice provided pursuant to Condition (8) above, such failure shall constitute a default under this bond, for which City may make a claim, and Surety shall be obligated to make immediate payment under this bond of all sums.

SURETY'S QUALIFICATIONS: Every Surety named on this bond must either appear on the United States Treasury Department's most current list (Circular 570 as amended or superseded) or have a current rating of at least A-:VII in A. M. Best's Key Rating Guide. Additionally, every Surety named on this bond must be authorized by the Washington State Insurance Commissioner to transact business as a surety in the State of Washington.

INSTRUCTIONS FOR SIGNATURES: This bond must be signed by the president or a vice-president of a corporation; the managing general partner of a partnership; managing joint venturer of a joint venture; manager of a limited liability company ("LLC") or, if no manager has been designated, a member of such entity; a general partner of a limited liability partnership ("LLP"); or the owner(s) of a sole proprietorship. If the bond is signed by any other representative, the Principal must attach written proof of that signer's authority to bind the Principal, identifying and quoting the provision in the corporate articles of incorporation, bylaws, Board resolution, partnership agreement, certificate of formation, power of attorney, or other document authorizing delegation of signature authority to such signer, and confirmation acceptable to the Seattle City Attorney's Office that such delegation was in effect on the date the bond was signed.

A NOTARY PUBLIC MUST ACKNOWLEDGE EACH SIGNATURE ON THIS BOND.

Bond No. _____

FOR THE SURETY:

By_____
(Signature of Attorney-in-Fact)

_____
(Type or print name of Attorney-in-Fact)

_____
(Type or print telephone number for Attorney-in-Fact)

FOR THE PRINCIPAL:

By:_____
(Signature of authorized signer for Principal)

_____
(Type or print NAME of signer for Principal)

_____
(Type or print TITLE of signer for Principal)

STATE OF_____)
) ss: **ACKNOWLEDGMENT FOR PRINCIPAL**
COUNTY OF_____)

I certify that I know or have satisfactory evidence that_____is the person who appeared before me, said person acknowledged that he/she signed this bond, and on oath stated that he/she was authorized to execute the bond on behalf of the Principal as the Principal's free and voluntary act for the uses and purposes mentioned therein.

WITNESS my hand and official seal hereto affixed this_____day of_____,_____.

_____ _____
(Signature of Notary Public) *(Print or type name of Notary Public)*

Notary Public in and for the state of_____residing at _____
My commission expires_____. **SEAL➔**

STATE OF_____)
) ss: **ACKNOWLEDGMENT FOR SURETY**
COUNTY OF_____)

I certify that I know or have satisfactory evidence that_____is the person who appeared before me as the Attorney-in-Fact for the Surety that executed the foregoing bond, acknowledged said bond to be the free and voluntary act and deed of the Surety for the uses and purposes therein mentioned, and on oath stated that he/she is authorized to execute said bond on behalf of the Surety, and that the seal affixed on said bond or the annexed Power of Attorney is the corporate seal of said Surety.

WITNESS my hand and official seal hereto affixed this_____day of_____,_____.

_____ _____
(Signature of Notary Public) *(Print or type name of Notary Public)*

Notary Public in and for the state of_____residing at _____
My commission expires_____. **SEAL➔**

City of Seattle
Department of Finance and Administrative Services
Purchasing and Contracting

Supplemental Bidder Responsibility Criteria Form (SBRC)

INTENT

As required under RCW 39.04.350, the Owner will make a responsibility determination of the lowest responsive bidder. Responsibility is evidenced by the Bidder's performance history free from non-compliance and legal issues and by the Bidder's project experience, if specified. Responsibility is not a qualifications determination. Financial responsibility will be determined by a Bidder's ability to provide a Payment and Performance Bond. Per the Bid Documents, the Owner may take whatever action is necessary to establish the ability of the Bidder to perform the Work to the Owner's satisfaction, and it is the sole opinion of the Owner if the Bidder is considered responsible.

INSTRUCTIONS

- Upon Purchasing and Contracting (PC) request to complete this SBRC, the Bidder must return the SBRC within three (3) Business Days or as otherwise allowed by PC.
- Bidder responses to the SBRC shall be in the context of the project staff associated with the performance of this project.
- Return completed SBRC via either:
  - Email: FAS_PW_Admin@seattle.gov
  - US Mail: City of Seattle, Seattle Municipal Tower, P.O. Box 94669, Seattle, WA 98124-4669
  - By Delivery: (Street Address): 700 5th Ave, Suite 4350, Seattle, WA 98104-5008

  Please clearly mark the package/email with the Public Works Number (PW#), Project Name and title of "Supplemental Bidder Criteria Form."
- **Questions?** Please contact Purchasing and Contracting (PC) at FAS_PW_Admin@seattle.gov or (206) 684-0444.

PROJECT BID

PW#		**Project Name**	
Your Contact Name and Title			
Your Contact Phone Number			
Contact Email			
Company Legal Name			
DBA (if any)			
If applicable, list any former company names under which the Bidder, its Owners, and/or its principals has operated in the past three (3) years. (Mark NA if Not Applicable)			

Signature:

By signing, you are attesting that all the information submitted in the SBRC is accurate and complete.

_____ _____

Signature of Authorized Representative Date

Print Name and Title: _____

PART 1 – Compliance History

The City will use the following responses to evaluate a Bidder's responsibility. A **"YES"** response on one question may, or may not, be evidence of not being responsible. The City will use a preponderance of evidence through "YES" responses and any repeat offenses when making a determination that a Bidder is not responsible. Per the Bid Documents, the City reserves the right to reject Bid based on a responsibility determination or to require a corrective action plan around any of the following performance topics.

1. **Performance Evaluation:** Within the last 3 years, has your firm, under present or past business name, received one or more "deficient," category rating from a City of Seattle Contractor Performance Evaluation.

   ☐ No ☐ Yes (if yes, please attach a detailed explanation of the circumstances and any resolutions)

2. **Anti-discrimination**: Within the last 10 years, has your firm been found to have violated any local, state, or federal anti-discrimination laws or regulations?

   ☐ No ☐ Yes (if yes, please attach a detailed explanation of the circumstances)

3. **WMBE Inclusion:** If your firm has done business previously with the City of Seattle, have you received one or more "deficient" evaluation scores on your WMBE Inclusion aspirational goals within the last 3 years?

   ☐ No ☐ Yes (if yes, please attach a detailed explanation of the circumstances)

4. **Prevailing Wage:** Within the last 3 years, has your firm been found by the City, or any government agency, to have underpaid your employees regarding prevailing wages when applicable and/or has your firm ever been required to provide restitution and pay back wages?

   ☐ No ☐ Yes (if yes, please attach a detailed explanation of the circumstances)

5. **Minimum Wage.** Within the last 5 years has your firm ever been found by the City, or any government agency, to have not paid the required minimum wage to an employee? (SMC 14.19, RCW 49.46)

   ☐ No ☐ Yes (if yes, please attach a detailed explanation of the circumstances)

6. **Wage Theft:** Within the last 5 years has your firm ever been found to have improperly managed employee wages, tips or payment documentation as required by SMC 14.20?

   ☐ No ☐ Yes (if yes, please attach a detailed explanation of the circumstances)

7. **Apprenticeship:** Within the last 3 years, has your firm had unresolved citations or liens issued by Washington Department of Labor and Industries regarding apprenticeship?

   ☐ No ☐ Yes (if yes, please attach a detailed explanation of the circumstances)

   Has your firm failed to meet the required apprenticeship/training goals on previous projects?

   ☐ No ☐ Yes (if yes, please attach a detailed explanation of the circumstances)

8. **Labor Equity/Priority Hire:** Within the last 5 years, has your firm violated any collective bargaining, project labor or community workforce agreement?

   ☐ No ☐ Yes (if yes, please attach a detailed explanation and outline corrective action you have taken to ensure similar incidents do not occur in the future.)

   Within the last 5 years, has your firm failed to meet any goals and requirements of a project labor or community workforce agreement?

   ☐ No ☐ Yes (if yes, please attach a detailed explanation and outline corrective action you have taken to ensure similar incidents do not occur in the future.)

9. **Acceptable Work Site:** Within the last 3 years, has your firm or an employee of your firm, been involved or accused of inappropriate work place behavior including, but not limited to, harassment, bullying, racist or sexual misconduct, hazing, or similar?

   ☐ No ☐ Yes (if yes, please attach a detailed explanation of the circumstances)

10. **Termination:** Within the last 3 years, has your firm, under present or past business name, been terminated for "default or cause" on any public construction project?

    ☐ No ☐ Yes (if yes, please attach a detailed explanation of the circumstances)

11. **Debarment:** Within the last 3 years, has your firm or any firm with which any of your firm's owners, officers or partners was associated, been debarred, disqualified, removed or otherwise prevented from bidding on, or completing any public construction project for any reason? Note: "associated with" refers to another construction firm in which an owner, partner or officer of your firm held a similar position.

    ☐ No ☐ Yes (if yes, please attach a detailed explanation of the circumstances)

12. **Paid Sick and Safe Time (PSST):** Has your firm ever failed to comply with the PSST requirements (SMC 14.16 and RCW 49.46) to eligible employees?

    ☐ No ☐ Yes (if yes, please attach a detailed explanation of the circumstances)

    Note: Paid Sick and Safe Time is required beyond that which you might pay employees as part of prevailing wage compensation and benefits.

    _____ **(initials)** I am aware of the requirements of SMC Chapter 14.16 and RCW 49.46.

13. **Safety:** Within the past 3 years, has the Washington State Department of Labor and Industries, federal OSHA, or any other state's occupational safety and health agency cited your (local) firm for any "serious," "willful" or "repeat" violations of its safety or health regulations?

    ☐ No ☐ Yes (if yes, please attach a detailed explanation of the circumstances)

14. **WA State L&I Experience Factor:** Is your firm's current Experience Factor greater than 1 for the current calendar year?

    ☐ No ☐ Yes (if yes, please attach an explanation of the circumstances causing the rating over 1 and steps taken to reduce the experience factor)

    List the Experience Factor (Washington workers' compensation insurance) of your firm for each of the past 3 years.

Current Year:		**Previous Year:**		**Year to previous year:**	

    Note: An Experience Factor is calculated annually by the Washington Department of Labor and Industries. More information can be found here: http://www.lni.wa.gov/ClaimsIns/Insurance/RatesRisk/How/ExpFactor/ExpModFactor/

    If your firm is Self-Insured: 1.) attach your **OSHA 300 logs** for the last 3 years; 2.) calculate your incident rate for the current calendar year using the following website: https://www.safetyinfo.com/calculator-osha-incident-rate-free-index/; 3.) print out your rating and submit as an attachment to the SBRC. A rating of 3.0 or above may require additional documentation explaining circumstances causing the rating and steps your firm has taken to reduce incident rates.

15. **Environmental:** Within the past 3 years, has the Environmental Protection Agency (EPA), Washington Department of Ecology (Ecology), any Regional Clean Air Agency, or any other state's equivalent environmental enforcement agency cited either your firm, or the owner of a project on which your firm was the contractor?

    ☐ No ☐ Yes (if yes, please attach a detailed explanation of the circumstances)

16. **Fair Chance Employment**: Within the last 3 years, has your firm been found to be out of compliance with the requirements of SMC 14.17 and the use of conviction and arrest records in your hiring practices?

☐ No ☐ Yes (if yes, please attach a detailed explanation of the circumstances)

Equal Benefits: Please declare *one (1)* option from the list below that describes the Contractor's compliance status with Seattle Municipal Code Chapter 20.45 and related rules. For additional information or explanations regarding the Equal Benefits Program with the City please visit our website at http://www.seattle.gov/city-purchasing-and-contracting/social-equity/equal-benefits

☐ **Option A:** The Contractor makes, or intends to make by the contract award date, **all benefits available on an equal basis** to its employees with spouses and its employees with domestic partners, and to the spouses and the domestic partners of employees, in every location within the United States where substantial work on contract will be performed.

☐ **Option B:** The Contractor **does not make benefits available** to either the spouses or the domestic partners of its employees.

☐ **Option C:** The Contractor **has no employees**.

☐ **Option D: Collective Bargaining Delay.** Benefits are available on an equal basis to non-union workers, but union workers are subject to a collective bargaining agreement that does not provide equal benefits.

☐ **Option E: Open Enrollment Delay.** The first open enrollment period for implementing Equal Benefits is not available until after contract execution

☐ **Option F: Cash Equivalent Payment.** The Contractor intends to provide a cash equivalent payment to eligible employees in lieu of making benefits available.

☐ **No United States Presence:** The Contractor does not perform substantial work for the contract in any United State location.

☐ **Non-Compliant:** The Contractor does not comply and does not intend to comply, and refuses all options provided above.

PART 2 – Personnel

Key Personnel: List the *Superintendent* and *Project Manager* who will be assigned to this project.

Superintendent	Project Manager

Attach detailed resumes, updated within the last year, for each named individual with a list of all projects supervised or managed within the past three (3) years (or longer if required in the Bid Documents), with references and contact information for each project.

The Owner may check other owner references for previous projects and use the other owner's assessment of the personnel's performance in determining responsibility.

Note: The Bidder may not subsequently replace or substitute a different Superintendent or Project Manager without the Owner reviewing and approving the qualifications of the new Superintendent or Project Manager.

PART 3 – Work Experience

Work Experience: The Bidder and Bidder's personnel or Subcontractor's personnel (if permissible by the Bid Documents) must meet the specified work experience requirements if specified in the Bid Documents.

A **Work Experience Form** is included for the **Bidder (Attachment A)**. A **Work Experience Form Subcontractors (Attachment B)** is also included IF the Bid Documents allow for the past experience of a subcontractor to satisfy work experience requirements.

Please complete one (1) Work Experience Form for each reference project satisfying specified work experience requirements. Unless otherwise stated in the Bid Documents, include projects substantially completed by your firm in the last 5 years.

The Owner may check references on the projects provided to confirm the other owner's assessment of the Bidder's performance. The Owner may inquire about topics, including but not limited to, the following:

- Quality control;
- Safety record;
- Ability to develop, track and meet project schedules;
- Use of skilled personnel;
- Management of subcontractors;
- Compliance with contract documents;
- Management of submittals process, change orders and close out; and
- Any other criteria required for the project being bid.

Work Experience Form: Bidder
Attachment A

The City will evaluate the submitted information to determine whether a Bidder has the work experience necessary for this project, if specified in the Bid Documents.

- Please complete **one form per reference project** for the number of projects as required in the Bid Documents.
- Please demonstrate on this form how the reference project meets the specified work experience requirements defined in the Bid Documents.
- Please mark "NA" in all boxes that don't apply to the reference project.

<table>
<tr><th colspan="5">PAST PROJECT EXPERIENCE DETAILS</th></tr>
<tr><td colspan="3">BIDDER'S COMPANY NAME:</td><td colspan="2">BIDDER CONTACT NAME & PHONE NUMBER:</td></tr>
<tr><td colspan="3">PROJECT NAME:</td><td colspan="2">PROJECT CONTRACT NUMBER:</td></tr>
<tr><td colspan="3">PROJECT OWNER:</td><td colspan="2">PROJECT LOCATION:</td></tr>
<tr><td colspan="3">PROJECT OWNER CONTACT NAME & TITLE:</td><td colspan="2">OWNER'S TELEPHONE NUMBER:</td></tr>
<tr><td>NOTICE TO PROCEED DATE:</td><td colspan="2">COMPLETION DATE:</td><td>AWARDED CONTRACT VALUE:</td><td>FINAL CONTRACT VALUE:</td></tr>
<tr><td colspan="2">PRIME CONTRACTOR NAME (If not bidder):</td><td colspan="3">CONTRACTOR CONTACT NAME & PHONE NUMBER (If not bidder):</td></tr>
<tr><td colspan="5">BRIEF PROJECT DESCRIPTION:</td></tr>
<tr><td colspan="5">LIST TECHNICAL <u>SCOPES OF WORK PERFORMED BY THE BIDDER</u>, INCLUDING ANY RELEVANT DETAILS TO DEMONSTRATE SIMILAR EXPERIENCE AND ANY REQUIRED EXPERIENCE DETAILED IN THE SPEC. (e.g., demolition, specialty construction, electrical, mechanical, paving, etc.)</td></tr>
<tr><td colspan="5">SPECIALTY TRADES/OTHER SUBCONTRACTED SCOPES PERFORMED:
List other scopes of work performed by other subcontractors with relevant work experience. Indicate if your company managed this work or if the work was managed by another firm on the reference project.</td></tr>
<tr><td colspan="5">WMBE/DBE UTILIZATION RATES: STATE THE MINORITY AND WOMAN UTILIZATION ON THIS PROJECT, REGARDLESS OF WHETHER THE OWNER SOUGHT OR REQUIRED SUCH UTILIZATION. (State in a percentage of the Final Contract Value.)</td></tr>
</table>

Work Experience Form: Subcontractor
Attachment B

USE THIS FORM ONLY IF THE BID DOCUMENTS ALLOW FOR THE USE OF A SUBCONTRACTOR' PAST EXPERIENCE TO SATISFY THE PROJECT'S WORK EXPERIENCE REQUIREMENTS.

If the Bid Documents allow for the use of subcontractor experience, the City will evaluate the submitted information to determine whether a Subcontractor has the experience necessary for this project.

- Please complete **one form per reference project** for the number of projects as required in the Bid Documents.
- Please demonstrate on this form how the reference project meets the specified work experience requirements defined in the Bid Documents.
- Please mark "NA" in all boxes that don't apply to the reference project.

SCOPE(S) of WORK to be performed by Subcontractor (e.g., electrical, concrete, plumbing): _____

<table>
<tr><th colspan="5">PAST PROJECT EXPERIENCE DETAILS</th></tr>
<tr><td colspan="2">SUBCONTRACTOR COMPANY NAME:

UBI No: ____ - ____ - _____</td><td colspan="3">SUBCONTRACTOR CONTACT NAME & PHONE NUMBER:</td></tr>
<tr><td colspan="3">PROJECT NAME:</td><td colspan="2">PROJECT CONTRACT NUMBER:</td></tr>
<tr><td colspan="3">PROJECT OWNER:</td><td colspan="2">PROJECT LOCATION:</td></tr>
<tr><td colspan="3">PROJECT OWNER CONTACT NAME & TITLE:</td><td colspan="2">PROJECT OWNER'S TELEPHONE NUMBER:</td></tr>
<tr><td>NOTICE TO PROCEED DATE:</td><td>COMPLETION DATE:</td><td>AWARDED CONTRACT VALUE:</td><td colspan="2">FINAL CONTRACT VALUE:</td></tr>
<tr><td colspan="2">PRIME CONTRACTOR NAME:</td><td colspan="3">CONTRACTOR CONTACT NAME & PHONE NUMBER:</td></tr>
<tr><td colspan="5">BRIEF PROJECT DESCRIPTION:</td></tr>
<tr><td colspan="5">LIST TECHNICAL <u>SCOPES OF WORK PERFORMED BY THE SUBCONTRACTOR</u>, INCLUDING ANY RELEVANT DETAILS TO DEMONSTRATE SIMILAR EXPERIENCE AND ANY REQUIRED EXPERIENCE DETAILED IN THE SPEC. (e.g., demolition, specialty construction, electrical, mechanical, paving, etc.)</td></tr>
</table>

Revised 2/1/2020

BOND IN LIEU OF RETAINED FUNDS

Bond No._____

I. *[Insert Principal's legal name and check appropriate box below]* _____,

- ☐ an individual **OR** ☐ a husband and wife,
- ☐ a partnership organized under the laws of the State of _____, the General or Managing Partner for which is _____,
- ☐ a limited liability corporation organized under the laws of the State of _____, the Manager (or Member) for which is _____ [specify applicable status],
- ☐ a corporation organized and existing under the laws of the State of _____ and authorized to do business in the State of Washington,

as Principal (hereinafter "Principal"), has been awarded a contract with **The City of Seattle** (hereinafter "Seattle") for or relating to _____, (Contract No. _____, which contract is incorporated herein by this reference);

II. The Contract and Ch. 60.28 of the Revised Code of Washington (hereinafter "RCW") require Seattle to withhold from Principal a sum (hereinafter "the retainage") in an amount not to exceed five percent (5%) of all monies earned by Principal on estimates during the progress of work under the Contract, but in the initial sum of _____ Dollars ($_____) as a trust fund for the protection and payment of (a) the claims of any person arising under the Contract, and (b) the State of Washington with respect to taxes imposed pursuant to RCW Title 82 that may be due from Principal; and

III. Principal has requested that Seattle not withhold the retainage, or that Seattle release all or a portion of the retainage currently withheld, as allowed under RCW 60.28.011(6) in exchange for this Bond; Now, Therefore,

THE CONDITIONS OF THIS OBLIGATION ARE AS FOLLOWS:

1. Principal and _____, a corporation organized and existing under the laws of the State of _____ and authorized to transact business in the State of Washington as Surety (hereinafter "Surety"), are jointly and severally held and bound unto Seattle and all other beneficiaries of the trust fund created by RCW 60.28.011(1), as Obligees, **in a penal sum equal to five percent (5%) of all monies earned by the Principal on estimates during the progress of work under said Contract (which sum includes and is not limited to increases due to change orders, increases in the quantity of work, and the addition of new items of work)**, lawful money of the United States of America, for the payment of which Principal and Surety bind themselves and their heirs, executors, administrators, successors, and assigns, jointly and severally, as provided herein.

2. This Bond, including any proceeds therefrom, is subject to all claims and liens arising out of the work performed under said Contract, in the same manner and priority as set forth for the retainage under RCW Ch. 60.28. Any amount(s) determined by Seattle to be due and payable from the retainage in accordance with the provisions of RCW Ch. 60.28 shall be paid by Surety not later than thirty (30) days from and after Surety's receipt of Seattle's written identification of the appropriate payee and amount payable.

3. Surety waives notice of any extension of time or other modification of the Contract. Surety agrees to and is bound by the laws and subject to the jurisdiction of the courts of the State of Washington with respect to this Bond. The venue for any action hereunder shall be in King County, Washington.

4. This Bond shall remain in full force and effect until Surety is notified by Seattle that (a) all necessary affidavits have been provided by Principal; (b) Seattle has received the Washington State Department of Revenue's certification that all taxes, increases and penalties due and to become due from Principal with respect to such Contract or otherwise have been paid in full or are readily collectible without recourse to the State's lien on this Bond; (c) Seattle is satisfied that the claims of materialmen and laborers who have filed claims against such bond,

together with sums sufficient to defray the cost of foreclosing the liens of such claims and to pay attorneys' fees associated therewith, have been paid; (d) any sums due to Seattle from the Principal have been paid; (e) Seattle is satisfied that all other taxes, increases, and penalties due and owing from the Contractor have been paid; and (f) the obligation is duly released by Seattle.

For Surety:

By:_____
(Signature) Attorney-in-Fact

_____
(Print or type name of Attorney-in-Fact)

Print or type address of Attorney-in-Fact for Surety:

_____
_____
_____
_____

For Principal:

By:_____
(Signature)

_____
(Print or type name of signer for Principal)

_____
(Print or type title of signer for Principal)

STATE OF _____)
) ss: **(PRINCIPAL'S ACKNOWLEDGMENT)**
COUNTY OF _____)

On this _____ day of _____, ____, before me a notary public in and for the State of _____, duly commissioned and sworn, personally appeared _____ ___, the person(s) described in and who executed the foregoing Bond, and acknowledged to me that signed and sealed said Bond as a free and voluntary act and deed for the Principal so identified in foregoing Bond for the uses and purposes therein mentioned, and on oath stated that _____ is/are authorized to execute said Bond for the principal named therein.

WITNESS my hand and official seal hereto affixed the day and year in this certificate first above written.

_____ _____
(Signature of Notary Public) (Print or type name of Notary Public)

Notary Public in and for the State of _____residing at _____
My commission expires _____. ***[SEAL]***➔

STATE OF _____)
) ss: **(SURETY'S ACKNOWLEDGMENT)**
COUNTY OF _____)

On this _____ day of _____, ____, before me a notary public in and for the State of _____, duly commissioned and sworn, personally appeared _____ ___, the person described in and who executed the foregoing Bond, and acknowledged to me that _____ signed and sealed said Bond as a free and voluntary act and deed for the Surety so identified in foregoing Bond for the uses and purposes therein mentioned, and on oath stated that _____ is authorized to execute said Bond for the Surety named therein.

WITNESS my hand and official seal hereto affixed the day and year in this certificate first above written.

_____ _____
(Signature of Notary Public) (Print or type name of Notary Public)

Notary Public in and for the State of _____residing at _____
My commission expires _____. ***[SEAL]***➔

PUBLIC WORKS PREVAILING WAGE CERTIFICATION & SUBCONTRACTOR LIST

Project: _____

PW#: _____ Contractor Name: _____

I certify that the prevailing wages have been paid in accordance with the pre-filed Statement(s) of Intent to Pay Prevailing Wages on file with the Contracting Services Division of Finance and Administrative Services. This statement covers all subcontractors of all tiers and suppliers who worked on the project.

PAYMENT PERIOD FROM _____ **TO** _____ ☐ Final Subcontractor Report
MONTH/DAY/YEAR **MONTH/DAY/YEAR**

☐ No Subcontractors

Subcontractor/Supplier Name	Subcontractor or Supplier?	UBI Number	Intent ID	Affidavit ID	Prompt Pay Eligible? Y/N	Total Amount Paid During Pay Period
	☐ Sub ☐ Supplier					
	☐ Sub ☐ Supplier					
	☐ Sub ☐ Supplier					
	☐ Sub ☐ Supplier					
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	☐ Sub ☐ Supplier					

In accordance with RCW 60.28, 18.27 and 19.28, for all public works contracts over $35,000 the Contractor shall submit with each Progress Payment a list of all Subcontractors, UBI numbers, Intent IDs, Affidavit IDs, WMBE statuses and dates worked. Moreover, the Contractor shall **record the total amount paid to each Prompt Pay Eligible subcontractor**. This letter shall be signed by an authorized representative of the Contractor prior to payment pursuant to RCW 39.12.040.

_____
Print Name

_____
Signature Date

City of Seattle

Revision: 8/2025

SUBCONTRACTOR APPROVAL APPLICATION

INSTRUCTIONS: Before a classified subcontractor, service provider, or supplier of any tier may begin Work, all sections of this form must be completed (including all necessary attachments), signed by the Prime Contractor, and submitted for approval by the owner's representative (i.e., Engineer or Project Manager). "Classified" means all those who employ work categories that are covered by prevailing wage.

1. Business name and address must be the same as shown on the State License.
2. Fill in first four columns using the Bid Form in the Contract. For Lump Sum contracts use the Schedule of Values and Unit Price items. Use column headed "Amount Sublet" for the subcontractor's cost for that item. When splitting bid item work, including a specialty item, a description of the portion of the work being performed by this subcontractor must be clarified in the column headed "Bid Item Description." For example, if the Bid Item is "Handhole Type 2", but subcontractor is only performing saw-cutting, then indicate "Handhole Type 2 saw-cutting only" in this column.
3. All dollar values shall include cents.
4. If the Contractor is requesting to self-perform, check the box next to "Subcontractor."
5. If the Subcontractor is requesting to Subcontract, check the box next to "Lower Tier Subcontractor."

SECTION A – PROJECT AND BUSINESS INFORMATION

Project Name	PW#	Spec. No (if applicable)

Contractor Business Name (Prime)		Telephone Number	
Address	**City**	**State**	**Zip**

Approval is requested to sublet the Work described below to:

Business Name (Select one: ☐ Subcontractor or ☐ Lower Tier Contractor or ☐ Supplier or ☐ Service Provider)	**Telephone Number/E-mail**

Address	**City**	**State**	**Zip**

Federal Tax ID #	**State UBI #**	**Seattle Business License #**	**Contractor's License # (when applicable)**
		Exp.	Exp.

Employment Security (ES)#	**Subcontracted to (name of higher-tiered business)**	**Subcontractor's Estimated Start Date**	**Subcontractor's Estimated Number of Working Days**	**TOTAL SUBCONTRACT AWARD AMOUNT (i.e., Total Amount Sublet per table below)**

Check indicating the subcontractor/supplier/service provider has a signed written agreement on file with the Prime Contractor: ☐

Is this an FHWA project?
☐ Yes, complete and attach WSDOT Form 420-004 with this application.
☐ No, no additional form required.

Work to be sublet:

Bid Item #	Quantity	Bid Item Description	Unit Price Extension or Lump Sum Price	Amount of Extension or Lump Sum Sublet	Partial Amount of Bid Item (Y/N)
			Total Amount Sublet:		

SECTION B – PREVAILING WAGE INTENT

LNI approved Intent to Pay Prevailing Wages for subcontractor/supplier/service provider attached?	☐ Yes	☐ No

SECTION C - RESPONSIBILITY

In accordance with Section 00 21 13 of the Contract, the following responsibility verifications must be met for a subcontractor/supplier/service provider to be considered responsible and approved to the Site. To verify responsibility for each subcontractor/supplier/service provider, go to each listed link below, and print and attach evidence of the following:

1. If required by the business and scope type, certificate of registration in compliance with Chapter 18.27 RCW (**https://secure.lni.wa.gov/verify/**)
2. If required by the business type, industrial insurance coverage for the firm's employees working in Washington as required by Title 51 RCW. (**http://www.lni.wa.gov/IPUB/101-002-000.pdf**)
3. Employment security number as appropriate under Title 50 RCW (supplied by the subcontractor)
4. State excise tax registration number as provided under Title 82 RCW (**https://secure.dor.wa.gov/gteunauth**)
5. Not disqualified from bidding on any public works contracts provided in RCW 39.06.010, 39.12.065, 49.46.005, 49.52 (**https://secure.lni.wa.gov/debarandstrike/ContractorDebarList.aspx**)
6. A current Seattle Business License with current Business and Occupancy Taxes pursuant to SMC 5.55.030 (**http://www.seattle.gov/licenses/find-a-business**)
7. Not owe any monetary disincentive assessments or penalties regarding Apprentice Utilization on prior projects.
8. Registered on the City of Seattle's Procurement Portal, powered by OpenGov. (**https://**procurement.opengov.com/portal/seattle)
9. Have received training on requirements related to public works and prevailing wage by Labor and Industries or approved training provider under RCW 39.04.350, and chapter 39.12 or are exempted by Labor and Industries (**https://secure.lni.wa.gov/verify**)
10. If this is a federally funded project, the company is registered with the federal System of Award Management. (**https://www.SAM.gov/SAM/**)

Does this Work require trade/scope specific qualifications or experience?

☐ Yes? Please attach the copy of the specification and the required experience evidence (e.g. certification, etc.)

☐ No

SECTION D – SOCIAL EQUITY

Does the total sublet dollar amount of the Work, as listed in Section A, match the dollar amount listed in the WMBE Guarantee section of the Inclusion Plan?

- ☐ Not applicable
- ☐ Yes
- ☐ No (If no, please contact Miguel Beltran, Contract Compliance Manager in Purchasing and Contracting (PC), to reconcile the amount sublet and the amount listed as the WMBE Guarantee. Attach Miguel's written confirmation to this form to be approved to work on site. (206) 684-4525.)

By signing this form, I certify that I have verified the subcontractor/supplier/service provider listed above is compliant with the requirements listed on this application. I understand and will require that the subcontractor/supplier/service provider comply fully with the Contract under which this Work is being performed.

Prime Contractor's Signature	**Date**

Consent for City of Seattle Administering Department Only

Authorized CITY OF SEATTLE Signature	**Date:**
Printed Name of Signature	**Title:**
☐ Approved ☐ Rejected, Reason:	

Department of Labor and Industries
WISHA Services

COMPETENT PERSON EVALUATION

Excavation & Trenching

This is a check list which has been devised to help/assist the employer determine if the person he/she has designated as a COMPETENT PERSON is competent within the description and intent of the EXCAVATION & TRENCHING STANDARD.

Employee's name	Occupation: What is job on site?	
Date of evaluation by employer	Length of time with employer	Length of experience in excavation & trenching

TRAINING:

Does the designated individual have training in:

	YES	NO
Soils analysis?	☐	☐
Use of protective systems?	☐	☐
Requirements of the standard?	☐	☐

KNOWLEDGE:

Does the designated individual have knowledge about:

	YES	NO
Soils analysis?	☐	☐
Use of protective systems?	☐	☐
Requirements of the standard?	☐	☐

AUTHORITY:

Does the designated individual have authority to:

	YES	NO
Take prompt corrective measures to eliminate existing and predictable hazards?	☐	☐
Stop work until hazards are corrected or eliminated or controlled and remove employees from the hazardous area until proper systems are in place??	☐	☐

INSPECTION:

	YES	NO
Has the competent person conducted a daily inspection of the excavation?	☐	☐
Of adjacent areas?	☐	☐
Of protective systems?	☐	☐
Were inspection conducted prior to start of work?	☐	☐
As needed during work?	☐	☐
After rainstorms or other hazard increasing occurrences?	☐	☐
Is there water in the trench?	☐	☐
Is water removal equipment being monitored to insure safe operation?	☐	☐
Has the soils analysis been verified allowing for the influence of water?	☐	☐
Is there evidence of failure of any portion of the protective system?	☐	☐
Is damage evident to structural members of the protective system?	☐	☐
If so, has the equipment been evaluated for suitability of use?	☐	☐

Continued on reverse

SOILS CLASSIFICATION:

	YES	NO
Has the employer selected a protective system which relies an soils classification??	☐	☐
What types of soils have been identified? _____		
What visual tests were performed? _____		
What manual test(s) were performed? _____		
Who performed the tests? _____		
Have the conditions changed since the classification was made?	☐	☐
Has the proper soils classification been made?	☐	☐
If YES, does the protective system selected comply with or exceed the performance criteria outlined in the standard?	☐	☐
Are utilities involved?	☐	☐
If YES, are they properly protected?	☐	☐
Are ramps involved?	☐	☐
If YES, are they constructed according to standard?	☐	☐
Are confined spaces involved?	☐	☐
If YES, has a competent person evaluated the environment in question?	☐	☐

COMMENTS:

Do you consider the individual to be COMPETENT within the requirements of the EXCAVATION AND TRENCHING STANDARD?	YES	NO
	☐	☐

IF NOT, WHY?

Areas to be strengthened: _____

_____

_____

_____

_____

_____

_____

_____

Employer/Representative Signature _____

PROJECT LABOR LIST - CONTRACTOR

The Project Labor Report submitted by the Contractor and by any Subcontractor before that firm commences force account work. They can either use this form or their own form with like information.

Contract Name: _____ Fica: 7.65%

PW #: _____ Futa: 0.80%

Contractor/Subcontractor: _____ Suta: _____
(0.4% to 5.42%)

Checked By: _____ Total: _____

Contractor must supply copy of "State Rate Notice" with this form.
Note: Rate for Sup. Pen, Med Aid, Ind. Insur - Diff. Between "Your Tax Rate" and their "Payroll Deduction" columns.

*Labor Classification	Base Rate	Overtime Rate	Fica Futa Suta	Sup.Pen *0.5 Med.Aid*0.5 Ind. Ins.	Total Fringe Benefits	Regular Weighted Rate	Overtime Weighted Rate

Must match exactly with the occupation descriptions listed in wage schedule of the Contract.

PART 1 - GENERAL

1.01 DEFINITIONS AND TERMS

A General

1. Standard acronyms, abbreviations, definitions, and symbols common to the fields of engineering and construction are used throughout the Contract without further explanation. Acronyms and definitions often used in the Contract are found in **Paragraphs 1.01.B and 1.01.C**. Frequently used abbreviations are found in **Standard Plan 002**. Additional acronyms, definitions, and symbols may be found in the Project Manual or Drawings. Welding symbols are defined in the current edition of the American Welding Society Structural Welding Code.

2. When used in the Contract, the acronyms listed in **Subparagraph 1.01.B.1** and terms defined in **Paragraph and 1.01.C** or pronouns used in place of acronyms and terms have the indicated meanings unless the context implies otherwise.

3. Words in the plural include singular and vice versa.

4. Words of a particular gender include any gender.

B. Abbreviations

1. Associations and Miscellaneous

a. The following standard acronyms are used throughout the Bid Documents:

A2LA	American Association for Laboratory Accreditation
AAA	American Arbitration Association
AAN	American Association of Nurserymen
AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ACIL	American Council of Independence Laboratories
ADA	Americans with Disabilities Act
AGA	American Gas Association
AGC	Associated General Contractors of America
AHERA	Asbestos Hazard Emergency Response Act
AI	Asphalt Institute
AIA	American Institute of Architects
AIHA	American Industrial Hygiene Association
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALSC	American Lumber Standards Committee
ANSI	American National Standards Institute
APA	American Plywood Association
API	American Petroleum Institute APWA American Public Works Association
ARA	American Railway Association

AREMA	American Railroad Engineering and Maintenance-of-Way Association
ARTBA	American Road and Transportation Builder's Association
ASA	American Standards Association
ASCE	American Society of Civil Engineers
ASLA	American Society of Landscape Architects
ASME	American Society of Mechanical Engineers
ASNS	American Standard for Nursery Stock
ASNT	American Society for Non-Destruction Testing
ASSE	American Society of Sanitary Engineering
ASTM	American Society for Testing and Materials
AWCM	Arborist Wood Chip Mulch
AWPA	American Wood Preserver's Association
AWS	American Welding Society
AWWA	American Water Works Association
BMP	Best Management Practice
BR	Bridge Replacement and Redevelopment Program
CARB	California Air Research Board
CBD	Central Business District
CBE	Combination Business Enterprise
CCTV	Closed-Circuit Television
CDBG	Community Development Block Grant
CDF	Controlled Density Fill
CESCL	Certified Erosion and Sediment Control Lead
CFR	Code of Federal Regulations
CLI	Chain Link Institute
CPESC	Certified Professional in Erosion and Sediment Control
CPM	Critical Path Method
CRAB	County Road Administration Board
CRSI	Concrete Reinforcing Steel Institute
CRT	Controlled Releasing Terminal
CSECP	Construction Stormwater and Erosion Control Plan
CSI	Construction Specifications Institute
CWA	Community Workforce Agreement
DBE	Disadvantaged Business Enterprise
DBH	Diameter at Breast Height
DBRA	Davis Bacon and Related Acts
DIPRA	Ductile Iron Pipe Research Association
ECY	Washington State Department of Ecology
EE	Engineer's Estimate
EEI	Edison Electrical Institute
EEO	Equal Employment Opportunity
EPA	Environmental Protection Agency
ESCBMP	Erosion and Sedimentation Control Best Management Practices
ESD	Employment Security Department

FAS	Department of Finance and Administrative Services
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FSS	Federal Specifications and Standards, General Services Administration
FTA	Federal Transit Administration
HPMA	Hardwood Plywood Manufacturers Association HUD United States Department of Housing and Urban Development
IAPMO	International Association of Plumbers and Mechanical Officials
ICEA	Insulated Cable Engineers Association
ICOR	Interagency Commission on Outdoor Recreation
IEEE	Institute of Electrical and Electronic Engineers
IES	Illuminating Engineering Society
IMSA	International Municipal Signal Association
IPCEA	Insulated Power Cable Engineers' Association ISA International Society of Arboriculture
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Transportation Engineers
ITS	Intelligent Transportation Systems
JAC	Joint Administrative Committee
KCM	King County METRO
LED	Light Emitting Diode
LPI	Lighting Protection Institute
MBE	Minority Business Enterprise
METROKC	King County Department of Transportation
MSDS	Material Safety Data Sheet
MTCA	Washington Model Toxics Control Act
MSHA	Mine Safety and Health Act
MUTCD	Manual on Uniform Traffic Control Devices
MWBE	Minority and Women Business Enterprise
NACE	National Association of Corrosion Engineers
NAPA	National Asphalt Pavement Association
NCMA	National Concrete Masonry Association
NCSPA	National Corrugated Steel Pipe Association
NEC	National Electrical Code
NECA	National Electrical Contractors Association
NEMA	National Electrical Manufacturer's Association
NEPA	National Environmental Policy Act
NESC	National Electrical Safety Code
NETA	International Electric Testing Association
NFPA	National Fire Protection Association
NFPA	National Forest Products Association
NHS	National Highway System

NPCA	National Precast Concrete Association
NPDES	National Pollution Discharge Elimination Systems
NRMCA	National Ready Mix Concrete Association
NRCA	National Roofing Contractors Association
NSF	National Sanitation Foundation
NTCIP	National Transportation Communication for ITS Protocol
NTP	Notice to Proceed
NTPEP	National Transportation Product Evaluation Program
OMWBE	Office of Minority and Women's Business Enterprises
OSHA	Occupational Safety and Health Administration
PACP	Pipeline Assessment and Certification Program
PC	Purchasing and Contracting
PCA	Portland Cement Association
PDF	Portable Document Format
P/PCI	Precast/Prestressed Concrete Institute
PORT	Port of Seattle
PPI	Plastic Pipe Institute
PSCAA	Puget Sound Clean Air Agency
PW	Public Works
PW#	Public Works Number
RCA	Recycled Concrete Aggregate
RCW	Revised Code of Washington
REA	Rural Electrification Association
ROW	Right of Way
RRP	Railway Highway Grade Crossing Program
SCADA	Supervisory Control And Data Acquisition
SAC	Washington State Apprenticeship and Training Council
SAE	Society of Automotive Engineers
SBRC	Supplemental Bidder Responsibility Criteria
SCS	Soil Conservation Service
SCL	Seattle City Light
SDCI	Seattle Department of Construction and Inspections
SDOT	Seattle Department of Transportation
SDS	Safety Data Sheet
SEPA	State Environmental Policy Act
SKCDPH	Seattle King County Department of Public Health
SMC	Seattle Municipal Code
SP	Spill Plan
SPP	Serial Port Protocol
SPR	Seattle Parks and Recreation
SPU	Seattle Public Utilities
SOP	Standard Operating Procedure
SSPC	Society of Protective Coatings
SSPC	Steel Structures Painting Council
STA	Seal of Testing Insurance

STCM	Seattle Traffic Control Manual
SWPPP	Stormwater Pollution Prevention Plan
TCM	Traffic Control Manager
TCP	Traffic Control Plan
TCS	Traffic Control Supervisor
TDP	Temporary Discharge Plan
TVSPP	Tree, Vegetation and Soil Protection Plan
UBI	Unified Business Identifier
UL	Underwriters Laboratory
UMTA	Urban Mass Transit Administration USACE
	United States Army Corps of Engineers
USCGS	United States Coastal and Geodetic Survey
USDA	United States Department of Agriculture
USDOE	United States Department of Energy
USEPA	United State Environmental Protection Agency
VCP	Vitrified Clay Pipe
WAC	Washington Administrative Code
WACA	Washington Aggregates and Concrete Association
WALP	Washington Association of Landscape Professionals
WAQTC	Western Alliance for Quality Transportation Construction
	WBE Women's Business Enterprise
WCLIB	West Coast Lumber Inspection Bureau
WISHA	Washington Industrial Safety and Health Administration
	WMBE Women or Minority Business Enterprise
WRI	Wire Reinforcement Institute
WSATC	Washington State Apprenticeship and Training Council
WSDOT	Washington State Department of Transportation
WSDSHS	Washington State Department of Social and Health Services
WSEM	Washington State Energy Management
WWPA	Western Wood Products Association

2. Bid Items of Work and Units of Measurement

a. Standard abbreviations are included on **Standard Plan 002**. Standard symbols are included on **Standard Plan 003**. City of Seattle Standard.

Plans are available on line at:
http://www.seattle.gov/Util/Engineering/StandardSpecsPlans/index.htm.
When abbreviations are used in the Bid Form to denote Bid Items of Work and units of measurement, each abbreviated term has the meaning specified for it as noted in **subparagraph 1.01.B.1** above unless a Bid Item measurement or payment description specifies another meaning.

C. Definitions

1. As used in this Contract, the terms listed below are defined as indicated. Unless the Contract specifically indicates otherwise, the definitions of electrical and electronic abbreviations, terms and phrases used in the Contract are those contained in the official edition of the IEEE Dictionary of Electrical and Electronic Terms.

2. Definitions for street designations and classifications are found in the current edition of Seattle's Rights of Way Improvements Manual. The manual applies solely to street Rights of Way and does not apply to Rights of Way dedicated solely for utility purposes.

ACCEPTABLEWORK SITE

A Work Site that is appropriate, productive, safe, free from bullying, hazing or harassment. An Acceptable Work Site is free from behaviors that may impair production or undermine the integrity of the work conditions including but not limited to job performance, safety, productivity, or efficiency of workers.

ADDENDUM

A document issued to all Bidders before the Bid Opening Date identified as an Addendum, which modifies or clarifies the Bid Documents and Contract.

ADDITIVE

Additional Work identified separately in the Bid, which may be awarded at the discretion of the Owner.

ADVERTISEMENT FORBIDS

The official public notice soliciting Bids for Work and published in the City's official newspaper and on-line solicitation website.

AFFIDAVIT

A written document in which the signer swears under oath before a notary public or someone authorized to take oaths that the statements in the document are true.

AFFIRMATIVE EFFORTS

The good faith efforts for inclusion of women and minority-owned firms (WMBEs) documented in the Inclusion Plan form as part of a Bid.

AGREEMENT FORM

The Owner-provided form with authorized signatures of the Contractor and the Owner to Execute the Contract.

ALTERNATE

Work or Bid Items, identified separately in the Bid Documents, which permits a choice of different methods or Materials of construction for performing the same Work.

APPRENTICE

Anyworker enrolled in an Apprentice Training Program.

APPRENTICETRAINING PROGRAM

A program registered and in compliance with the Washington State Apprenticeship and Training Council as defined by RCW 49.04, WAC 296-05- 011, and WAC 296-05-013.

ARCHITECT

An individual licensed and registered in the State of Washington to practice architecture.

AS-BUILT

Electronic files of the conformed Drawings incorporating all changes to the Work. Shop Drawings and supplemental Drawings must be included where relevant.

ASSISTANT
The Engineer's authorized representative assigned to make detailed inspection of the Work.

AWARD
The Owner's decision to accept the lowest responsive Bid of a responsible Bidder for the Work and establish the Contract.

BASE BID
The sum of Bid Item amounts (extensions) or the lump sum Bid on the Bid Form, excluding Alternates, Additives, and Deductives.

BID
The price the Bidder offers, to perform the Work.

BIDDER
A business (sole proprietor, individual, partnership, firm, corporation, limited liability company or joint venture, etc.) submitting a Bid.

BID DOCUMENTS
The parts of the proposed Contract which may include the Advertisement for Bids, Bid Form, Agreement Form, Project Manual, Drawings, Addenda and any other documents incorporated into the Contract by reference.

BID FORMS
The forms provided by the Owner on OpenGov that must be submitted with a bid.

BID GUARANTY
Bid bond, cashier's check or certified check accompanying the Bid, which is the guarantee that the Bidder will enter into the Contract with the Owner to perform the Work if Awarded the Contract.

BID ITEM
A unit of Work that is to be performed as part of the project by the Contractor as detailed in the Contract.

CAPABILITY OR CAPABLE
The City's determination that a business is able to perform the Work in question.

CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (CESCL)
A Contractor employee responsible for erosion and sediment control, water quality protection, and implementation of the Construction Stormwater and Erosion Control Plan (CSECP), who holds a Certificate of Training in Construction Site Erosion and Sediment Control from a course approved by the Washington State Department of Ecology.

CHANGE ORDER
A written order issued by the Engineer to the Contractor directing and/or authorizing a change to the Contract. A Change Order establishes the basis of payment and time adjustments for the Work affected by the change.

CITY
The City of Seattle.

COMMERCIALLY USEFUL FUNCTION
Any activity by the Contractor, Subcontractor, or Materialperson that, in the Owner's opinion, is included in the Contract and necessary to allow Work to progress.

COMMUNITYWORKFORCE AGREEMENT (CWA)

The CWA is the agreement executed between the Director, on behalf of the City, and signatory labor unions that represent the trades and crafts that have workers who typically perform on City public works projects.

CONTAMINATED MATERIAL(S)

Soil/material/debris/liquid that contains contaminant levels above the more stringent of their respective applicable MTCA Method A cleanup level, Method B cleanup level, or Table 749-2 level, all for unrestricted land use per current Chapter 173-340 WAC, or that contains asbestos, or that contains radionuclides above natural background levels as defined by WAC 173-340-200.

CONTAMINATED MATERIAL(S) NOT DESIGNATED AS DANGEROUS WASTEORTSCA WASTE

Contaminated Material(s) that contains contaminants at levels below that which would cause it to be designated as Dangerous Waste(s) or TSCA Waste(s).

CONTRACT

The comprehensive written documents between the Owner and Contractor which contain the entire obligations of both parties including, but not limited to; the signed Agreement Form, Bid, conditions of the Contract, Project Manual, Drawings, Standard Specifications, Standard Plans, Addenda, certifications, supplemental agreements, Change Orders and all other documents specifically incorporated by reference.

CONTRACT PRICE

The total amount of the Contract, based on the Bid, with any adjustments, including all selected Alternates, Additives, or Deductives, and all applicable taxes.

CONTRACT TIME

The period of time established by the Contract within which the Work must be physically completed.

CONTRACTOR

Thebusiness contracting with the Owner to complete the Work.

CORE EMPLOYEE

An employee of an Open-Shop Contractor that meets the Core Employee criteria established under the CWA.

CORE WORKER

See Core Employee.

COVERED PROJECT

A City public works project with a project budget at or above $5M that is not federally funded, in a remote area or otherwise not subject to the CWA.

CULVERT

Drainage Structure that may, or may not, directly support traffic and that extends across and beneath a highway, street, driveway, alley, arterial, or other public way.

DANGEROUS WASTE(S)

Solid wastes designated in WAC 173-303-070 through 173-303-100 as dangerous, or extremely hazardous or mixed waste. Dangerous Waste(s) includes all federal hazardous waste, plus certain wastes exhibiting characteristics based on toxicity or persistence.

DATES

1. Bid Due Date: The day and time the Bids are due.
2. Bid Opening Date: The day on which the Owner publicly opens and reads the Bids.
3. Execution Date: The date the Owner and Contractor enter into a Contract after receipt of the necessary bond, insurance, and any other required documents, as evidenced by the authorized signatures on the Agreement Form.
4. Notice to Proceed Date: The day on which the Contract Time starts. The Notice to Proceed Date is counted as the first Working Day of Contract Time.
5. Substantial Completion Date: The day the Engineer determines the Owner has full and unrestricted use and benefit of the completed Work, from an operational and safety standpoint. Only minor incidental Work, replacement of temporary substitute facilities, or correction or repair may remain for the Physical Completion of the Contract.
6. Physical Completion Date: The day the Owner determines that all Work is physically complete. Not all documentation required by the Contract and by law needs to be furnished by the Contractor by this date.
7. Completion Date: The day, certified in writing by the Owner, when all Work is determined to be complete and all obligations of the Contractor under the Contract are fulfilled. All documentation required by the Contract and by law must be furnished before establishment of this date.

DAY

Unless otherwise specified, day(s) are the same as Calendar Day(s).

1. Business Day: Any Day except Saturday, Sunday, or Holiday.
2. Calendar Day: The time period of 24 hours measured from midnight to the next midnight.
3. Non-Working Day: The following are Non-Working Days:
   a. Saturday
   b. Sunday
   c. Holiday
   d. A Day on which the Engineer issues a suspension order for an excusable delay or a Day declared an Unworkable Day.
   e. A Day the Contract specifically requires the Contractor to suspend the Work.
4. Working Day: A Day not otherwise defined as a Non-Working Day.
5. Unworkable Day: A Working Day that the Engineer declares to be unworkable because of unsuitable weather, or another condition beyond the control of the Contractor that prevents ongoing or scheduled work on the critical path.

DECLARATION

The statement on the Bid Form in which the Contractor acknowledges the terms and conditions of the Contract and receipt and understanding of Addenda.

DEDUCTIVE

A supplemental unit of Work or group of Bid Items identified separately in the Bid that may, at the discretion of the Owner, be deducted from the base Bid prior to Award.

DIRECTOR

The Director of Purchasing and Contracting, FAS.

DISADVANTAGED BUSINESS ENTERPRISE (DBE)

An OMWBE certified small business that is 51 percent or more owned by 1 or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent or more of the stock is owned by 1 or more such individuals; and whose management and daily business operations are controlled by 1 or more of the socially and economically disadvantaged individuals who own it.

DISPATCH

The process by which a union refers workers for employment to Contractors as provided in the CWA.

DRAWINGS

The graphic or pictorial form of the design, location, dimensions, Materials, and other information regarding the Work.

DUAL BENEFITS

When Open-Shop Contractor or Subcontractor contributes into both an existing employer-sponsored benefit plans while also making required payments into a Trust Fund.

ECONOMICALLY DISTRESSED AREA, ECONOMICALLY DISTRESSED ZIP CODES

A geographic area defined by ZIP code and found by the Director to have a high concentration of individuals; 1) living at or below 200% of the Federal Poverty Level; 2) unemployed; and or 3) without a college degree, as compared to other ZIP codes. King County ZIP codes with a high density per acre of at least 2 of the 3 criteria will be identified as Economically Distressed Areas. There are 2 classes of such ZIP codes: tier 1 ZIP codes located within the City of Seattle and tier 2 ZIP codes located within King County and outside the City of Seattle.

ELECTRICAL SAFETY OBSERVER

The Assistant assigned to monitor electrical safety, unless indicated otherwise in the Contract.

ELECTRONIC SIGNATURE

An electronic sound, symbol, or process attached to or logically associated with a contract or other record and executed or adopted by a person with the intent to sign the record. Electronic Signature may include, but is not limited to, signatures produced through proprietary software programs such as DocuSign or Adobe Sign.

EMAIL HEADER

Data included in email messages identifying transaction date, time, sender, active email server identification and receipt of the message.

EMAIL TIME STAMP

The time which the sender transmitted the email as determined by the City's interpretation of the data embedded in the Email Header.

ENCAMPMENT

An identifiable area within the City of Seattle occupied by one or more tents, structures, or assemblies of camping equipment or personal property which appears to a reasonable person as being used for camping. Encampments do not include sites a reasonable person would conclude are no longer in use for camping because remaining materials are garbage, debris, or waste.

ENCAMPMENT IMMEDIATE HAZARD

An Encampment in which people camping outdoors are at risk of serious injury or death beyond that caused by increased exposure to the elements, or their presence creates a risk of serious injury or death to others; including Encampments at highway shoulders and off-ramps, areas exposed to moving vehicles, areas that can only be accessed by crossing driving lanes outside of a legal crosswalk, and landslide-prone areas.

ENCAMPMENT OBSTRUCTION

People, tents, personal property, garbage, debris, or other objects related to an Encampment that: are in a City park or on a public sidewalk; interfere with the pedestrian or transportation purposes of public rights-of-way; or interfere with areas that are necessary for or essential to the intended use of a public property or facility.

ENGINEER

The Owner's representative, or Assistant, who administers the Work of this project.

EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (ESCBMPS)

The required on-site construction practices and devices that prevent, reduce, or treat erosion and sedimentation and maintain surface water quality.

HELMETS TO HARDHATS

A nonprofit program that connects National Guard, Reserve, retired and transitioning active-duty military service members with skilled training and quality career opportunities in the construction industry.

HOLIDAY

Per SMC 4.20.190 and RCW 1.16.050, Holidays for the City of Seattle are:

1. First Day of January (New Year's Day)
2. Third Monday of January (Dr. Martin Luther King, Jr.'s Birthday)
3. Third Monday of February (President's Day)
4. Last Monday of May (Memorial Day)
5. June 19 (Juneteenth)
6. Fourth Day of July (Independence Day)
7. First Monday of September (Labor Day)
8. Second Monday of October (Indigenous Peoples' Day)
9. Eleventh Day of November (Veterans' Day)
10. Fourth Thursday of November and the Friday immediately following (Thanksgiving Day)
11. Twenty fifth Day of December (Christmas Day)

When any Holiday falls on a Sunday, the following Monday is considered a Holiday. When any Holiday falls on a Saturday, the preceding Friday is considered a Holiday. Holidays are Non-Working Days.

INCLUSION PLAN

The Contractor's plan provided on the Owner-provided form, that documents the proposed and/or guaranteed utilization of WMBE on the Contract.

INSPECTOR

See Engineer.

JOB SITE

See Project Site.

JOB ANDTRAINING ADVISOR
The City employee or third-party entity named by the City that facilitates the hiring of Priority Workers in collaboration with Contractors and Dispatch.

JOURNEY-LEVEL
An individual who has sufficient skills and knowledge of an occupation, either through a formal Apprentice Training Program or through practical on-the-job work experience, to be recognized by a state or federal registration agency and/or an industry as being fully qualified to perform the work of the occupation. Practical experience must be equal to or greater than the term of apprenticeship.

LABORATORY
The materials Laboratory of the Engineer or such other laboratories authorized in writing by the Engineer.

LABOR HOURS
Hours performed on projects by workers who are subject to prevailing wages under RCW 39.12.

LETTERSOF ASSENT
The letter that is required of all Contractors and Subcontractors of all tiers working on Covered Projects that commits the Contractor and Subcontractor to be bound to the City of Seattle CWA.

LIQUIDATED DAMAGES
The amount stated in the Contract to be paid to the Owner by the Contractor, for each Working Day of delay in achieving the Substantial Completion Date and the amounts stated in the Contract to be paid after Substantial Completion and until the Physical Completion Date is achieved. Such obligation is not construed as a penalty, and may be deducted by the Owner from any payments which are due or become due to the Contractor.

MATERIALS
Any substance specified for use in the project that enters into and forms a part of the finished Work.

MATERIALPERSON
The supplier that furnishes material, supply, commodity, equipment, or manufactured or fabricated products and does not perform labor at the Project Site.

MINERAL AGGREGATE
Rock, gravel, sand or a blend thereof, with properties defined in the Standard Specifications.

NON-MANUAL POSITION
A job position on a public works project that is not primarily for the purpose of performing physical construction work, including but not limited to, superintendents, supervisors, staff engineers, quality control and quality assurance personnel, time keepers, mail carriers, clerks, office workers, messengers, guards, safety personnel, emergency medical and first aid technicians and other engineering, administrative supervisory and management employees.

NOTICEOF INTENT TO AWARD
Written notice from theOwner to the apparent low Bidder signifying acceptance of the Bid.

NOTICETO PROCEED
Written notice from the Engineer to the Contractor authorizing and directing the Contractor to proceed with the Work stating the date on which the Contract Time starts.

ON-SITE ELECTRICAL LEAD
The Contractor's on-site representative responsible for and authorized to resolve electrical safety related issues including those raised by the Engineer, Assistant, or Electrical Safety Observer.

OPEN-SHOPAPPRENTICE
An employee of an Open-Shop Contractor that meets the criteria established under Article XI, Section 2 of the CWA.

OPEN-SHOP CONTRACTOR
A Contractor that is not signatory to a collective bargaining agreement with a Union representing the trade(s) of the Contractor's workers, also known as non- union Contractors.

OWNER
The City of Seattle.

PAYMENT AND PERFORMANCE BOND
The approved form of security, furnished by the Contractor and the Contractor's Surety, guaranteeing faithful Contract performance and payment to persons supplying labor and Materials for the project. The Owner will provide the Payment and Performance Bond form to the Contractor.

PDF BID FILE
A Portable Document Format (PDF) copy of the Bid Form and attachments that provides an electronic image of text or text and graphics that looks like a printed document and can be viewed, printed, and electronically transmitted.

PHYSICAL COMPLETION
SeeDates.

PRE-APPRENTICETRAINING PROGRAM
An education-based program, recognized by the State of Washington Apprenticeship and Training Council and endorsed by one or more registered apprenticeship sponsors, with a focus oneducating and training students to meet or exceedminimum qualifications for entry into an Apprentice Training Program.

PRIORITY HIRE
The Priority Hire ordinance (SMC Ch. 20.37) prioritizes workers living in economically distressed ZIP codes and preferred entry candidates for hire on Covered Projects and sets aspirational goals for hiring women and people of color.

PRIORITY WORKER
An individual prioritized for recruitment, training and employment opportunities because the individual is a Resident in an Economically Distressed Area.

PROJECT LABORAGREEMENT
SeeCommunity Workforce Agreement.

PROJECT MANUAL
The compilation of the requirements for the Work related to a specific project. The Project Manual includes, but is not limited to, the requirements for Bids, Agreement Form, conditions of the Contract, Special Provisions, revised Standard Plans and Addenda.

PROJECT SITE
The geographic location, defined in the Contract, where the Work is to be performed.

REAL PROPERTY
Land and improvements permanently affixed to the land.

RECORD DRAWINGS
As-Built Drawings in AutoCAD or AutoCAD Civil 3D electronic format in accordance with the City of Seattle's CAD Resource website: www.Seattle.gov/util/CAD

RED-LINE DRAWINGS
Full size (at least 22" by 34") prints or electronic files of the conformed Drawings used by the Contractor to mark-up and record changes to the daily Work.

RESIDENT
A person who provides evidence, to the satisfaction of the Director, demonstrating that the person lives at a particular address.

RIGHT OF WAY
Real property secured and reserved for public or private transportation, utility, or other purposes.

SEWER
Any pipe, conduit, or Structure intended to carry sewage and other waste liquids, excluding discharges prohibited by SMC 21.16 (the side Sewer Code).

SHOP DRAWINGS
Working Drawings, shop plans, erection plans, falsework plans, framework plans, cofferdam, cribbing and shoring plans, bending diagrams for reinforcing steel, retaining wall designs, schematic diagram, or any other supplementary plans or similar information that the Contractor submits to the Engineer for acceptance.

SPECIAL PROVISIONS
Supplemental provisions and modifications to the Standard Specifications that apply to an individual project and that are designated by the Owner and found in the Project Manual.

SPECIFICATIONS
Written technical descriptions of materials, equipment, construction systems, standards, and workmanship that, with the Drawings and other Contract documents, detail the requirements for the Work.

STANDARD PLANS
The current edition of The City of Seattle Standard Plans for Municipal Construction adopted by the Owner as modified by updates found in the appendix of the Project Manual.

STANDARD SPECIFICATIONS
The current edition of The City of Seattle Standard Specifications for Road, Bridge, and Municipal Construction adopted by the Owner and supplemented by the current edition of the City of Seattle Traffic Control Manual for In Street Work.

STATE
The State of Washington.

STORM DRAIN
A pipe, conduit, or Structure intended to collect and convey rainwater and other permissible discharges as identified in SMC 22.800-22.808, the Stormwater Code.

STRUCTURES
Bridges, Culverts, walls, buildings, foundations, water tanks, transmission towers, cribbing, caissons, or cofferdams, and other similar features that are classified as Structures in the Contract.

SUBCONTRACTOR
A business contracted toperform a portion of Work under the Contractor or subcontracted at any tier.

SUBSTANTIAL COMPLETION
SeeDates.

SUPPLIER
SeeMaterialperson.

SUPPLIES
Any substance or matter used or consumed in construction of the project and its appurtenances that do not become part of the Structure or improvement.

SURETY
A company that is bound with the Contractor to ensure:
1 Faithfulperformance on the Contract, and
2 Payment of laborers, mechanics, Subcontractors and Materialperson and all entities that source any provisions and Supplies for the Work.

TRAFFICCONTROLMANUAL FOR IN STREET WORK (STCM)
The Seattle Traffic Control Manual (STCM), is theCity of Seattle guide for Work within the Right Of Way, used in conjunction with and as a supplement to the Manual on Uniform Traffic Control Devices (MUTCD), as modified and adopted by the Washington State Department of Transportation (WSDOT).

TRAINING PROGRAMS
Pre-apprenticeship and/or registered Apprenticeship Training Programs.

TSCA WASTE(S)
Soil/material/debris/liquid of any kind that contains polychlorinated biphenyls (PCBs) at a level that equals or exceeds 50 parts per million, and oil of any kind that contains PCBs at a level that equals or exceeds 2 parts per million. TSCA Waste(s) is regulated by the Federal Toxic Substances Control Act.

UNION
A representative labor organization whose members collectively bargain with employers to set the wages and working conditions in their respective trade or covered scope of work.

WATER MAIN
Awater supply pipe for public or community use.

WMBE GOAL

The voluntary commitment by the Contractor for the Work that will be awarded, performed and paid to WMBEs.

WOMENORMINORITYBUSINESS (WMBE)

A business that self-identifies or is certified by the Office of Minority and Women's Business Enterprise (OMWBE) to be at least 51 percent owned by women and/or minority group members including, African Americans, Native Americans, Asians/Pacific Islanders, and Hispanics/Latinos.

WORK

The provision of all labor, Materials, equipment, Supplies, and everything needed to complete the project.

WORK SITE

The Project Site and any field or company offices used for the project, or other locations used in conjunction with the project where Work is performed.

1.02 SCOPE OF WORK

A Intent of The Contract

1. General

a. The intent of the Contract is to prescribe a complete Work. Omissions from the Contract of details of the Work that are necessary to carry out the intent of the Contract do not relieve the Contractor from performing the omitted Work. The Contractor must include all costs of completing the Work in the Bid Item prices. Unless otherwise specified, the Contractor is responsible for the means, methods, techniques, sequences, and procedures of construction within the Contract requirements.

2. Bid Items Included In The Bid

a. The Contractor must provide all labor, Materials, tools, equipment, transportation, Supplies, and incidentals required to complete all Work.

3. Bid Items Not Included In The Bid

a. Where the Contract requires Work that is not listed as a Bid Item in **Section 01 22 10**, then the costs are incidental and included within the Bid Item prices of the various Bid Items in the Contract. If Work is performed and a Bid Item for that Work is not included in the Bid Form but is found in **Section 01 22 10**, then payment will be as specified in **Paragraph 1.02.D of this Section**.

b. No separate or additional payment will be made for Work which is incidental to other Bid Items specified in the Contract or is an obvious defect or ambiguity in the Contract under **Paragraph 1.01.D of Section 00 21 13**.

B. Coordinationof Contract Documents

1. Discrepancy, Error Or Omission

a. All parts of the Contract are essential and complementary. A requirement occurring in 1 is binding as though occurring in all. The Contractor must provide any Work or Materials clearly implied in the Contract even if the Contract does not mention it specifically. The Contractor must notify the Engineer immediately, in writing, if the Contractor finds:

1) Adiscrepancy between various parts of the Contract;

2) An error or omission in the Drawings; or

3) A discrepancy in the layouts and instructions provided by the Engineer.

b. The Contractor must not proceed with any Work affected by such discrepancy, error, or omission until directed to do so by the Engineer.

2. Order of Precedence

a. In the event of any conflicting provisions or requirements between the component parts of the Contract, the component parts of the Contract take precedence in the following order:

1) Change Orders

2) Agreement Form

3) Addenda

4) This Project Manual

5) Seattle City Light guidelines, standards, or procedures referenced in the Contract or included in **Section 00 31 10 – Owner Furnished Project Information**

6) Drawings

7) City Standard Plan updates in **Section 00 31 10**

8) The current version of the Standard Specifications at the time of Bid opening

9) The current version of the Standard Plans at the time of Bid opening

10) Inclusion Plan

11) Supplemental Bidder Responsibility Criteria

b. This order of precedence does not apply when Work is required by one part of the Contract but omitted from another part or parts of the Contract. The Work required in one part must be furnished even if not mentioned in other parts of the Contract.

3. Any electronic version of the Standard Specifications and the Standard Plans is for informational purposes only. Should any discrepancy exist between the hard copy version of the Standard Specifications and electronic versions of the Standard Specifications, the hard copy version Standard Specifications take precedence over all other versions.

4. Written dimensions take precedence over scaled dimensions.

5. If any part of the Contract requires Work that does not include a description for how the Work is to be performed, the Work must be performed per standard trade practices. For purposes of the Contract, a standard trade practice is one having such regularity of observance in the trade as to justify an expectation that it will be observed by the Contractor in doing the Work.

6. In case of any ambiguity or dispute over interpretation of the provisions of the Contract, the decision of the Owner is final as specified in **Paragraph 1.03.A**.

C. Reserved

D. Changes

1. As the Work proceeds, the Engineer may, at any time and without notice to the Surety or Sureties, change the Work. Changes to the Work do not invalidate the Contract or release the Surety. The changes may include:
   a. Deleting any part of the Work;
   b. Increasing or decreasing quantities;
   c. Altering Specifications, designs, or both;
   d. Revising the way the Work is to be done;
   e. Adding extra Work;
   f. Altering facilities, equipment, Materials, services, or sites provided by the Engineer; or
   g. Ordering the Contractor to speed up or delay the Work.

2. If changed Work increases the awarded Contract Price by more than 25 percent or if the Owner specifically requests the Surety's consent, the Contractor must obtain and furnish to the Owner the written consent of the Surety or Sureties in a form acceptable to the Owner.

3. Changes in the Work will be incorporated into the Contract by Change Order. The exception is that a Change Order is not required for changes noted on field stakes or variations from estimated quantities that are less than 25 percent of the original Bid quantity. Changes noted on field stakes or variations from estimated quantities that are less than 25 percent of the original Bid quantity will be paid at the Bid Item prices that apply. The Contractor must respond immediately to changes shown on field stakes and proceed with the Work without waiting for further notice.

4. The Contractor accepts all terms and requirements of a Change Order by endorsing the Change Order, writing a separate acceptance, or not disputing a Change Order as provided for in **Paragraph 1.02.E**.

5. There may be Change Orders which change the Work or the Contract without resulting in a change in the Contractor's costs or time to do the Work. Such Change Orders are commonly referred to as 'no cost' Change Orders.

6. If the Engineer determines that a change increased or decreased the Contractor's costs or time to do any of the Work, including unchanged Work, the Engineer will make an equitable adjustment to the Contract. If the Contractor believes that any written directive or change increased or decreased the Contractor's costs or time to do any of the Work, and the Contract has not been equitably adjusted by the Engineer, the Contractor must file a dispute as specified in **Paragraph 1.02.E**. If the Contractor believes they have encountered differing Project site conditions (changed conditions), the Contractor must comply with the process specified in **Paragraph 1.02.G**. In general, the Engineer will seek the Contractor's agreement on the equitable adjustment; however, if the parties cannot come to an agreement, the Engineer will unilaterally determine the total price of the equitable adjustment as specified in **Paragraph 1.09.D** and, if applicable, **Paragraph 1.08.I**. An equitable adjustment for deleted work will be made as specified in **Paragraph 1.09.E**. An equitable adjustment for an increase or decrease exceeding 25 percent of the original quantity of any Bid Item, will be made as specified in **Paragraph 1.02.F**. The Engineer's decision concerning an equitable adjustment of costs and time is final unless the Contractor files a dispute and the dispute or a subsequent claim is upheld as specified in **Paragraph 1.02.E**.

7. The Contractor must proceed with the Work upon receiving:
   a. A written Change Order approved by the Engineer; or
   b. A written directive from the Engineer.

8. Value Engineering Cost Reduction Incentive

a. If for this project, the Owner has a policy for the administration of cost reduction alternatives proposed by the Contractor, those requirements will be specified in **Section 01 24 13.**

E. Dispute And Claims Resolution Process

1. General

a. This Section describes dispute and claims resolution processes. The scope of the dispute set forth in the written dispute notice will direct and limit the scope of all subsequent claim, mediation, or litigation on the subject matter, and the Contractor is not allowed to enlarge the scope of any claim beyond that originally presented in the written dispute notice. All subcontract agreements will contain the same provisions as this section in its entirety. All disputes must be resolved prior to final payment.

2. Dispute Resolution Sequence

a. The dispute resolution process sequence is: dispute, claim, mediation, litigation, in that order. The Contractor agrees to follow this sequence, and failure to do so constitutes a waiver of any right to dispute or to claim for additional time or additional payment for the disputed Work.

b. All disputes must start with the delivery of written notice to the Engineer. The Engineer will evaluate the notice and make a written decision on the matter as specified in **subparagraph 1.02.E.3**. If the Contractor disagrees with the decision, in whole or in part, the Contractor may file a claim as specified in **subparagraph 1.02.E.4**. If the Engineer denies the claim, the Owner and Contractor must at the Contractor's request, go to mediation as specified in **subparagraph 1.02.E.5**. If the claim is not resolved at mediation, the Contractor may file suit in the King County Superior Court at Seattle, WA as specified in **subparagraph1.02.E.6**.

3. Disputes

a. If the Contractor, or Subcontractor, disagrees with a determination by the Owner, or any Change Order, including any written directive by the Engineer, the Contractor must notify the Engineer in writing that it disputes the decision. Notification must be delivered before the close of the third full Working Day following the date the Engineer issued the Change Order or written directive. In the event that the dispute involves quantities, the written dispute notice must be filed before the placement of the changed quantities and not later than the close of the second full Working Day following the date the Engineer issued the Change Order or written notification. Failure by the Contractor to timely furnish notice of a dispute waives the right to make any further dispute or claim regarding the subject.

b. The written dispute notice must identify the Change Order, Owner's determination or other Engineer's directive being disputed and a brief explanation of the basis for the dispute.

c. The Engineer may issue a written decision or may ask in writing for further information.

d. If the Engineer asks for further information, the Contractor must, within 10 Working Days of the date of that request, furnish a dated, signed written supplemental statement containing:

1) The date of the supplemental written statement;

2) The date of the directive to perform the disputed Work;

3) The nature and circumstances which caused the dispute;

4) The Contract provisions that relate in any way to the dispute;

5) The estimated additional dollar cost, if any, of performing the disputed Work and how that estimate was determined, in detail;

6) An analysis of the accepted critical path schedule in effect at the time the dispute arose, showing the schedule change or disruption, if the Contractor is asserting a schedule change or disruption; and

7) Any additional information the Engineer requests.

e. The Contractor may request an extension of time to furnish the additional written information. The Engineer will determine if such additional information would be helpful and if the Engineer determines it would be helpful, the Engineer will specify a reasonable extension of time. Any extension must be approved in writing by the Engineer.

f. Within 10 Working Days from the date the Contractor filed the dispute or the receipt of requested information, the Engineer will issue a written decision regarding the dispute. At the Engineer's sole discretion, the Engineer may furnish written notice to the Contractor extending the time for the decision for a period not to exceed 20 additional Working Days.

g. If the Engineer rejects any or all of the Contractor's dispute, the Engineer's notice will contain the reasons for the rejection. Payment for approved Work will be made as specified in **Paragraph 1.09.D**. In the event that the Engineer fails to decide the dispute within the 10 Working Days, unless extended by the Engineer, the Contractor may deem the dispute rejected and file a claim as specified in **subparagraph 1.02.E.4**.

h. The dispute does not relieve the Contractor from the obligation to promptly proceed with the Work, including the disputed Work. The Contractor must timely perform all Work unless directed in writing by the Engineer to stop work in whole or in part. When performing any disputed Work, the Contractor must keep complete records of actual costs and actual time incurred, identifying extra costs and extra time associated with the disputed Work.

4. Claims

a. Both the Owner and the Contractor have an interest in the prompt and fair resolution of claims. The purpose of the claims provisions of this Contract is to create a clearly defined process intended to fairly resolve claims at the earliest possible point in time without unnecessary delay or expense, including the expense of administration, mediation, or litigation. The Contractor must only pursue administrative resolution of any claim with the Engineer or Assistant. In order for the Engineer to accurately evaluate and decide claims, the Contractor is responsible for presenting all relevant information in support of a claim at the claims stage, including the information required in this **subparagraph 1.02.E.4.** The Contractor is not permitted to present information known or available to the Contractor (including Subcontractors and Suppliers), schedules or schedule logic, or basis of the dispute, at the mediation or litigation stage, which was not presented to the Engineer at the time the claim was presented.

1) If the Contractor disagrees with the Engineer's decision as specified in **subparagraph 1.02.E.3**, the Contractor may file a claim as provided in this Section.

a) Claims of less than $50,000 must be filed within 10 Working Days of the date of the Engineer's written notice under **subparagraph 1.02.E.3**.

b) Claims equal to or greater than $50,000 must be filed within 20 Working Days of the date of the Engineer's written notice.

2) The Contractor may request an extension for filing a claim. Any extension must be approved in writing by the Engineer. A written request for 10 additional Working Days, or less, will be automatically granted.

3) The Contractor waives any claim for additional payment if a claim is not filed as provided in this Section.

4) All claims must be in writing, contain sufficient detail to enable the Engineer to ascertain the basis and amount of the claim, be certified by the Contractor as stated below and be filed with the Engineer.

5) No claim will be allowed after the Completion Date.

b. At a minimum, each claim must include the following information:

1) The date of filing the claim.

2) A detailed factual statement supporting the claim, including all relevant dates, locations, and Bid Items of Work affected by the claim.

3) The name and title of each individual involved in or knowledgeable about the subject of the claim.

4) The specific provisions of the Contract which support the claim and a statement of the reasons why such provisions support the claim.

5) If the claim relates to a decision of the Engineer in which the Contract provides that the Engineer's decision is final, the Contractor must set out in detail all facts supporting its position relating to the decision of the Engineer.

6) A copy of the original, signed notice of dispute, as well as a copy of any supplemental documentation provided to the Engineer and a copy of any written communication from the Engineer regarding the dispute.

7) Copies of all information that relates to the subject of the claim, including diaries, meeting minutes, notes, or field records.

8) Copies of any additional documents that support the claim. Manuals which are standard to the industry governing the Work in which the claim is being made may be included by reference; however, the Contractor must clearly state which part or parts of the industry standard the Contractor is relying upon.

9) If an extension of Contract Time is sought, the following information must also be provided:

a) The specific Days and dates for which it is sought.

b) The specific reasons the Contractor believes a time extension should be granted.

c) The specific provisions of **Paragraph 1.08.I.** under which an extension is sought.

d) The Contractor's written explanation of the reason for the requested change including the method of analysis used and where appropriate referring to the relevant schedules; supporting documents such as look-ahead, as-built, daily records, time sheets, and the basis for the rates of affected tasks that the baseline CPM schedule was founded on, may be required by the Engineer.

10) If additional payment is sought, the Contractor must document the exact dollar amount sought supported by a breakdown of: the dollar amounts as-Bid, and/or as incorporated into the Contract via approved Change Orders, the actual amounts accrued, and the additional payment sought. The basis of any of these amounts may be required by the Engineer. The Contractor must provide the documentation of the amount in the following categories, as applicable:

a) Direct Labor (hours): This includes regular time rates and overtime rates for all employees and work classifications. These rates must include the basic prevailing wage and fringe benefits, the current rates for Federal Insurance Compensation Act (FICA), Federal Unemployment TaxAct (FUTA) and State Unemployment Tax Act (SUTA), the company's present rates for Medical Aid and Industrial Insurance premiums and the planned payments for travel and per diem payment. This excludes overhead and profit.

b) Direct Material (invoices): The invoice cost for Contractor-supplied Materials. This cost must include freight and handling charges and applicable taxes as shown on the invoices issued by the Supplier. This excludes overhead and profit.

c) Direct Equipment (hours, invoice, and rental agreements as applicable): Separately identify each piece of equipment used and the operation cost for each piece of equipment including all fuel, oil, lubrication, ordinary repairs, maintenance, and all other costs incidental to furnishing and operating the equipment, and the standby rate for each piece of equipment. This excludes overhead and profit. All equipment must have detailed descriptions, including but not limited to year, make, and model.

(1) Where the equipment is Contractor owned through outright ownership or through a long-term lease, the Contractor must document the Contractor's actual internal Bid rates. Bid rates are the equipment rates used by the Contractor or Subcontractors for bidding and project cost tracking; these rates typically exclude labor for operation; if an operator is included in a Bid rate, it must be indicated as such.

(2) Where the equipment is rented and operated by the Contractor, the Contractor must document the actual rental amounts including the actual rates for the equipment, excluding labor for operation.

(3) Where the equipment is rented from a third-party with operator, the Contractor must document the actual rental amounts including the actual rates for the equipment, including labor for operation.

d) Services (invoices/agreements): All invoices and agreements; additional breakdown may be required by the Engineer. This excludes overhead and profit.

e) Overhead and Profit (percentages that apply to direct costs in **subparagraphs a), b), c), & d) above**): Markups for overhead and profit must be provided in detail under the categories listed in **subparagraphs (1), (2), and (3) below**. General company overhead, project overhead, and profit percentages must be provided for each affected Bid Items of Work, the mobilization Bid Item, and for the project as a whole.

(1) General Company Overhead: Costs of the Contractor's home or corporate office necessary to run the business and to support the projects in the field. The Engineer may require that the general company overhead be supported with documentation of company financial information for the past 2 years.

(2) Project Overhead: Indirect costs that cannot be identified with a specific construction activity but support the project as a whole. The Engineer may require documentation of actual costs accrued.

(3) Profit: Net proceeds afterexpenses. The Engineer may require a detailed justification with supporting documentation of the company's financial information for the past 2 years.

f) Subcontractor Costs: Payments the Contractor makes to Subcontractors at any tier for performing Work are to be included in the claim. This cost must be calculated and itemized in the same manner prescribed for the Contractor.

g) Costs for repair or replacement of defective work or damage to property, of Contractor caused delays, or other inefficiencies resulting from the Contractor operations, including Subcontractors, services, and Suppliers, must not be included in actual or projected costs.

h) Costs must not be included more than once in the claim documentation.

11) Any additional information requested in writing by the Engineer.

12) A notarizedstatement containing the following language:

STATEOFWASHINGTON

SS.

THECOUNTY OF KING

The undersigned, _____
(name)

_____, of _____

(title) (company)

Being first duly sworn on oath, deposes and says:

The claim for extra payment and/or time made herein for Work on this Contract is a true statement of the actual costs incurred and/or time sought and is fully documented and supported as required by the Contract between the parties.

Dated _____/s/_____

Subscribed and sworn before me this _____

_____Day of _____

Notary Public in and for the State of Washington

residing at _____

My appointment expires _____

c. Reserved.

d. It is the responsibility of the Contractor to keep full and complete records of the actual additional costs and the actual additional time incurred for any alleged claim. The Contractor must retain these records for a period of not less than 3 years after the Completion Date. The Contractor must allow the Engineer complete and unrestricted access to these records and any other records as may be requested by the Engineer to determine the facts or contentions involved in the claim.

e. Failure to submit information and details as described, to provide access to the records, or as requested in writing by the Engineer for any claim, will result in waiving of the Contractor's claims.

f. Provided that the Contractor has fully complied with all provisions of this Section, the Engineer will respond to the claim by written notice to the Contractor as follows:

1) Within 45 Working Days form the date the claim is filed if the claim amount is less than $50,000;

2) Within 90 Working Days from the date the claim is filed if the claim amount is equal to or greater than $50,000; or

3) If the Engineer determines the above constraints are unreasonable due to the complexity of the claim under consideration, the Engineer will notify the Contractor within 15 Working Days from the date the claim is filed as to the amount of time which will be necessary for the Engineer to prepare its response.

4) If the Engineer fails to provide written notice within the time periods set forth above, the claim is considered denied and the Contractor may proceed to mediation as specified in **subparagraph 1.02.E.5**.

5. Mediation

a. If the Engineer denies the claim or the claim is deemed denied as specified in **subparagraph 1.02.E.4.f.4 immediately above**, the Contractor may request mediation. To request mediation, the Contractor must provide written notice to the Engineer within 30 Days of receiving the Engineer's written notice of denial, or within 30 Days of the date the claim was deemed denied due to the Engineer's failure to respond in the timeframe specified.

b. The date the Contractor's written notice is received by the Engineer is the date of filing the written notice. Failure to file the written notice within the time period stated above will result in the Engineer's decision regarding the claim being final and binding on the Contractor and all its Subcontractors.

c. The parties will select a mutually agreed on mediator. If they are unable to agree, the Owner and the Contractor must seek the selection of the mediator by the King County Superior Court at Seattle, WA.

d. Mediation will occur within 60 Days of the filing of the Contractor's written notice to mediate unless both the Contractor and the Engineer agree to a later date or unless the mediator's schedule requires a later date.

e. Each party will participate in the mediation process in good faith and may be represented at the mediation by lawyers. The parties will each bear their respective costs incurred in connection with this procedure, except that they must share equally the fees and expenses of the mediator and the costs of the facility for the mediation.

f. If mediation does not resolve the disputed matter, the Contractor may pursue judicial resolution as specified in **subparagraph 1.02.E.6**.

6. Litigation

a. If mediation does not resolve the disputed matter, the Contractor may serve and file a lawsuit in King County Superior Court in Seattle, WA. Such lawsuit must be filed within 180 Days of the Physical Completion Date or within 90 Days of the completion of the mediation process specified in **subparagraph 1.02.E.5**, whichever is later. This requirement cannot be waived except by an explicit waiver signed by the Owner. The failure to file a lawsuit within the 180 Day period will result in the Engineer's decision rendered as specified in **subparagraph 1.02.E.4** being final and binding on the Contractor and all its Subcontractors.

b. Actions by the Contractor against the Owner or between the Contractor and its Subcontractors arising out of a common set of circumstances must, upon demand by the Owner, be submitted in a single forum or the Owner may consolidate such claims or join any party necessary to the complete adjudication of the matter in the same forum.

7. Audits

a. All claims by the Contractor for additional payment are subject to audit as specified in **Paragraph 1.09.L**. In the event of an audit the Contractor must make available to the Owner all documents the Engineer requests within 7 Days of a written notice from the Engineer. Failure of the Contractor or a Subcontractor of any tier, to maintain or retain sufficient records to allow the Owner to verify all or a portion of the claim or to allow Owner access to the books and records of the Contractor, or Subcontractor of any tier, constitutes a waiver of the portion of the claim that cannot be documented and will bar any recovery for any portion of a claim that cannot be documented.

F. VariationIn Estimated Quantities

1. The Contractor will be paid for the actual quantities of Work performed and accepted under the Contract. When the accepted quantity of Work performed under a unit item varies from the original Bid quantity, payment will be made using the unit Contract Price unless adjusted as described herein.

2. The adjusted final quantity will be determined by starting with the final accepted quantity measured after all Work under an item has been completed. From this amount, subtract any quantities included in Additive Change Orders acceptedby both parties. Then, to the resulting amount, add any quantities included in Deductive Change Orders accepted by both parties. The final result of this calculation becomes the adjusted final quantity and the basis for comparison to the original Bid quantity.

a. Increased Quantities

1) Either party tothe Contract will be entitled to renegotiate the price for that portion of the adjusted final quantity in excess of 125 percent of the original Bid quantity. The price for that excess quantity will be determined as specified in **Paragraph1.09.D**.

b. Decreased Quantities

1) Either party to the Contract will be entitled to an equitable adjustment if the adjusted final quantity of Work performed is less than 75 percent of the original Bid quantity. The equitable adjustment is based on and limited to 3 factors:

a) Any increase or decrease in unit costs of labor, materials or equipment, used for Work actually performed, resulting solely from the reduction in quantity.

b) Changes in production rates or methods of performing Work actually done to the extent that the nature of the Work actually performed differs from the nature of the Work included in the original Contract.

c) An adjustment for the anticipated contribution to unavoidable fixed cost and overhead from the units representing the difference between the adjusted final quantity and 75 percent of the original Contract quantity.

c. Adjustment Limits

1) The following limitations apply to renegotiated prices for increases or equitable adjustments for decreases or both:

a) The equipment rates are actual cost but must not exceed the rates set forth in the AGC/WSDOT Equipment Rental Agreement, referred to in **Paragraph 1.09.F**, that is in effect at the time the Work is performed.

b) No payment will be made for extended or unabsorbed home office overhead and field overhead expenses to the extent that there is an unbalanced allocation of such expenses among the Contract Bid Items.

c) No payment for consequential damages or loss of anticipated profits will be allowed because of any variance in quantities from those originally specified in the Contract.

d) The total payment including the adjustment amount and unit prices for Work performed for any item that experiences an equitable adjustment for decreased quantity must not exceed 75 percent of the extended amount originally Bid for the item.

3. If the adjusted final quantity of any item does not vary from the quantity shown on the Bid Form by more than 25 percent, then the Contractor and the Owner agree that all Work under that item will be performed at the original Contract unit price.

4. When ordered by the Engineer, the Contractor must proceed with the Work pending the determination of the cost or time adjustment for the variation in quantities.

5. The Contractor and the Owner agree that there will be no cost adjustment for decreases if the Owner has entered the amount for the item in the Bid Form only to provide a common Bid basis for Bidders.

G. Differing SiteConditions - "Changed Conditions"

1. The Contractor must provide written notice to the Engineer if the Contractor, or any Subcontractor, encounters:

a. Pre-existing subsurface or latent physical conditions differing from those specified in the Contract and information available to Bidders; or

b. Pre-existing unknown physical conditions at the Project Site of anunusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract and information available to Bidders.

2. The notice must be submitted promptly upon the discovery, or the next Working Day, before the conditions are disturbed. The Contractor must not proceed with that portion of the Work until ordered to do so.

3. Upon notification by theContractor, or when the Engineer suspects a differing site condition, the Engineer will promptly investigate the alleged changed condition and:

a. If the Engineer determines that differing conditions do not exist, the Contractor will be notified in writing. Should the Contractor disagree with such determination, the Contractor may file a written notice of dispute with the Engineer under the requirements of **Paragraph 1.02.E**;or

b. If the Engineer finds that conditions are materially different and cause an increase or decrease in the Contractor's cost of, or the time required for, performing all or any part of the Work, the Engineer will make an equitable adjustment in the payment for the performance of the Work as specified in **Paragraph 1.09.D** or the time for performance as specified in **Paragraph 1.08.I**.

4. No equitable adjustment will be allowed unless the Contractor has provided the written notice required in **Subsection a** above. The time for providing the written notice may be extended by the Engineer for good cause. The time for giving

written notice will not be extended beyond the time the Contractor knew, or should have known, of the existence of the differing condition.

5. If there is a decrease in the cost or time required to perform the Work, failure of the Contractor to notify the Engineer of the differing condition does not affect the Engineer's right to make an adjustment in cost or time.

H. Progress Estimates and Payments

1. Engineer issued progress estimates or payments for any part of the Work must not be used as evidence of performance or quantities. Progress estimates serve only as a basis for making payments. The Engineer may revise progress estimates any time before the Certificate of Completion is issued.

I. Use of Buildings or Structures

1. Any building or Structure within the Right of Way that is not to remain during the Work or that may be used by the Contractor will be specified in the Contract.

J. Use of Materials Found on The Project Site

1. With written approval of the Engineer, the Contractor may use on the Project Site:

a. Stone, gravel, sand, or other Mineral Aggregates obtained from on-site excavations

b. Timbers removed in the course of the Work

2. Approval to use these materials will be granted provided the Materials satisfy the requirements of the Contract, and are not required for other use by the Contract or for use as selected Materials.

3. The order of disposal for suitable materials obtained in the course of the Work is as follows unless the Engineer approves otherwise:

a. Used as selected Material, as specified in **Seattle Standard Specifications Section 2-10.2(1);**

b. Delivered to the Engineer as salvage as specified in **Seattle Standard Specifications Section 2-02.3(7)**; or

c. Disposed of as specified in **Seattle Standard Specifications Section 2-01.2**.

K. Project Cleanliness and Final Cleanup

1. The Contractor must keep the Project Site clean and remove debris, refuse, and discarded materials of any kind resulting from the Work.

2. Disposal of waste must be as specified in **Section 01 74 19** and all applicable provisions of the Contract.

3. The Contractor must also perform final cleanup as specified in this Section. The Engineer will not establish the Physical Completion Date until final cleanup is completed. The street Right of Way, Material sites, quarry or pit sites, borrow sites, sites used for temporary waste storage, and all other areas the Contractor occupied to do the Work must be left neat, clean, and presentable. The Contractor must not remove warning, regulatory, or guide signs unless approved otherwise in writing by the Engineer. In the event that the Contractor fails to complete clean-up, the Owner, after providing 5 Days notice, may complete the clean-up and deduct the costs thereof from moneys due or to become due to the Contractor.

4. The Contractor must:

a. Remove and dispose all rubbish, surplus materials not identified as salvage by the Owner, any discarded materials, falsework, piling, camp buildings, temporary structures, equipment, and debris.

b. Remove from the Project Site, all unneeded rock, aggregate and similar material left from grading, surfacing, or paving unless the Contract specifies otherwise, or the Engineer approves otherwise.

c. On all concrete and asphalt pavement Work, clean the pavement and dispose of the wash water and debris per SMC 22.800-22.808, which prohibits such discharges from entering the Storm Drain system.

d. Sweep and clean structure decks and properly dispose of wash water and debris per SMC 22.800-22.808, which prohibits such discharges from entering the Storm Drain system.

e. Clean out from all Culverts and Storm Drains, inlets, catch basins, maintenanceholes, andWater Main valve chambers, within the limits of the Project Site, all dirt and debris of any kind that results from Contractor's operations.

f. Level and fine grade all excavated material not used for backfill where the Contract requires.

g. Finegradeallslopes andaround allStructurepiers, bents, and abutments.

h. Ensure that thefinal cleanup of clearing and grubbing disposal sites and borrow sites (**Seattle Standard Specifications Sections 2-01.2 and 2-10.2(2)**), and any temporary waste sites created by the Contractor, have been performedper the requirements specified in the Grading Ordinance, permits, property agreements, and the Contract.

i. 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 must 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 completed.

j. Remove all temporary construction stormwater pollution prevention elements within 5 Working Days after final Project Site stabilization, or after they are no longer needed, whichever is later.

k. Before the completion of the Work, amend all new, replaced, and disturbed topsoil as specified in **Seattle Standard Specifications Sections 8-01 and 8-02.**

l. Remove warning, regulatory, or guide signs once removal has been approved in writing by the Engineer.

m. Clean, remove, and dispose of any debris of any kind that results from Contractor's operations within or outside of the Project Site.

5. All costs associated with cleanup and disposal are incidental to the Work and must be included in the various Bid Items in the Bid and at no additional cost to the Owner.

1.03 CONTROLOF WORK

A Authority of Engineer

1. All Work must be done as specified in the Contract, to the satisfaction of the Engineer. The Contract gives the Engineer authority over the Work. Whenever it is so provided in this Contract, the decision of the Engineer is final, provided that such decision may be disputed as specified in **Paragraph 1.02.E**.

2. The Engineer's decisions are final on all questions including, but not limited to:

   a. Quality and acceptability of Materials and Work

   b. Substitutions

   c. Measurement of Bid Item Work

   d. Acceptability of rates of progress on the Work

   e. Interpretation of the Contract

   f. Determinations as to the existence of differing Project Site conditions

   g. Fulfillment of the Contract by the Contractor

   h. Payments under the Contract including equitable adjustments

   i. Suspension of the Work

   j. Determinations as to Unworkable Days

   k. Reviews of submittals

   l. Determination of Notice to Proceed Date, Substantial Completion Date, and Physical Completion Date, see **Paragraph 1.01.C**

3. If the Contractor fails to respond promptly to the requirements of the Contract or direction from the Engineer:

   a. The Engineer may use the Engineer's forces, other Contractors, or other means to accomplish the Work as specified in **Paragraph 1.03.H**,

   b. The Owner is not obligated to pay the Contractor, and will deduct from the Contractor's payments, additional costs when any other means must be used to carry out the Contract requirements or Engineer's direction, as specified in **subparagraph 1.09.I.3**.

4. The Engineer may suspend all or part of the Work, as specified in **Paragraph 1.08.G**, if:

   a. The Contractor fails to fulfill Contract terms, to carry out the Engineer's orders, or to correct unsafe conditions of any nature;

   b. The Contractor fails to comply with environmental implementation requirements, corrective action, testing, or self-reporting requirements;

   c. The weather or other conditions are unsuitable; or

   d. It is in the public interest.

5. Nothing in the Contract requires the Engineer to provide the Contractor with direction or advice on how to do the Work. If the Engineer takes no exception or renders an opinion on any method or manner for doing the Work or producing Materials, it does not:

   a. Guarantee that following the method or manner will result in compliance with the Contract;

   b. Relieve the Contractor of any risks or obligations under the Contract; or

c. Createany liability for the Owner.

B. Authorityof Assistants And Electrical SafetyObserver

1. Authority of Assistants

a. The Engineer may appoint Assistants to assist in determining if the Work and Materials comply with the requirements of the Contract. Assistants have the authority to reject defective material and suspend Work that is being done improperly, subject to the final decision of the Engineer. Assistants may exercise such additional authority as may be delegated to them by the Engineer.

b. Assistants and Inspectors are not authorized to accept Work, to accept Materials, to issue instructions, or to provide advice that is contrary to the Contract. Work done or Material furnished which does not comply with the Contract requirements is at the Contractor's risk and is not a basis for a claim even if the inspectors or Assistants purport to change the Contract to provide for such Work or Material, to approve or accept such Work or Material, or issue any instructions contrary to the Contract.

c. Although Assistants may advise the Contractor of any faulty Work or Materials or infringements of the terms of the Contract, failure of the Engineer or Assistant to do so shall not constitute acceptance or approval.

2. Authority of Electrical SafetyObserver

a. The Engineer will assign an Electrical Safety Observer when Work is performed in a substation; in a switchyard; in an energized vault; at other locations containing high voltage lines or equipment; when installing ducts and vaults in the vicinity of energized undergroundelectrical transmission or distribution system; or when any excavation is within 15 feet of an energized electrical transmission or distribution system as indicated by marked for locate as specified in **Article 1.07 of Section 01 76 00**; or as otherwise deemed necessary by the Engineer. The only exception is when the Contract specifies, and contains a Bid Item, that the Contractor provides a qualified Contractor's Electrical Safety Observer who is approved by SCL.

b. The Contractor must provide a minimum 7 Working Days advance notice request for an Electrical Safety Observer, see **Paragraph 1.04.BB of this Section 00 72 00** for notification requirements. The Contractor must provide an adequate description of the Work to be performed, equipment to be used, and the Work duration. When the Contractor, or its Subcontractor, does not schedule work on a specific Day or Days, the Contractor must provide 1 Working Day advance notice unless arranged otherwise with the Electrical Safety Observer. Failure to notify the Electrical Safety Observer at least 1 Working Day in advancewill result in the Owner back charging the Contractor for the Electrical Safety Observer's services at the site.

c. The Electrical Safety Observer's involvement with Project Site safety will be limited to electrical safety, unless the Contract indicates otherwise. The Electrical Safety Observer will notify the Contractor of electrical hazards and may instruct, warn, and if necessary, direct Contractor and Subcontractor personnel to move a safe distance from electrical system components. In addition to all other rights of the Owner and Engineer, the Electrical Safety

Observer will have the authority, but not the responsibility, to stop Work if the Electrical Safety Observer judges that there is any hazard that immediately imperils life, health, or property.

d. The Contractor is solely responsibility for safety under the Contract. The presence or absence of an Electrical Safety Observer does not change the Contractor's responsibility for the occupational health and safety of individuals on the Project Site or relieve the Contractor of any of its legal obligations for worker safety.

e. The Contractor must assign a Contractor's on-site electrical lead and must ensure that each Subcontractor assigns a Subcontractor's on-site electrical lead when Work requires an Electrical Safety Observer. The on- site electrical lead is authorized to resolve safety related issues raised by the Engineer, Assistant, or Electrical Safety Observer. The Contractor must ensure that such on-site Electrical Lead is physically present at the Project Site requiring an Electrical Safety Observer. Each on-site electrical lead, whether Contractor's or Subcontractor's, must identify themselves to the Electrical Safety Observer at the briefing/tailgate conference.

f. At the briefing/tailgate conference on each Day when an Electrical Safety Observer is required, theContractor must notify the Electrical Safety Observer of the work to be performed requiring an Electrical Safety Observer. Each on-site electrical lead, or Contractor's or Subcontractor's on-site supervisory representative, must complete and sign the Safety Watch Checklist and Certification of Training form provided by the Electrical Safety Observer before work starts for which an Electrical Safety Observer is required.

C. Submittals

1. Specified in **Section 01 33 10 –Submittals**.

a. As Built Records: Specified in **Section 01 78 39 - Project Record Documents**.

b. Operating and Maintenance (O &M) Manuals: Specified in **Section 01 78 39- Project Record Documents**, if required for this project.

D. Conformity With And Deviations From Drawings And Stakes

1. Work performed must conform to the lines, grades, cross-sections, data, and dimensions indicated on the Drawings or staked by the Engineer. These stakes and marks will govern the Contractor’s Work. The Contractor is solely responsible for detailed dimensions, elevations, and slopes measured from them.

2. Where specific tolerances are stated in the Contract, the Work must be performed within those stated limits. The Engineer will determine if the Work is in conformity with the lines, grades, cross-sections, and dimensions provided. The Engineer’s decision on whether the Work is in conformity is final, as specified in **Paragraph 1.03.A**.

3. Before undertaking each part of the Work, the Contractor must carefully study and compare the Contract to existing field conditions by checking and verifying pertinent figures shown in the Contract, and checking and verifying all applicable field measurements. The Contractor must promptly provide written notice to the Engineer of any conflict, error, discrepancy, or omission discovered.

4. The Contractor must not deviate from the requirements in the Contract except when authorized to do so, in writing, by the Engineer.

E. Construction Stakes

1. Specified in **Section 01 71 23 - Field Engineering**, if applicable to this project.

F. Inspection of Work And Materials

1. Work performed and Materials furnished will be subject to inspection by the Engineer. The Contractor must provide the Engineer a minimum 1 Working Day advance notice when Work and Materials are ready for inspection, testing, review, approval, or retesting as applicable. The Contractor must provide such facilities as are deemed necessary by the Engineer for sufficient and safe access to the Work or to the Material. Such facilities must include, but not be limited to, walkways, railings, ladders, platforms, support systems, safety harnesses, safety lines, and safety nets.

2. Upon request, the Contractor must furnish, without charge, samples of Materials used, or to be used in the Work, for inspection and testing, to ensure conformance with the Contract. If Materials are tested and approved for the Work, then used for purposes not connected with the Work, the cost of testing and inspection will be deducted from monthly progress estimates for payment to the Contractor. Materials used without inspection may be ordered removed and replaced, and the cost of the Material, including the work associated with the removal and replacement of the Material and any other Material and Work impacted by the removal and replacement, is at the Contractor's sole expense.

3. If the Contractor fails to furnish Material samples and/or test results as required in the Contract, the Engineer and/or testing agency designated by the Engineer, may sample and/or test the Material at the Contractor's sole expense to verify compliance of the Material with the Contract. Reimbursement for sampling and/or testing performed by the Engineer will be charged to the Contractor at a rate of $85.00 per hour. Reimbursement for sampling and/or testing performed by a testing agency will be by invoice from the designated testing Laboratory, except for Laboratory retest and field revisit charges as specified in **Paragraph 1.03.G**.

   These charges will be deducted from moneys due or to become due the Contractor on monthly progress estimates.

4. Inspections, tests, measurements and other actions taken by the Engineer are for the sole purpose of assisting the Engineer to assess whether or not Work, Materials, rate of progress, and quantities comply with the Contract. These actions by the Engineer do not relieve the Contractor from determining independently that full compliance with the Contract is met at all times, or relieve the Contractor from any responsibility for the Work.

5. Upon request, the Contractor must remove or uncover any portions of completed Work for inspection by the Engineer. After inspection, the Contractor must make restoration conforming to the standards required by the Contract. The costs associated with uncovering, removing, testing, and retesting as applicable, and restoring exposed Work and Material, including compensating the Engineer for any additional professional services required including retesting and as specified in **Paragraph 1.03.G**, is at the Contractor's sole expense, if:

   a. The exposed Work or Material proves to be unacceptable; or

   b. The exposed Work or Material was placed without authority or due notice to the Engineer.

6. If the exposed Work proves to be acceptable and the Contractor had performed the original Work with the authority of and due notice to the Engineer, payment will be made as extra Work for all costs associated with the uncovering, removing, and restoration and the Contract Time will be adjusted.

7. Where Work is required to be performed on any facility of a public agency, railroad, or utility, or to the satisfaction of any federal, state, county, or municipal agency, their representatives must be permitted to inspect the Work when the Contractor is advised by the Engineer to allow them to do so. The Contractor agrees that such inspection does not make such representatives a party to the Contract and does not constitute an interference with the rights of the Owner or the Contractor.

G. Defective Work And Unauthorized Work

1. The Engineer will not pay for unauthorized Work or defective Work. Work and Materials that do not conform to the requirements of the Contract, Work done beyond lines and grades shown on the Drawings or established by the Engineer, or extra Work and Materials furnished without written approval of the Engineer will be considered defective Work or unauthorized Work as applicable. Such Work is at the Contractor's risk and sole expense and may be rejected, even if the Work has been inspected, or a progress estimate is made for payment.

2. When directed by the Engineer, such Work or Material must immediately be remedied, removed, replaced, or disposed of and all costs, including retesting costs as applicable, associated with such Work is at the Contractor's sole expense. Such Laboratory retesting costs of replaced or reconstructed Work or Material will be charged to the Contractor per the following schedule:

Test Name	Seattle Standard Specification Section	Unit	Cost of Unit Retest
Field Soil Density Reading	Section 2-11	Each	$125.00
Concrete Pavement Coring	Section 5-05	Each	$225.00
Asphalt Pavement Coring	5-04.3(9)	Each	$225.00
Soil/Aggregate Sieve Analysis	9-03.13	Each	$175.00
Moisture-Density Curve	Section 2-11	Each	$275.00
L A Abrasion	9-03.13, 9-03.15	Each	$175.00
Soundness	9-03.15	Each	$125.00
Organic Content	9-14.1(5)	Each	$75.00
Epoxy Pull Out Test	6-02.3(24)	Each	$275.00
Asphalt Concrete Sieve Analysis	5-04.3(7)A	Each	$225.00
Asphalt Concrete Binder Content	5-04.3(7)A	Each	$125.00
Asphalt Concrete Air Void Analysis (V_A)	5-04.3(7)A	Each	$225.00
Concrete Compressive Strength	5-05.3(4)B	Each	$75.00

3. Each field revisit by the Laboratory for the purpose of retesting previously identified unacceptable Work or Material will be charged to the Contractor at the rate of $150.00 each visit. For test methods not shown here, the rate for reimbursement will be charged to the Contractor as the actual cost of the test incurred by the Owner.

4. These charges will be deducted from moneys dueor to become due the Contractor on monthly progress estimates.

5. Failure on the part of the Engineer or an Assistant to reject defective Work or unauthorized Work does not release the Contractor from the Contractor's contractual obligations, be construed to mean acceptance of such Work or Material by the Owner or, after the Completion Date, bar the Owner from recovering damages or obtaining such other remedies as may be permitted by law.

6. No adjustment in the Contract Time or payment will be allowed because of delays in the performance of the Work as a result of correcting defective Work or unauthorized Work.

H. Engineer's Right To Correct And Recover Costs For Defective And Unauthorized Work

1. If the Contractor fails to remedy defective Work and/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, the Engineer may correct and remedy such Work, as may be identified in the written notice, by any means necessary, including the use of Owner forces.

2. If the Contractor fails to comply with a written notice to remedy what the Engineer determines to be an emergency situation due to defective or unauthorized Work or due to the Contractor failing to perform Work, the Engineer may have the defective Work and unauthorized Work, or both as may apply, corrected immediately, have the rejected Work removed and replaced, or have Work the Contractor fails to perform completed by using in house or other forces. An emergency situation is any situation that, 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.

3. The Contractor must pay any direct or indirect costs incurred by the Engineer to correct or remedy the Contractor's defective or unauthorized Work, or any damage resulting from the Contractor's refusal or failure to perform any Work. This includes the cost to repair or replace work completed by others damaged due to correcting or removing the Contractor's defective or unauthorized work. Payment will be deducted by the Engineer from any payments due to the Contractor.

4. No adjustment in Contract Time, payment, or both will be allowed because of the delay in the performance of the Work attributable to Owner's exercise of the right provided by this Section. Exercise of this right does not diminish the Owner's right to pursue additional remedy or damages with respect to the Contractor's failure to perform the Work as required.

I. Equipment and Machinery

1. Equipment and machinery must be adequate for the purposes used, kept in good working condition, and operated by competent operators. The Contractor is alerted that several Sections have additional specific equipment or machinery requirements. The Contractor is also alerted that several Sections have requirements for the Engineer to have safe and convenient access to facility and Contractor equipment for observation and sampling purposes, and may also require a safe and convenient temporary area for on-site testing purposes, see **Paragraphs 1.09.A and 1.09.B**.

   a. **If applicable to this project, the technical specifications may specify additional requirements for the equipment and machinery associated with hot mix asphalt, Portland cement concrete for concrete pavement, or ready-mix concrete for concrete structures.**

2. Upon request, the Contractor must provide, at no additional cost to the Owner, an operating and maintenance manual for each model or type of mixing, placing, or processing equipment before using it in the Work. The Contractor must also provide test instruments to confirm whether the equipment meets operating requirements, such as vibration rate, revolutions per minute, or any other requirements.

3. The Contract may require automatically controlled equipment for some operations. If the automatic controls on such equipment fail, the Contractor may operate the equipment manually for the remainder to that Working Day, provided the method of operation produces results otherwise meeting the Specifications. Continued operation of the equipment manually beyond this Working Day will be permitted only by specific authorization of the Engineer.

4. The Engineer will reject equipment that repeatedly breaks down or fails to produce results within the required tolerances. The Contractor must promptly replace rejected equipment. Rejection and replacement of equipment does not provide the Contractor a right to additional payment or time.

J. Guarantees And Warranties

1. General

a. The obligations under this Section must survive the Completion Date or termination of this Contract.

2. General Guaranty And Warranty

a. The Contractor must furnish to the Engineer any guaranty or warranty furnished as a normal trade practice in connection with the purchase, by the Contractor or a Subcontractor, of any equipment, Materials, or items incorporated in the Work.

b. Upon written notice within 1 year after the Physical Completion Date, the Contractor must promptly return and correct defective or unauthorized Work at no additional cost to the Owner. If the Contractor does not promptly comply with the written notice to correct defective and unauthorized Work as may apply, or if an emergency exists, the Engineer may have defective Work and unauthorized Work corrected or removed and replaced as provided by **Paragraph 1.03.H**.

c. The Contractor agrees the above 1 year limitation does not exclude or diminish the Owner's rights under any law to obtain damages and recover costs resulting from defective Work and from unauthorized Work discovered after 1 year but before the expiration of the legal time period set forth in RCW 4.16.040 limiting actions on a Contract in writing, or liability expressed or implied arising out of a written agreement.

3. Warranty of Title

a. The Contractor must warrant good title to all Materials, Supplies, and equipment purchased for, or incorporated in, the Work. Nothing contained in this paragraph, however, defeats or impairs the right of persons furnishing Materials or labor, to recover under any bond provided by the Contractor for their protection, or any rights under any law permitting such persons to look to funds due the Contractor in the hands of the Owner.

b. The provisions of this paragraph must be inserted in all subcontracts and Material Contracts and notice of its provisions must be provided to all persons furnishing Materials for the Work when no formal Contract is entered into for such Materials.

K. Final Inspection

1. Substantial Completion Date

a. When the Contractor considers the Work to be substantially complete, the Contractor must notify the Engineer and request the Engineer establish the Substantial Completion Date. To be considered substantially complete the following conditions must be met:

1) The Owner must have full and unrestricted use and benefit of the facilities, both from an operational and safety standpoint.

2) Only minor incidental Work, replacement of temporary substitute facilities, or corrective or repair Work remains to reach Physical Completion of the Work.

3) Operation and Maintenance information, when specified in the Contract in **Section 01 33 10 - Submittals** and **subparagraph 1.03.K.3 of this Section 00 72 00** as required to allow the Owner to have full unrestricted use.

b. The Contractor's request must list the specific items of Work in **subparagraph 2** immediately above that remain to be completed to reach Physical Completion. The Engineer will schedule an inspection of the Work with the Contractor to determine the status of completion.

c. If, after inspection, the Engineer concurs with the Contractor that the Work is Substantially Complete, the Engineer will, by written notice to the Contractor, establish the Substantial Completion Date. If, after this inspection, the Engineer does not consider the Work Substantially Complete, the Engineer will, by written notice, notify the Contractor giving the reasons.

d. Upon receipt of written notice concurring in or denying Substantial Completion, whichever is applicable, the Contractor must pursue vigorously, diligently and without unauthorized interruption, the Work necessary to reach Substantial and/or Physical Completion. The Contractor must provide the Engineer with a revised critical path schedule indicating when the Contractor expects to reach Substantial and/or Physical Completion of the Work.

e. The above process must be repeated until the Engineer establishes the Substantial Completion Date.

f. The Engineer may also establish the Substantial Completion Date unilaterally.

2. Final Inspection and Physical Completion Date

a. The Engineer will not make the final inspection until the physical Work required of the Contract has been completed. This Work must include:

1) Final cleanup (see **Paragraph 1.02.K** and **Paragraph 1.04.Xof this Section 00 72 00**),

2) Providing the Engineer with all required submittals (see **Section 01 33 10 – Submittals**),

3) Completing operational testing and submitting operation and maintenance (O&M) manuals operational testing when specified in the Contract (**Section 01 33 10** and **subparagraph 1.03.K.3 of this Section 00 72 00**).

4) All extra work ordered by the Engineer.

b. If the Engineer believes a written release from a private property owner (see **Paragraph 1.02.K and Paragraph 1.04.X**) is being arbitrarily withheld, the Engineer may at his or her sole discretion accept that portion of the Work involved.

c. When the Contractor considers the Work physically complete and ready for final inspection, request in writing that the Engineer schedule a final inspection. Within 5 Days, 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 must immediately take such corrective measures as are necessary to remedy the listed deficiencies. Corrective Work must be pursued vigorously, diligently, and without interruption until Physical Completion of the listed deficiencies.

d. 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. Such steps may include the correction of defects using in house forces or by others. In such case, the direct and indirect costs incurred by the Engineer will be deducted from moneys due or becoming due the Contractor. Such indirect or direct costs must include payment for additional professional services required in cost of repair and replacement of the Work of others which is destroyed or damaged by correction, removal, or replacement of the Contractor's deficient Work. 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.

e. Upon correction of all deficiencies, the Engineer will notify the Contractor and the Owner, in writing, of the date on which the Work was determined physically complete. That date constitutes the Physical Completion Date of the Contract but does not imply all obligations of the Contractor under the Contract have been fulfilled.

3. Operational Testing, And Operation And Maintenance (O&M) Manuals

a. It is the intent of the Owner to have, at the Substantial Completion Date, a complete draft O&M Manual and operable system with all information necessary to operate and maintain the system. Therefore, when the Work involves the installation of machinery or other mechanical equipment; street lighting; electrical distribution and transmission systems; 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 before the Physical Completion Date. Whenever items of Work are listed in the Project Manual for operational testing, they must be fully tested under operating conditions for the time period specified to

ensure their acceptability before the Physical Completion Date. During and following the test period, the Contractor must correct any items of workmanship, Materials, or equipment that proves faulty, or are not in first class operating condition. Equipment, electrical controls, meters, or other devices and equipment to be tested during this period must 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.

b. Before operational testing or as acceptable to the Engineer, the Contractor must submit 3 sets of O&M manuals for the item being tested. During operational testing, the Contractor must accommodate the Engineer in understanding and applying O&M manual instruction and recommendation. Should inconsistencies between the O&M manual and actual operation or actual maintenance be discovered, the Contractor must provide 3 sets of Supplier provided amendment addressing all correction.

c. Each O&M manual must include the following:

1) A title indicating its contents permanently labeled on the outside of the binder.

2) A cover sheet identifying equipment with the process or assembly with which it is used, according to:

a) Location

b) Section number and title

c) Engineer's Drawing (sheet) number

3) A table of contents.

4) A text as prepared by the manufacturer and including the following information or materials, as applicable:

a) Equipment operating instructions including start-up and shut-down procedures, safety precautions, and instructions on specific controls;

b) Electrical test reports, including electrical system and motor test reports;

c) Mechanical test reports, including factory running tests and performance rating tests for motorized equipment;

d) Shop Drawings;

e) Assembly Drawings;

f) Parts list;

g) Bill of Materials;

h) Wiring diagrams;

i) Maintenance instructions to cover any routine operation required to ensure the satisfactory performance and longevity of the equipment, such as lubrication instructions, lists of lubricants, and belt tensioning;

j) Maintenance summary forms; and

k) Manufacturer's warranty.

d. Manuals must be bound in 3-ring or spiral binders with plastic or other stain resistant covering. Manuals must be 8-1/2 x 11 inches in size except for oversize Drawings, which must be bound in fold out fashion or folded and placed inside a bound in envelope. Multiple thinner binders are preferred to extra-large and bulky binders where subdivisions of the contents permit. Equipment operating instructions and test reports must be bound in front of maintenance instructions and other materials.

e. Unless the Contract specifies otherwise, the costs for power, fuel, labor, Material, Supplies, and everything else needed to complete operational testing, must be included in the various Bid Item prices related to the system being tested, unless specifically set forth otherwise in the Bid Form.

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

L. Completion and Contract Closeout

1. After the Physical Completion Date is established and after all obligations of the Contract, except retainage release have been completed, the Engineer will submit an acceptance package and supporting documents to PC as specified in **subparagraph 1.09.I.4.a**.

2. On behalf of the City, PC will establish the Contract Completion Date, submit the Notification of Completion to the State agencies, and publish notice of the Completion Date as specified in **subparagraph 1.09.I.4.b**.

3. After all legal requirements are met, retainage will be released according to the priority and process under RCW 60.28 and as specified in **subparagraph**

1.09.I.4.c.

M. Superintendents, Labor, And Equipment

1. General

a. The Contractor must keep a copy of the Contract at the Project Site, give the Work the attention required to maintain scheduled progress, and cooperate with the Engineer in the administration of the Work.

b. The Contractor must be present, in person, or be continuously represented by a duly authorized representative at the Project Site during progress of the Work. The Contractor must assign a project manager or superintendent named in the SBRC or in writing before starting the Work, who is experienced, capable of understanding the Contract, and able to supervise the performance of the Work. The superintendent or project manager must comply with the SBRC specified in **Section 00 21 13, Paragraph 1.01.B**. The Contractor's superintendent or project manager must have full authority to represent and act for the Contractor. Written notice provided to the project manager or superintendent is as binding as if provided to the Contractor.

c. The Work must be performed under the continuous supervision of competent personnel experienced in performing the class of Work. Upon written direction of the Engineer, the Contractor must discharge any incompetent, careless, or negligent employees, including supervisors. Upon written direction of the Engineer, the Contractor must immediately remove from the Project Site any superintendent who repeatedly fails to comply with a written order, direction, instruction, or determination from the Engineer. The Contractor must then request the assignment of a new superintendent, in writing to the Engineer.

Failure to comply with such direction is sufficient grounds for termination of the Contract.

d. Machinery and equipment must comply with **Paragraph 1.03.I.2**.

2. Performance

a. A Contractor Performance Evaluation Form is located in **Section 00 80 10** of the Project Manual.

b. A Contractor Performance Evaluation is required for all projects with an engineer's estimate of $1,000,000 or more. The Contractor Performance Evaluation process consists of 2 reviews:

1) Mid-Point: Contractor Performance Evaluation will take place at mid-point of the project as determined by the Engineer.

2) Final: Contractor Performance Evaluation will be completed prior to Project's Completion Date.

c. The Final Contractor Performance Evaluation will record the permanent evaluation scores for the Contractor's performance.

d. Deficient scores of 59 or below for any individual category may be grounds for a determination of non-responsibility on future City projects. Overall performance evaluation scores deemed deficient with scores of 59 or below from 3 separate projects may be grounds for Contractor debarment under **subparagraph 1.08.K.8**. and **SMC 20.70.**

e. The Contractor may contest final criteria scores by filing a protest in writing. Protests must be submitted to PC within 5 business days after receipt of the Final Contractor Performance Evaluation. Submit protests to: Director, Purchasing and Contracting, Department of Finance and Administrative Services,
USPS Mailing Address:
PO Box 94687
Seattle, WA 98124-4687
Email: FAS_PW_Admin@seattle.gov

f. Protests must comply with the following requirements:

1) The protest must specifically identify which score criteria is contested;

2) The protest must propose a score that reflects the protester's opinion of the Contractor's final performance; and

3) The protest must provide the basis of information and facts that refute the final criteria score and supports a revision to the proposed score.

g. The PC Director or designee will review and decide on all final criteria score protests. The Director's decision on the protest is final and exhausts all administrative remedies.

3. Construction Stormwater Pollution Prevention Coordination

a. Construction Stormwater and Pollution Prevention Coordinator (CSPPC)

1) The Contractor must assign a Construction Stormwater and Pollution Prevention Coordinator (CSPPC) to the Work and must identify the CSPPC at the preconstruction conference. CSPPC responsibilities must be formally assigned to one or more of the Contractor's

supervisors who are actively involved in the planning and management of field Contract activities. Alternates may be identified. The CSPPC is responsible for ensuring the Contractor's compliance with all City of Seattle, other local jurisdictions, county, state, and federal, construction stormwater pollution prevention requirements and must be available on call 24 hours per Day through the duration of the Work. The CSPPC must be listed on the emergency contact list as specified in **subparagraph 1.03.M.4.**

2) The CSPPC has overall responsibility for compliance and coordination of the following plans and submittals for the project as specified in **Section 01 57 13**, and any other pollution prevention elements on the project:

a) CSECP
b) TVSPP
c) SP
d) TDP
e) TemporaryDewatering Plan

3) Identify a lead for each plan listed above. The identified leads are responsible for compliance with the requirements specified below. The CSPPC may be the lead on any or all elements. If the Contractor identifies multiple leads, they must clearly identify the responsibilities of each.

b. CertifiedErosion And Sediment Control Lead(CESCL)

1) The Contractor must assign a Certified Erosion and Sediment Control Lead (CESCL) to the Work and identify the responsible party at the preconstruction conference. The CESCL must be listed on the emergency contact list specified in **subparagraph 1.03.M.4.**

2) The CESCL must have authority to act on behalf of the Contractor and must be available, on call, 24 hours per Day throughout the period of construction. The CESCL is responsible for ensuring the Contractor's compliance with all City of Seattle, other local jurisdictions, county, state, and federal erosion and sediment control and water quality requirements.

3) The CESCL must 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 or CPESC certification.

4) The Washington State Department of Ecology maintains a list of CPESC training and certification providers at: http://www.ecy.wa.gov/programs/wq/stormwater

5) For additional information on the CPESC certification, go to: http://www.ecy.wa.gov/programs/wq/stormwater/cescl.html

c. Tree, Vegetation and Soil ProtectionLead

1) The Contractor must assign a Tree, Vegetation and Soil Protection Lead (TVSPL) to the Work and must identify the responsible party at the preconstruction conference. This individual must be listed on the emergency contact list specified in **subparagraph 1.03.M.4**.

2) The TVSPL must be given the authority and must be responsible for ensuring compliance with Tree, Vegetation and Soil Protection, as specified in **Section 01 76 00 and Section 01 5713**.

d. Spill Prevention and Response Lead

1) The Contractor must assign a Spill Prevention and Response Lead (SPRL) to the Work and must identify the responsible party at the preconstruction conference. This individual must be listed on the emergency contact list as specified in **subparagraph 1.03.M.4.**

2) The SPRL must be given the authority and is responsible for ensuring compliance with **Section 01 57 13**.

e. Temporary Discharge Lead

1) The Contractor must assign a Temporary Discharge lead, when temporary discharge of process water, groundwater, or concentrated and collected stormwater is a component of the Work. The lead must be identified at the preconstruction conference and must be listed on the emergency contact list as specified in **subparagraph 1.03.M.4**.

2) The Temporary Discharge lead is responsible for ensuring compliance with applicable permits, requesting permits, and complying with **Paragraph 1.04.F of this Section and Section 01 57 13**, preparing and updating the Temporary Discharge Plan, measuring flow, performing and coordinating water quality testing, preparing reports and record keeping as required by permits.

f. Temporary Dewatering Lead

1) The Contractor must assign a temporary dewatering lead when dewatering is a component of the Work. The lead must be identified at the preconstruction conference. The lead must be listed on the emergency contact list as specified in **subparagraph 1.03.M.4.**

2) The temporary dewatering lead is responsible for dewatering as specified in **Seattle Standard Specifications Section 2-08.**

4. Emergency Contact List

a. The Contractor must submit an emergency contact list to the Engineer no later than 5 Calendar Days after the date the Contract is executed. The list must include, at a minimum, the Contractor's Project Manager, or equivalent, the Contractor's Project Superintendent, the Traffic Control Supervisor, and the individuals fulfilling the lead requirements as specified in **subparagraph 1.03.M.3 of this Section**. The list must identify a representative with delegated authority to act as the emergency contact on behalf of the Contractor and include 1 or more alternates. The emergency contact must be available upon the Engineer's request except during normal working hours. The emergency contact list must include

24-hour telephone numbers for all individuals identified as emergency contacts or alternates.

N. Cooperation With Other Contractors

1. The Owner may perform other work at or near the Project Site, including Material sites, with forces other than those of the Contractor. This work may be done with or without a Contract. Should such Work be underway or subsequently undertaken within or adjacent to this project, the Contractor must cooperate with all other Contractors or other forces, and conduct the Work so that the operations of both suffer the least interference and delay. Should there be disagreement between the Contractors, or the Contractor and the Engineer, as to the manner and order of performing Work, such disagreement will be resolved by the Engineer. The Engineer's decision in these matters is final, as provided in **Paragraph 1.03.A**.

2. If the Contract provides notice of other work that may affect the Work, or other work is apparent from the Project Site investigation specified in **Paragraph 1.01.D**, the Contractor must account for coordinating the Work, and any resulting cost must be included in the various Contract Bid items that make up the Work.

O. Methods of Serving Notices

1. All notices must be in writing and are considered delivered and service complete when:

a. Delivered by certified or registered mail to the other party at their last provided address; or

b. Delivered in person to the other party; or

c. Delivered to an authorized representative of the other party at the Project Site; or

d. An electronic copy is delivered by electronic mail to the Engineer if sent to the City, and, if sent to the Contractor, to an authorized representative of the Contractor.

P. Water and Power

1. See **Section 01 50 00 – Temporary Facilities And Controls**.

Q. Oral Agreements

1. No oral agreement or conversation with any officer, agent, or employee of the Owner, either before or after the Execution Date of the Contract, affects or modify any of the terms or obligations contained in the Contract. Such oral agreement or conversation is considered as unofficial information and in no way binding on the Owner, unless put in writing.

R. Control of Materials

1. Approval of Materials Before Use

a. The City encourages the use of environmentally friendly Materials and recycled material when applicable.

b. Before use, the Contractor must notify the Engineer of all proposed Materials. The Contractor must use the Request for Acceptance of Material Sources (RAMS) form to identify the source for all Materials proposed for use on the project.

c. All equipment, Materials, and articles incorporated into the permanent Work:

1) Must be new, unless the Contract allows otherwise;

2) Must comply with the requirements of the Contract and be accepted by the Engineer as specified in **Section 01 33 10 - Submittals**;

3) May be inspected or tested at any time during their preparation and use;

1) Must not be used in the Work if they become unfit after being previously approved; and

2) Must be verifiable by shipping invoice, certification, load tickets, or other means acceptable to the Engineer.

2. Named Products

a. Specified products are occasionally called for by manufacturer or name in the Contract to establish a basis for certain Materials, equipment, or processes. Wherever products are specified by name, the Specification will be treated as if the phrase "or equal" appears after the named product whether “or equal” is indicated or not, unless indicated as without substitution per **subparagraph 1.03.R.4**. The phrase “or equal” does not imply the availability of such “or equal” products. The terms "or equal" and "or approved equal" shall be considered synonymous.

b. When a product is mentioned by name, it includes products that will measure up to the designated standards of the named product mentioned as an equal. The Contractor is responsible for demonstrating that the proposed product is equal. The proposed equal product must comply with the essential requirements of the Contract and **subparagraphs1.03.R.3.a.2 to 1.03.R.3.a.5 [items 2) through 5) below]**. The Engineer’s review of the proposed product for as equal status will be final.

3. Request For substitution of Material

a. If the Contractor prefers to substitute a different Material than what has been specified, the Contractor must obtain the written approval of the Engineer before incorporating the substitute product into the Work. In making a request for substitution of Materials, the Contractor’s submittal must demonstrate the substitution meets the essential requirements of the Contract and:

1) Is equal and shows a cost savings to the Owner, or superior without a cost increase to the Owner;

2) Is equal or superior in all respects to the Material, equipment, or process specified;

3) Is of equal or superior value in the essential and material requirements;

4) Is equal or superior in functionality and at a minimum qualitatively equal or identical; and,

5) Has the same or better guarantee or warranty as the item specified.

b. The Engineer may deny requests for substitution if the substitution is not in the best interest of the Owner, or if time or resources are not available for review. The Engineer’s decision will be final. The Contractor must Bid according to the Material specified in the Contract. See **Section 01 33 10** for submittal requirements.

c. The Contractor will not be granted any time extension for review of substitution proposals. The Contractor is responsible for the performance of substituted Materials. The Engineer may revoke the use of substituted Materials at any time. No time or cost will be granted related to the substitutions.

4. Materials Without Substitution

a. If a Material, product, equipment, or processes is specified “without substitution” or “no substitution,” there will be no consideration of substitution.

T. Samples And Tests For Acceptance of Materials

1. The Contractor must deliver representative samples, from the Contractor, producer, manufacturer, or fabricator, to the Engineer without charge before incorporating Material into the Work. Samples, not already provided for testing as specified in **subparagraph 1.02.A.4.a.1 of Section 00 21 13**, must be provided in sufficient time and quantities to allow testing by the Engineer before use. The Engineer may require samples be submitted at any time. The Contractor, including Subcontractor at any tier, must allow the Engineer full and unrestricted access to its facilities for inspection, observation, sampling and testing purposes. Samples not taken by or in the presence of the Engineer's representative will not be accepted for test, unless so permitted by the Engineer.

2. Material testing shall comply with any special methods of testing set forth in the Contract, the Washington State Department of Transportation Materials Manual, or applicable designated, recognized standards of national organizations. See **subparagraph 1.01.B.1** for the standard acronyms of designated recognized standards organizations used throughout the Contract. This will apply to field tests, as well as to Laboratory tests. The designated, recognized standard in effect on the Day of the Advertisement for Bids for the Work will apply in each case unless the Contract references a standard with a specific publication date differing from the current edition.

U. Manufacturer's Certificate of Compliance

1. The Engineer may accept certain Materials based on a manufacturer's certificate of compliance as an alternative to Material inspection and testing when these Materials are specifically identified in the Contract. Unless the Contractor requests and obtains written authority from the Engineer for an exception to do otherwise, the manufacturer's certificate of compliance must be submitted before use of the Material. No payment will be made for Work incorporating Material without an acceptable manufacturer's certificate of compliance. If, for any reason, the Contractor has not provided an acceptable manufacturer's certificate of compliance for the Materials specified in the Contract by the Completion Date, the Engineer may process the final payment as provided by **Paragraph 1.09.I** without paying for the Work performed on such abasis.

2. Where Materials are specified to conform to industry or technical society reference standards of designated recognized standards organizations, such as ASTM or AASHTO or ACI or AWWA, the manufacturer's certificate of compliance must indicate such compliance. The label or listing by the specified organization will be acceptable evidence of compliance. Instead of the label or listing, the manufacturer's certificate of compliance must contain a statement from a testing laboratory stating that the Material or Material property specified has been tested per the specified organization's test methods and that the item complies with specified organization's reference standard, or that the Material property complies with the specified property of the specified organization's reference test standard, see **Paragraph 1.03.V**.

3. The manufacturer's certificate of compliance must identify themanufacturer, the type, and quantity of Material being certified, and compliance with the applicable standards. Where Specifications require additional information be provided, the Contractor must provide the additional information. Include the signature of a responsible corporate official of the manufacturer and supporting mill tests or documents. A manufacturer's certificate of compliance must be furnished with each lot of Material delivered to the Work unless the Contract specifies otherwise. The certified lot must be clearly identified in the manufacturer's certificate of compliance.

4. All Material used based on a manufacturer's certificate of compliance may be sampled and tested at any time. Any Material not conforming to Contract requirements will be subject to rejection whether in place or not. The Engineer may refuse to accept Material based on its manufacturer's certificate of compliance.

V. Handling and Storage of Materials

1. Materials used in the Work must be handled and stored using methods that prevent damage, exposure to elements, mixing with foreign materials, or deterioration from any other cause. The Engineer will not accept or sample for testing, Materials that are improperly handled or stored.

2. The Contractor must repair, replace or make good all Owner provided Materials that are damaged or lost due to the Contractor's operation or while in the Contractor's possession, at no additional cost to the Owner.

W. Requirements For Testing And Test Results From Private Laboratories And Individuals

1. When testing is required by a private laboratory or individual, whether by Specification or by condition of Street Use Permit, that laboratory or individual must be accredited or certified by an AASHTO or ASTM or A2LA (American Association for Laboratory Accreditation) or other designated recognized standards organization with recognized accreditation authority or certification authority. Such accreditation or certification must be current during such testing or for the life of the Contract, whichever is greater.

2. Every test must be performed with testing equipment calibrated as recommended by the equipment manufacturer, and at the calibration frequency recommended either by the test equipment manufacturer or the applicable test standard, whichever is most frequent.

3. Personnel performing tests must be qualified by certification from a designated recognized standards testing organization to perform the required test.

4. Sample preparation, installation of sample in test equipment or equipment installation in sample or inspection or as may apply, equipment operation, test data acquisition, test data reduction, and test data summary must be performed per the specified test standard unless required otherwise in the Contract.

5. Unless the Contract specifies otherwise, results of testing must be reviewed, approved, and stamped by a Professional Engineer with current license under RCW 18.43, or by other certifying individual, who is qualified to review and approve such results or perform such testing. The testing must be performed to the satisfaction of the Engineer, per the designated recognized standards organization’s test.

6. The Contractor and the testing laboratory must allow the Engineer to visit the laboratory to observe the Work for the purposes of reviewing and observing the laboratory’s quality system, the testing, the technician, the sample preparation, accreditation, personnel certifications and qualifications, test data administration, and as may be required by the Engineer or by the Contract.

7. All test results submitted to the Engineer by private testing laboratory must be accompanied with the following information:

   a. A manufacturer’s certificate of compliance by Professional Engineer or certified individual as may apply, listing the test standard used and that the testing was in compliance with the Contract.

b. The name of the testing laboratory including the accrediting agency, date of accreditation, principal in charge of testing, name of personnel doing testing if different including qualifications, address, phone number, and e-mail address.

c. The results of the tests presented in the format required by the designated recognized test standard unless the Contract specifies otherwise.

d. Where and how the sample was obtained, any care provided to the sample, and any care provided in preparing the sample not specified in the test standard, any deviations from the testing standard used in testing.

e. Any other information required by the Contract.

X. Sieves For Testing

1. Sieves for testing must be as specified in **Seattle Standard Specifications Section 9-03.15.**

1.04 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

A Laws To Be Observed

1. General

a. The Contractor is responsible for knowing and complying with all federal, state, tribal, county, and city laws, executive orders, ordinances, rules, and regulations applicable to the Work. All references to laws, executive orders, ordinances, rules, and regulations include all laws, executive orders, ordinances, rules, or regulations as adopted or amended after the Contact Date.

b. Without usurping the authority of other agencies, the Engineer will cooperate with them in their efforts to enforce legal requirements. Upon awareness of any violation of a legal requirement, the Engineer will notify the Contractor in an effort to achieve compliance. The Engineer may also notify the agency responsible for enforcement if the Engineer determines that action is necessary to achieve compliance with legal requirements. The Engineer may also assist the enforcement agency with Contractor compliance to the extent such assistance is consistent with the provisions of the Contract.

c. For payment related to changes in law or taxes occurring after the Bid Opening Date, see **subparagraph 1.09.D.2**.

2. Safety Rules And Standards

a. The Contractor is solely responsible for:

1) The safety, efficiency, and adequacy of the Contractor's facilities, equipment, Materials and methods;

2) Any damage or injury resulting from the failure, or improper maintenance, use, or operation of the Contractor's facilities, equipment, and methods; and

3) Conditions of the Project Site, including safety of all persons and property during performance of the Work.

b. These requirements apply continuously and are not limited to normal working hours. The Engineer's review of the Contractor's performance may include review of, but does not determine the adequacy of, the Contractor's safety measures on the Work Site.

c. The Contractor must establish, maintain, and supervise a safe and healthy working environment, an Acceptable Work Site, an accident prevention program, and training programs to improve the skill and competency of all employees with respect to occupational safety and health.

d. The Washington State Department of Labor and Industries (L&I) is the sole and paramount administrative agency responsible for the administration of the provisions of the Washington Industrial Safety and Health Act of 1973 (WISHA), as amended.

e. The Contractor must comply with the Federal Occupational Safety and Health Act of 1970 (OSHA), including all revisions and amendments thereto; the provisions of WISHA, as amended; and as a minimum, the requirements of Title 296 WAC, L&I.

f. In addition, the Contractor must comply with the requirements of the National Electric Safety Code, when applicable.

g. In cases of conflict between different safety regulations, the regulation containing the more rigorous safety standard applies.

h. The Contractor must maintain at the Project Site office or other well- known and readily accessible place at the Project Site, all articles necessary for providing first aid to the injured. The Contractor must establish, publish, and make known to all employees a Health and Safety Plan including procedures for ensuring that employees who may be injured on the Project Site are immediately removed to a hospital or doctor's care. Employees are not permitted to work on the Project Site before the Contractor has established and made known procedures for removal of injured persons to a hospital or a doctor's care.

B. State Taxes

1. General

a. The Washington State Department of Revenue has issued special rules designed to assist the Contractor in accurately reporting to the Department of Revenue the Contractor's tax liability. Although information may be included in the Contract regarding the application of State taxes to a particular Contract, Bid Item or included on the Bid Form, the Contractor is responsible for applying the correct interpretation of the laws and regulations relating to such taxes.

b. No adjustments will be made to the amount to be paid by the Owner under the Contract because of any misunderstanding by the Contractor as to the Contractor's liability for, or the amount of, any taxes. If in doubt as to the tax procedures in any particular case, the Contractor must consult with the Washington State Department of Revenue.

2. State Sales Tax - Rule 171

a. WAC 458-20-171 and its related rules apply to building, repairing, or improving streets and roads, that are owned by a municipal corporation, or political subdivision of the State, or by the United States, and that are used, primarily, for foot or vehicular traffic. For Work performed in such cases, labor and service changes are not subject to the retail sales tax and no such tax on labor and service charges must be included in Bid prices and other Contract amounts. The Contractor is responsible for paying retail sales tax on Materials, equipment, and Supplies used or consumed in doing the Work or used in such projects and must pay retail sales tax on the purchase of such Materials. The Contractor must include such retail sales taxes on Materials, equipment, and Supplies in the various Bid Item prices and other Contract amounts.

3. State Sales Tax Rule 170

a. WAC 458-20-170, and its related rules, applies to the constructing and repairing of new or existing buildings, or other structures, on Real Property. For Work performed in such cases, the Contractor must collect from the Owner retail sales tax on the full Contract price. The Owner will automatically add this sales tax to each payment to the Contractor. For this reason, the Contractor must not include the retail sales tax in the Bid Item prices, or in any other Contract amount subject to Rule 170, except as provided below.

b. The Owner 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 must be included in the Bid Item prices or in any other Contract amount.

4. Services

a. The Contractor must not collect retail sales tax from the Owner on any Contract wholly for professional or other services as defined in State Department of Revenue Rules 138 and 224.

C. Management And Disposal of Waste

1. Specified in **Section 01 74 19 – Management And Disposal Of Waste.**

D. Sanitation

1. The Contractor must provide and maintain in a clean, neat, and sanitary condition, any accommodations for the Contractor and Owner employees that are necessary to comply with the requirements and regulations of the State of Washington Department of Social and Health Services and other agencies. The Contractor must commit no public nuisance and at all times dispose of all waste in accordance with all local, City, State, and federal regulations and requirements.

2. Encampments

a. In accordance with FAS Encampment Rule 17-01, an Encampment Immediate Hazard may be removed promptly. The Engineer will determine the safety and risk level of the Encampment and provide direction to the Contractor. The Engineer may have the Owner's own forces, or third party specific contract, remove any Encampment.

b. Encampment Obstruction removal requires notice. The Owner will affix the notice to the obstruction as soon as reasonably possible. The notice will state the date the notice was posted, the obstruction must be immediately removed and is subject to removal without further notice, where any personal property removed will be stored, and how any stored personal property may be claimed by its owner.

c. Prior to any removal of any Encampment, the City's Encampment Cleanup Program Manager must be notified. The Contractor must contact the Engineer to request such notification be made by the Engineer.

E. Prevention of Environmental Pollution and Preservation of Natural Resources

1. Specified in **Section 01 57 50 – Temporary Environmental Pollution Control**.

F. Permits

1. General

a. The Contractor must comply with all issuing agency requirements and hold the Owner harmless for any Work-related liability incurred under any permit obtained to perform Work under the Contract. If the Contractor finds any ambiguity or conflict between the Contract and the permit, the Contractor must promptly notify the Engineer no later than 2 Working Days from the date of discovery.

1) Information on Street Use Permits: http://www.seattle.gov/transportation/permits-and-services/permits

2. Contractor Obtained Permits

a. Unless otherwise specified in the Contract, the Contractor must obtain all required permits for the performance of the Work, must provide any notices such permits may require, and must not proceed with any portion of the Work until the requisite permit has been obtained and a copy delivered to the Owner. The costs of permits obtained by the Contractor must be included in the Bid Item prices for the Work.

b. Information on electrical and side Sewer permits: www.seattle.gov/sdci/permits

3. Owner Obtained Permits

a. Permits obtained by the Owner will be referenced or included in **Section 01 41 26**.

b. The Contractor may request in writing that the Owner obtain a temporary operating permit in the Owner's name if:

1) A local rule or an agency policy prevents issuing the permit to a private firm;

2) The Contractor takes all actions necessary to support the Owner to obtain the permit;

3) The permit will serve the public interest, including expediency;

4) The permit applies only to Work under the Contract; and

5) The Contractor reimburses the Owner for all fees.

G. Load Limits

1. Specified in **Section 01 76 00 – Protecting Existing Facilities**.

H. High Visibility Apparel

1. General

a. The Contractor must require all personnel under their control including service providers, Subcontractors, and lower tier Subcontractors that are on foot in the work zone and are exposed to vehicle traffic or construction equipment to wear the high-visibility apparel described in this Section.

b. The Contractor must ensure that a competent person as identified in the MUTCD selects the appropriate high-visibility apparel suitable for the Job Site conditions.

c. High-visibility garments must always be the outermost garments.

d. High-visibility garments must be in a condition compliant with the ANSI 107-2015 (or later version) and must be used per manufacturer recommendations.

2. Traffic Control Personnel

a. All personnel performing the Work described in **Article 1.04 of Section 01 55 80** including traffic control supervisors, flaggers, spotters, and others performing traffic control labor of any kind must comply with the following:

1) During daylight hours with clear visibility, workers must wear a high-visibility ANSI/ISEA 107 Type R Class 2 or 3 vest or jacket, and hardhat meeting the high-visibility headwear requirements of WAC 296-155-305.

2) During hours of darkness (1/2 hour before sunset to 1/2 hour after sunrise) or other low-visibility conditions such as snow or fog, workers must wear a high-visibility ANSI/ISEA 107 Type R Class 2 or 3 vest or jacket, high-visibility lower garment meeting ANSI/ISEA 107 Class E, and hardhat meeting the high- visibility headwear requirements of WAC 296-155-305.

3. Non-Traffic Control Personnel

a. All personnel, except those performing the Work described in **Article 1.04 of Section 01 55 80** must wear high-visibility apparel meeting the ANSI/ISEA 107-2004 Class 2 or 3 standard.

I. Wages

1. The procedures required are specified in **Section 00 73 43 – Prevailing Wage Rate Requirements**.

J. Reserved

K. Social Equity In Contracting

1. **Specified in Article 1.05 of this Section 00 7200**.

L. Reserved

M. Contractor's Responsibility For Work And Damage

1. **Specified in Paragraph 1.08.A of this Section 00 72 00**.

N. Reserved

O. Temporary Water Pollution, Erosion, And Sedimentation Control

1. Temporary water pollution control requirements are specified in **Section 01 57 50, if applicable for this project**.

2. Temporary erosion and sediment control requirements are specified in **Section 01 57 13, if applicable for this project**.

P. Protection And Restoration Of Property

1. Specified in **Section 01 76 00 – Protecting Existing Facilities, if applicable for this project**.

Q. Utilities And Similar Facilities

1. **Specified in Section 01 76 00 – Protecting Existing Facilities, if applicable for this project.**

R. Insurance

1. **Specified in Section 00 73 16 – Insurance Requirements.**

S. Gratuities And Ethics

1. The Contractor must not extend any loan, gratuity, or gift of money in any form whatsoever to any employee or officer of the Owner; or to the consultant or employee of consultant under Contract with the Owner for services related to the Work. The Contractor must not rent or purchase any equipment or Materials from any employee or officer of the Owner or the consultant or employee of the consultant.

2. The Contractor must comply with all applicable Sections of the State Ethics law, RCW 42.52, which regulates gifts to Owner's officers and employees. Under that statute, any Owner officer or employee who has or will participate with the Contractor regarding any aspect of this Contract is prohibited from seeking or accepting any gift, gratuity, favor or anything of economic value from the Contractor. Accordingly, neither the Contractor nor any agent or representative may offer anything of economic value as a gift, gratuity, or favor directly or indirectly to any such officer or employee.

3. The Contractor must comply with the City of Seattle's Code of Ethics in SMC 4.16 and all other applicable City codes and ordinances regulating gratuities and ethics.

T. Patented Devices, Materials, And Processes

1. The Contractor assumes all costs arising from the use of patented devices, Materials, or processes used on or incorporated in the Work, and agrees to indemnify, defend, and save harmless the Owner, and its duly authorized agents and employees from all actions of any nature for, or on account of the use of any patented devices, Materials, or processes.

U. Rock Drilling Safety Requirements

1. The Contractor is responsible for maintaining safe working conditions during rock drilling, by keeping dust concentration below the threshold limit value or by providing those protective devices that may be required by L&I, or both.

V. Use of Explosives

1. Do not use explosives without written authority of the Engineer; and then only under such restrictions as may be required by the proper authorities. When the use of explosives is necessary, the Contractor's insurance must contain a special clause covering the blasting. Explosives must be handled, marked, stored, and used in strict compliance with Chapter 296 52 WAC and all applicable local laws, rules, and regulations. The stricter provisions apply. For Work within The City of Seattle, the Seattle Fire Code, Article 77, also applies and the individual in charge of blasting must be certified by the Seattle Fire Department. In all cases, the individual in charge of blasting must have a current Washington State Blaster Users License.

2. The Contractor must obtain, comply with, and pay for such permits and costs as may be necessary in conjunction with blasting operations. Copies of the permits must be furnished to the Engineer. For Work within the city limits of Seattle, a permit must be obtained from the Seattle Fire Department.

3. The Contractor must usethe utmost care not to endanger life or property, cause slides, or disturb the materials outside the neat lines of the cross-section. Blasting near proposed Structures must be completed before construction on such Structures is undertaken. Do not leave explosives unprotected along or adjacent to any existing public place.

4. The Contractor must provide advance written notice of the location, date, time and approximate duration of blasting to public and private utilities having facilities near the blast site and any other property owner in the vicinity who may be affected by blasting operations. Notification must be sufficiently in advance that affected entities can take steps to protect their property from damage.

W. PublicConvenience and Safety

1. Specified in **Section 01 55 80 – Public Convenience andSafety/Temporary Traffic Control, if applicable for this project.**

X RealProperty Rights

1. Restrictions to access such as Right of Way margins, parcel boundaries, limits of easements and other Real Property rights, and limits of construction permits obtained by the Owner, will be specified in the Contract, but may not always be shown on the Drawings. The Contractor's construction activities are not allowed beyond these restrictions. An exception may be allowed if such exception is the use of private property, and such use of private property is not in violation of a condition in the Contract, arrangements for such use of private property are made before commencement of construction, and the Engineer is informed of such arrangement before use of said property.

2. The Owner will obtain, beforethe Bid Opening Date, all Real Property rights, both permanent and temporary, necessary for carrying out the Work.

3. Whenever any of theWork is accomplished on or through property except public street Right of Way, the Contractor must comply with andfulfill all covenants and stipulations of any Real Property agreement obtained by the Engineer from the owner of the private property. Copies of the Real Property rights documents will be included in **Section 00 31 10** or made available to the Contractor as soon as practical after they have been obtained by the Engineer.

4. The Contractor must not proceed with any portion of the Work on private property where Real Property rights have not been secured. If the Contractor is delayed due to acts of omission on the part of the Owner in obtaining Real Property rights, the Contractor will be entitled to an extension of time. The Contractor agrees that such delay is not a breach of Contract.

5. Each property owner must be notified in advance of the Contractor's entry onto that owner's property under **Paragraph 1.04.BB**. This includes entry onto private property where private improvements must be adjusted.

6. The Contractor is responsible for providing, without expense or liability to the Owner, any additional land and access thereto that the Contractor may desire for temporary construction facilities, storage of Materials, or other Contractor needs. Before using any private property, whether adjoining the Work or not, the Contractor must file a

written statement with the Engineer granting permission by the property owner for such property use. Upon vacating the private property, the Contractor must file a written release with the Engineer from the property owner. Each property disturbed or otherwise interfered with by the Contractor for reasons of construction pursued under this Contract requires a written permission and written release. The written permission and written release must be signed by the private property owner, or proper authority acting for the owner of the 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 including cleanup as required in **Paragraph 1.02.K** has been satisfactorily accomplished. The written permission and written release must include the parcel number, address, and date of signature. Written releases must be filed with the Engineer before the Physical Completion Date can be established, as specified in **subparagraph 1.03.K.2**.

Y. Opening of Sections To Traffic

1. The Owner may use and open any portion of the Work before the Physical Completion Date without constituting acceptance of any of the Work. This action will not cause the Owner to incur any liability to the Contractor except as otherwise provided in the Contract.

2. If the Engineer opens any portion of the Work before the Physical Completion Date because early opening is specified in the Contract, or the Contractor has failed to prosecute the Work continuously and efficiently, then any Work remaining after that portion of the project is open to traffic will be performed at Bid Item prices for Bid Items of Work involved. No additional payment will be made for costs incurred by the Contractor because of:

   a. Inconvenience, additional length of travel to conform to established traffic patterns, or planned access features.

   b. Compliance with statutes governing traffic regulations and limitations of loads.

   c. Additional flagging costs necessary to protect the Work and the traveling public.

3. The Contractor must take all costs due to traffic using portions of the Work into account when submitting the Bid, and the unit Contract prices for the various items of Work involved must include these costs.

Z. No Waiver of Owner's Legal Rights; Assignment of Claims For Damages For Anti-Trust Law Violations

1. The Owner is not precluded or estopped by any measurement, estimate, certificate, or payment made, whether before or after the Completion Date, from showing the true amount and character of the Work performed and Materials furnished by the Contractor, or from showing that any such measurement, estimate, payment, or certificate is untrue or incorrectly made, or that the Work or Materials do not conform in fact to the Contract. The Owner is not precluded or estopped notwithstanding any such measurement, estimate, or certificate, and payment from recovering from the Contractor and the Contractor's Sureties such damages as the Owner may have sustained by reason of the Contractor's or Sureties' failure to comply with the terms of the Contract and bond. Neither the establishment of the Completion Date by the Owner, nor any payment for the whole or any part of the Work, nor any extension of time, nor any possession taken by the Owner is considered a waiver of any portion of the Work, or of any power herein reserved to the Owner, or any right to damages herein or otherwise provided or bar recovery by the Owner of any money wrongfully or erroneously paid to the Contractor. A waiver by the Owner of any breach of the Contract is not held to be a waiver of any other or subsequent breach.

2. The Contractor and the Owner recognize that the impact of any overcharge to the Owner by the Contractor resulting from an anti-trust law violation by any Materialperson or Subcontractor of theOwner adversely affects the Owner rather than the Contractor. Therefore, the Contractor assigns to the Owner any and all claims for such overcharges.

AA. Reserved

BB. NotificationsRelative To Contractor's Activities

1. The Contractor must plan and schedule Work activities to allow time for notifications, approvals, reviews, and other conditions of the Contract.

2. TheEngineer will initially notify public and private entities havingfacilities within the Project Site:

   a. Theapproximatetime theWork willstart

   b. Theproject scope of Work

   c. Utilities in the street Right of Waythat require relocation per the project design

3. Thereafter the Contractor must make the following notifications regarding Work performed within the Project Site and other areas affected by the Contractors operations in performance of the Work, as applicable. Notification must provide information germane to the type of Work to be performed. The information must include the time of commencement and completion of the Work, Work hours, location of the Work, names of streets affected by the Work, schedule of operation, routes of detours, and closures.

   a. <u>For WorkOutside the Seattle City Limits</u>:

      1) Notifications must be provided per permit and other requirements of the agency having jurisdiction. The Contractor must be familiar with those requirements before starting Work.

      2) For Work on roads and highways outside the Seattle City limits but within King County, notifications must be made as indicated in this **subparagraph 1.04.BB.3.a**, as otherwise specified in the permit, or by the requirements of the agency having jurisdiction over those roads and highways. Construction permits in the King County Right of Way may be obtained by calling (206) 296-7456. In unincorporated areas of King County, the following must be notified at least 2 Working Days in advance:

         a) KingCounty Roads Division: (206) 296-8100

         b) KingCounty FireMarshall's Office (206) 296-6675

         c) KingCounty Police: 1-800-344-4080 or (206)296-3311

      3) For all other areas within the Project Site and other areas affected by the Contractors operations in performance of the Work notifications must be made as specified in the Contract, as otherwise specified in permit, or by the requirements of the agency having jurisdiction.

   b. <u>For Work That Partially or Completely Restricts Any Seattle Arterial, Street, Sidewalk, or Alley</u>:

1) After receiving approval of the traffic control plan, see **subparagraph 1.04.D.5.2.d of Section 01 55 80**, the Contractor must provide notice to SDOT at (206) 684-7623 Monday to Friday by 2:00 p.m. at least 1 Working Day before the start of Work within the street Right of Way. The Contractor must also provide SDOT notification upon completion of Work within the street Right of Way no later than 9:00 a.m. the first Working Day following completion. This notification requirement includes partial or full lane closures, parking restrictions, sidewalk closures, detours, complete or partial street closures, shoulder work, and pedestrian rerouting, as well as the placing of building Materials or equipment on city streets, sidewalks, or alleys.

a) Complete or partial closure of any street: In addition to notifying SDOT, provide 24 hours advance notification to the following:

(1) Within Seattle City Limits:

(a) Seattle Fire Department (206) 386-1494

(b) Seattle Police Department, Parking Enforcement, and Traffic Section of the Seattle Police Department (206) 684-5101 FAX (written notification only)

b) Complete closure of any arterial within the Seattle City Limits: Provide 3 Working Days advance notice to SDOT

(206) 684-7623 Monday to Friday 8:00 a.m. to 5:00 p.m.

c) Complete closure of any local access street, alley, or sidewalk within the Seattle City Limits: Provide notice to SDOT at (206) 684-7623 Monday to Friday 8:00 a.m. to 5:00 p.m. by 2:00 p.m. at least 1 Working Day in advance.

d) To restrict parking on any street within the Seattle City Limits: Provide 2 Working Days advance notification to SDOT (206) 684-7623 Monday to Friday 8:00 a.m. to 5:00

p.m. To arrange for inspection of No Parking easels and other parking related signs by a parking enforcement officer or uniformed peace officer, contact (206) 386-9012 after placing the easels and 24 hours in advance of the effective date of enforcement on the easels, see **subparagraph 1.04.D.5.c of Section 01 55 80**.

e) When signs are Owner furnished, signs will be provided by SDOT. To order signs, or to coordinate SDOT's installation of signs, the Contractor must provide at least 30 Working Days and no more than 40 Working Days advance notification to the Engineer and must verify signs and locations per the Contract for signs to be installed by the Contractor, and/or provide notification of signs to be installed by SDOT. The Contractor must provide a list of locations and specify the number and type of signs needed and include contract information for the coordination of work to be performed by SDOT crews. The Engineer will notify the Contractor of when the signs are ready for pickup. The Contractor must pick up the signs at the SDOT sign shop at 4200 Airport Way South on Business Days between the hours of 8:00 a.m. to 3:00 p.m.

c. <u>City of Seattle - Signage, Parking Pay Stations, Parking Meters</u>:

1) Parking Meters, Parking Pay Stations, and sidewalk containing D- 22 signage (Pay R, Pay L, Pay H, and Pay RL signs and posts) and numbered base plates: 10 Working Days advance notice is required for the following:

a) To request covering of parking meters and placing no parking markers on numbered base plates where parking pay stations exist, contact (206) 684-5086. Also see **Section 01 55 80, subparagraph 1.04.E.3.n**.

b) To request removal of parking meters, parking pay stations, and sidewalk containing D-22 signage and numbered base plate, contact (206) 684-5370. Also see **Seattle Standard Specifications Section2-02.3(3)K**.

c) After completion and acceptance of newly constructed sidewalk, to request installation of parking pay station, D- 22 signage, and numbered base plates, contact (206)684- 5370.

d) TheContractor must reimburse SDOT for lost parking

e) revenue unless this is an SDOT Project.

2) Traffic Signs and Street Designation Signs: see **SeattleStandard Specifications Section 8-21.3(1)A**.

3) To coordinate the installation of the bus zone signs, numbered base plates and signs associated with parking pay stations, contact SDOT Traffic at (206) 684-5092 at least 10 Business Days before completion of new sidewalk work or scheduled mounting of signs on existing infrastructure.

4) To coordinate and/or to verify location of the installation of the traffic sign, street designation signs, and street name, contact SDOT at (206) 684-5370 at least 10 Business Days before completion of new sidewalk work or scheduled mounting of signs on existing infrastructure.

d. Disruptions to, or service modification requests for KCM Transit, Streetcar service and facilities, or Sound Transit Link Light Rail service and facilities:

1) Contact the Construction Information Center (CIC) at (206) 684- 2732 or (206) 477-1140 for non-trolley requests and (206) 477- 1150 for trolley requests, email construction.coord@kingcounty.gov for non-trolley requests and trolley.impacts@kingcounty.gov for trolley requests, or see the website at http://www.kingcounty.gov/transportation/kcdot/MetroTransit for the following:

a) For work resulting in temporary closure/relocation of abus stop or for work within an area of a bus stop that will limit full access to it by coaches and pedestrians/passengers, 5 Business Days advance notification is required.

b) For work resulting in KCMremoving any transit facility structure including, but not limited to shelters, boards/kiosks, and bus stop signs, 10 Business Days advance notification is required.

c) For work resulting in road closure on which buses operate that will require rerouting, 10 Business Days advance notification is required.

d) For work resulting in a full or partial road closure on which a streetcar operates that does not require overhead line deactivation or a shutdown to its track operation, a 5 Business Days advance notification is required.

e) The request for assignment of diesel coaches or battery-electric trolley busses for electric coaches on electric trolley routes on non-Business Days must be made no later than 15 Business Days before the weekend requested, which is COB Wednesday 3 weeks prior. KCM will not grant diesel coach or battery-electric trolley busses substitutions on Business Days. If line deactivation is required see b) below.

2) Contact KCM at (206) 263-1800 for overhead powerwire requests as follows:

a) Overhead power line modification or outage requests for an electric bus require 10 Business Days advance notification, which is COB Monday 2 weeks prior. Request forms must be submitted to Construction Information Center (email above). Trolley bus overhead deactivation is limited to weekends only (4:30 a.m. Saturday morning until 2:00 a.m. Monday morning).

b) Overhead power line modification or outage requests for a streetcar require 10 Business Days advance notification, which is COB ten days prior. Request forms must be submitted to Construction Information Center. Streetcar deactivations are limited to non-operational hours during periods when Streetcar staff are not testing cars or training new operators.

c) When working within 10 feet of any electric bus orstreetcar overhead power, 10 Business Days advance notification is required. It is the responsibility of the Contractor to comply with Washington Administrative Code requirements in regards to working within the vicinity of high voltage lines.

d) Requests for overhead power line modification or outage may have an associated cost payable by the Contractor. In addition, outage requests for non-SDOT projects may be subject to a recently-legislated King County Trolley Ordinance Fee. The Contractor must consult with KCM to determine costs and include such costs within the Bid. Requests may require additional information. Approval is dependent on KCM Transit Power Distribution's ability to perform requests; some overhead power line modification requests may require more than 10 Business Days advance notification.

3) For **Sound Transit Link Light Rail** Right of Way and power outage requests, call (206) 903-7696. If work affects both rail and busses, the Construction Information Center listed above under a. also needs to be notified.

e. Seattle Monorail: When Work is within 20 feet of any portion of the monorail Structure above or below ground the Contractor must contact Seattle Monorail at (206) 396-5490 at least 10 Working Days in advance of construction.

f. Property access restrictions: Provide abutting property owners and tenants of impending access restrictions. Advance notification must be 24 hours for residential property and 2 Business Days for commercial property.

g. Emergency Work for City of Seattle Pavement or Sidewalk Problems: Provide immediate notification to: SDOT (206) 684-7623 Monday to Friday 8:00 a.m. to 5:00 p.m., all other times (206) 386-1218.

h. Water Mains, Hydrants, Water Services, and Related Appurtenances:

1) Shutdowns and Obstructions: For all shutdowns involving facilities owned by Seattle Public Utilities, for any Work involving water service and/or water service connections, and for any hydrant access restrictions, the Contractor must coordinate scheduling and notification with the Seattle Public Utilities Water Operations Division via the Engineer. The same applies to Work that will obstruct normal access to any fire hydrant or water utility valve. The Contractor must not operate, or restrict access to, any water valve owned by the Seattle Public Utilities. Notifications must be as follows:

a) Within SPU Water Service Franchise Area: Seattle Public Utilities Water Operations (206) 386-1800. Water Main shutdown notifications and advisories regarding fire hydrant status will be provided to fire agencies by SPU Water Operations.

(1) All Work impacting Water Mains, water service or water service connection requires a minimum of 3 Working Days advance notice to the Engineer. The Engineer will plan and coordinate the shutdown with Water Operations.

(2) All Work requiring a shutdown of a Water Main, interruption of water service or restricting access to hydrants or valves requires a minimum of 5 Working Days advance notice to the Engineer. The Engineer will plan and coordinate the shutdown with Water Operations.

(3) All Work requiring Water Main shutdowns in commercial, industrial and critical service areas and in areas where over 5 percent of the population consists of a specific language group except English requires a minimum of 7 Working Days advance notice to the Engineer. The Engineer will plan and coordinate the shutdown with Water Operations.

(4) All Work on pavement impacting castings and Structures connected to the water distribution or water transmission system requires a minimum of 5 Working Days advance notice to the Engineer. The Engineer will plan and coordinate with Water Operations.

b) Within King County: Seattle-King County Department of Public Health (206) 296-4722. At least 2 Working Days advance notice is required.

c) Outside SPU Water Service Franchise Area and outside King County: The Contractor must notify the water service franchise as specified in the Contract, as otherwise specified in permits, or the agency having jurisdiction.

2) Application for New and Temporary Water Service Within SPU

Water Service Franchise Area: Contact SPU Customer Service at (206) 684-3333.

3) Water Mains and Clearance with other Utilities within SPU Water Service Franchise Area:

a) When proposed underground utilities are within the clearance limits of water pipe except cast iron, see **subparagraph 1.08.A.2**., any required Contractor notification will be addressed in the Contract.

b) When excavation is proposed near a cast iron water pipe, see **subparagraph 1.08.A.4**., Contractor required notification will be addressed at the preconstruction conference specified in **Paragraph 1.02.A of Section 01 31 10.**

4) Backflow Prevention Assembly (BPA) Inspection within SPU Water Service Franchise Area: When a backflow prevention assembly is required in any temporary or permanent connection with a Water Main, the Contractor must request inspection by making the following notification at least 2 Working Days in advance of making the connection to the Water Main, see **Seattle Standard Specifications Sections 2-12, 8-03.3(1), 8-03.3(8), and 9-30.13:**

a) Denny Way and north (206) 233-2635
b) South of Denny Way (206) 684-3456

5) Hydrant permit for temporary withdrawal of water within SPU Water Service Franchise Area, see **Seattle Standard Specifications Section 2-12.3(2)**.

i. Electrical Safety and Service within SCL Service Area:

1) Electrical Safety Observer: To schedule an Electrical Safety Observer, notify Seattle City Light at least 7 Working Days in advance of the need to enter a Seattle City Light vault, or to work on or within any other Seattle City Light electrical Structure or facility, or to work on or near any Seattle City Light electrical transmission or distribution system (206) 684-4911. See **subparagraph 1.03.B.2**.

2) Electrical Service Connection and Inspection: To schedule an electrical service connection or inspection except street lighting and signals, see **Seattle Standard Specifications Section 8-30.1(1)** and except irrigation, see **Seattle Standard Specifications Section 8-03.3(1)**, contact (206) 684-3000 at least 30 Days in advance.

3) Excavation at or near Underground Electrical Distribution and Transmission System: When proposed excavation is within the vicinity of underground electrical distribution and transmission facilities as specified in **subparagraph 1.08.C of Section**

01 76 00, the Contractor must notify Seattle City Light at least 10 Working Days in advance of the excavation as follows:

a) At and North of Denny Way: (206)615-0600
b) South of Denny Way: (206) 386-4200

4) Streetlight System Inspections: To schedule an inspection for streetlight systems, contact SCL at least 10 Days in advance.

j. Sanitary Sewer Spills: In the event of a sanitary Sewer spill immediately notify:

1) Public Health – Seattle & King County (206) 296-4632 within King

County

2) KCM (206) 263-3801 within King County

3) Seattle Public Utilities (206) 386-1800 within SPU service area

4) The Sewer service as specified in the Contract, as otherwise specified in permits, or the agency having jurisdiction

k. Chemical, Oil, Hazardous Substance, or other Contaminant Spill or Discharge or Release: When the Contractor first becomes aware of an environmental spill, discharge or release of: chemicals, oil, hazardous substances, Contaminated Material(s), Dangerous Waste(s), or TSCA Waste(s) the Contractor must immediately notify:

1) The Engineer

2) If into Storm Drains, sanitary Sewers, combined Sewers, or side Sewers within the SPU service area; any rivers, streams, or lakes within Seattle; or Seattle watersheds, call (206) 386-1800

3) If into Lake Union, Ship Canal, Lake Washington, or Puget Sound:
   a) U.S. Coast Guard via the National Response Center, Washington, D.C. 1-800-424- 8802 (operated 24 hours a Day);
   b) Washington Department of Fish and Wildlife (360) 902- 2530; and

4) Seattle Harbor Patrol (206) 684-4071. If into any side Sewer, sanitary Sewer or combined Sewer if within King County:
   a) King County Industrial Waste (206) 477-5300 Monday to Friday 8:00 a.m. to 5:00 p.m., or
   b) West Point Treatment Plant (206) 263-3801 at all other times.

5) If into Storm Drain, sanitary Sewer, combined Sewer, side Sewer, rivers, streams, lakes:
   a) Washington State Department of Ecology (425) 649-7000; and
   b) If outside of Seattle, the Sewer service as specified in the Contract, as otherwise specified in permits, or the agency having jurisdiction.

6) For flammable or hazardous materials: Seattle Fire Department 911.

l. Overhead Electrical Power Lines and Trees: When tree trimming or tree removal is within 10 feet of overhead power lines less than 50kV or within 16-1/2 feet of overhead power lines 50kV or higher, if within SCL service area contact Seattle City Light at least 7 Working Days in advance at (206) 386-1663, else contact as specified in the Contract, as otherwise specified in permits, or the agency having jurisdiction, see **Section 01 76 00, Article 1.05 and Paragraph 1.08.C.**

m. Underground Utility Locator: The Contractor must call the Utilities Underground Location Center at 811 (or 1-800-424-5555) not less than 2 or more than 10 Working Days before the scheduled date for commencement of any excavation that might affect underground facilities. Alternate notification time periods limits may be substituted if mutually agreed to, in writing, by the Contractor and utility involved. If a utility is known to have, or suspected of having, underground facilities within the area of any proposed excavation, and that utility is not a subscriber to the Underground Utilities Location Center, notice by the Contractor must be provided individually to the utility, see **Section 01 76 00, Article 1.07**.

n. Entry onto Private Property: Each property owner must be provided 2

Business Days advance written notice before entry by the Contractor, see **Paragraph 1.04.X of this Section**.

o. U.S. Postal Service Collection Boxes, Mail Receptacles, and other Structures**:** The Contractor must receive written permission from the local U.S. Post Office to relocate a Collection Box, Mail Receptable or structure. The U.S. Postal Service recommends contacting them at least 7 calendar Days in advance for approval for the Contractor to relocate a Collection Box, Mail Receptable or other U.S. Postal structure, see **Section 01 76 00, Article 1.06**.

p. Signalized Intersections, Traffic Signals, and Loop Detection Systems: Where pedestrian and/or vehicular signals, or a loop detector system, or a signalized intersection are impacted, or will be impacted by construction, see **Article 1.07 of Section 01 76 00** and **Seattle Standard Specifications 8-31.1(1)**, within the City of Seattle the Contractor must provide at least 10 Working Days advance notice to (206) 386-1206 for coordinating temporary signal wire disconnect and temporary signal timing requirements, or else provide notification as specified in the Contract, as otherwise specified in permits, or the agency having jurisdiction.

q. Survey Monumentation:

1) When proposed construction, changes to proposed construction, or other activity requires removal or destruction of a survey monument, at least 2 Working Days prior this work, the Contractor must provide the Engineer with a copy the Department of Natural Resources (DNR) permit authorizing the removal or destruction of the survey monument per WAC 332-120. Removal or destruction is defined to mean the physical disturbance or covering of a survey monument such that the survey point is no longer visible or readily accessible. Before Physical Completion, the Contractor must provide the Engineer a copy of the DNR final report form with evidence that each survey monument has been replaced or restored to its pre-construction position. For permitting information see http://www.dnr.wa.gov/businessandpermits or call DNR at (360) 902-1230. At the time the permits are provided to the Engineer, the Contractor must forward a copy of this initial DNR permit with authorizing signatures and final report form to the Land Survey Manager, Seattle Public Utilities, physical address: Seattle Municipal Tower, 700 Fifth Avenue, or mailing address: PO Box 34018, Seattle, WA 98124-4018.

2) The Contractor may request SPU Survey Section to perform the monument permitting and Surveying. Contact the Land Surveying Manager at (206) 684-5073.

3) If SPU Surveying is to perform the work, the followings hall apply:

a) Before removing monument castings, the Contractor must provide a minimum 4 Working Days advance notice to the SPU Land Survey Section to allow SPU survey crews to tie the survey point or monument out and to obtain the DNR monument permit.

b) Before placing monument casting, the Contractor must provide a minimum 4 Working Days advance notice to the SPU Land Survey Section to allow SPU survey crews to provide the monument casting placement location.

c) Within 4 Working days after placing the monument casting, the Contractor must notify the SPU Land Survey Section to allow SPU survey crews to reset the monument and to obtain the

DNR final report form.

r. Gas Main, Transmission line, and Service Lateral: Before removals over underground gas facilities or before excavation or new facility construction, which are within the clearances of gas infrastructure as specified in **Paragraph 1.08.D of Section 01 76 00**, the Contractor must contact PSE at 1-888-Call-PSE (1-888-225-5773) at least 3 Working Days in advance of removal or excavation, or as otherwise specified in the Contract, in permits, or by the agency having jurisdiction.

s. Salvage; Brick, Cobblestone, and Granite Curb within Seattle: When brick, cobblestone, or granite curb is to be salvaged, the Contractor must coordinate the loading operations with the SDOT Pavement Supervisor by giving at least 2 Working Day advance notice of the impending removal operations. Where removal takes place south of Denny Way, the Contractor must call (206) 386-1223. Where removal takes place north of Denny Way, the Contractor must call (206) 684-4660.

t. Replacement Casting and Covers:

1) For Seattle City Light (SCL) replacement of casting and covers pick-up or delivery coordination and notification of adjustment the Contractor must call the SCL utility castings electrical reviewer at phone number (206) 684-4911 at least 10 Working Days in advance of the scheduled work.

2) For Seattle Public Utilities (SPU) Sewer and Drainage replacement or adjustment of casting and covers, notify the Engineer at least 10 Working Days before the scheduled work to coordinate adjustment notification and pick-up or delivery of castings and covers by SPU forces.

3) For Seattle Public Utilities (SPU) Water replacement of casting and covers pick-up or delivery coordination and notification of adjustment the Contractor must call the SPU Field Crew Scheduling at phone number (206) 386-1835 at least 10 Working Days in advance of the scheduled work.

4) For PSE replacement of casting and covers pick-up or delivery coordination and notification of adjustment the Contractor must call PSE utility castings at phone number (888) 321-7779 at least 5 Working Days in advance of the scheduled work.

5) For all other replacement of casting and covers pick-up or delivery coordination and notification of adjustment the Contractor must call or as specified in the Contract, as otherwise specified in permits, or the agency having jurisdiction in advance of the scheduled work.

u. For Coordination Contacts Not Specifically Specified Above: The Contractor must notify the service or franchise as specified in the Contract, as otherwise specified in permits, or the agency having jurisdiction.

CC. Field Office For The Engineer's Staff

1. Specified in Section 01 52 13 if required for this project.

DD. Safety And Health Requirements For Hazardous Waste Operations

1. Specified in Section 01 35 30, if applicable for this project.

EE. Relations With The Railroad

1. Specified in Section 00 73 00 – Supplementary Conditions, if applicable for this project.

1.05 SOCIAL EQUITY IN CONTRACTING

A General

1. The City provides assistance to Contractors that desire to Bid on, or have been awarded a City Contract, to comply with equal opportunity, non-discrimination, Affirmative Efforts, and Apprenticeship provisions. Should a Contractor desire assistance or information in recruiting, tutoring, and training or otherwise preparing potential employees and Subcontractors, a Contractor may contact PC at (206) 684-0444.

2. Direct all questions, reports, or other submittals regarding the requirements of this Section to:

   a. Purchasing and Contracting (PC)
   City of Seattle, Department of Finance and Administrative Services Telephone: (206) 684-0444

      1) Physical Address
      Seattle Municipal Tower
      700 Fifth Avenue, Suite 4350
      Seattle, WA 98104-5008

      2) Mailing Address
      Purchasing and Contracting
      P.O. Box 94687
      Seattle, Washington 98124-4687

B. Equal Benefits

1. The Contractor must comply with SMC Ch. 20.45 and the Equal Benefits Program Rules implementing such requirements, under which the Contractor is obligated to provide the same or equivalent benefits (equal benefits) to its employees with domestic partners as the Contractor provides to its employees with spouses. At the Owner's request, the Contractor must provide complete information and verification of compliance with SMC Ch. 20.45.

2. For further information about SMC Ch. 20.45 and the Equal Benefits Program Rules, call (206) 684-0444 or refer to:
   http://www.seattle.gov/city-purchasing-and-contracting/social-equity/equal-benefits

   a. Evaluation of the Contractor's compliance with the Equal Benefits requirement will be based on these criteria:

      1) A domestic partner is a person, either same sex or opposite sex partner, whose domestic partnership is registered either with the employer's internal registry or with a local government entity, per State or local law.

      2) Any and all benefits must be provided equally to spouses and domestic partners, including but not limited to health insurance, dental insurance, vision insurance, pension, company discounts, and credit union membership.

      3) The conditions for use of benefits including but not limited to bereavement leave, family medical leave, childcare leave, employee assistance programs, and relocation and travel benefits, must be applied equally with respect to spouses and domestic partners.

      4) Equal benefits must be offered to all employees at all offices where substantive Work on the Contract with the City of Seattle is being performed.

b. Reporting Requirements: The apparent low Bidder must submit the Equal Benefits Compliance Declaration to the PC representative within 3 Business Days after request.

c. Any violation of this Section is a material breach of Contract for which the City may:

1) Require the Contractor to pay actual damages for each Day that the Contractor is in violation of SMC Ch. 20.45 during the term of the Contract;

2) Terminate the Contract;

3) Debar the Contractor from bidding on or being awarded a City Contract for a period of up to 5 years under SMC 20.70; or

4) Impose such other remedies as specifically provided for in SMC Ch. 20.45 and the Equal Benefits Program Rules promulgated there under.

3. Labor Standards

a. As noted in SMC 14.16, 14.17, 14.19, and 14.20, the Owner has adopted a comprehensive set of wage theft prevention and labor harmonization standards to better protect those individuals who conduct business within the City limits. These protections include paid sick and safe time, fair chance employment, and minimum wage and wage theft. Contractors who conduct business inside the City limits, including attending meetings, must comply with SMC 14.16, 14.17, 14.19, and 14.20.

b. See http://www.seattle.gov/laborstandards/ordinances, for more information

c. Contractors conducting business outside the City limits, including attending meetings, must comply with RCW 49.46, minimum wage requirements and labor standards, and paid sick and safe time.

C. Women And Minority Businesses And Non-Discrimination Requirements

1. General

a. The Owner will not enter into contracts with Contractors who do not agree to use Affirmative Efforts to employ or contract with women and minority group members as required under SMC 20.42, who do not agree to ensure an Acceptable Work Site, or who violate any provisions of SMC 20.42, or those requirements set forth below.

b. In addition, the Contractor must comply with RCW 35.22.650, which provides:

1) "Contractor agrees that the Contractor shall actively solicit the employment of minority group members. Contractor further agrees that the Contractor shall actively solicit bids for the subcontracting of goods or services from qualified minority businesses. Contractor shall furnish evidence of the Contractor's compliance with these requirements of minority employment and solicitation. Contractor further agrees to consider the grant of subcontracts to said minority bidders on the basis of substantially equal proposals in the light most favorable to said minority businesses. The Contractor shall be required to submit evidence of compliance with this section as part of the bid."

2. Affirmative Efforts

a. The Contractor must use Affirmative Efforts to solicit and contract with WMBEs on subcontracting and supply opportunities within the project. The Contractor agrees to such efforts, as provided through the submission of the Inclusion Plan, as a material condition of the Contract.

1) Affirmative Efforts must include efforts to achieve the activities specified in the Inclusion Plan the Contractor submitted as specified in **Section 00 21 13, subparagraph 1.01.I.4**. The Contractor is solely responsible for any efforts made and costs incurred to meet such WMBE Goals.

2) Reporting Requirements:

a) If applicable, the Contractor must submit an Inclusion Plan as specified in **Section 00 21 13.**

b) If applicable, the Contractor must submit a Social Equity Plan as specified in **subparagraph 1.02.C.5 of Section 00 21 13**.

c) The Contractor must submit Subcontractor Payment Reports electronically through B2GNow: https://seattle.diversitycompliance.com/.

(1) The first Subcontractor Payment Report must be submitted by the 15th Day of the first month after the date specified in the Notice to Proceed.

(2) Subsequent monthly Subcontractor Payment Reports must be submitted by the 15th Day of every month thereafter. When no work is performed during a reporting period, the Contractor must submit monthly reports indicating that no work was performed.

(3) The last Subcontractor Payment Report must be marked as Final and must be submitted no later than 30 Days after the Physical Completion Date. The final report must list the name of and dollar amount paid to each Subcontractor and Supplier used by the Contractor. The Owner will not establish the Completion Date until the completed final Subcontractor Payment Report Form has been received.

(4) A sample of the form may be included in **Section 00 60 00** but this form is submitted through an online reporting website listed above.

(5) Subcontractors and Suppliers must register on the City's Business Registration website, if not currently registered; this is a one-time registration process for each Subcontractor and Supplier. http://www2.ci.seattle.wa.us/VendorRegistration/. Contractors may use this website to look up whether the Subcontractors or Suppliers are registered or not. The Subcontractors and Suppliers must register themselves.

3) Changes to named Subcontractors or Suppliers:

a) A named Subcontractor or Supplier includes any WMBE firm or business named on the Inclusion Plan or the Social Equity Plan as a WMBE guarantee.

b) Any named Subcontractor that the Contractor wishes to substitute during the project must request the Engineer's consent through a Change Order and demonstrated "good cause." "Good cause" includes:

(1) Failure of the Subcontractor to execute a written contract after a reasonable period of time;

(2) Bankruptcy of the Subcontractor;
(3) Failure of the Subcontractor to provide the required bond;
(4) The Subcontractor is unable to perform the Work because they are debarred, not properly licensed, does not comply with the Subcontractor approval criteria, or in some other way is ineligible to work;
(5) Failure of the Subcontractor to comply with a requirement of law applicable to subcontracting;
(6) The death or disability of the Subcontractor if the Subcontractor is an individual;
(7) Dissolution of the Subcontractor if the Subcontractor is a corporation or partnership;
(8) If there is a series of failures by the Subcontractor to perform as specified in previous contracts; or
(9) Failure or refusal of the Subcontractor to perform the Work.

c) If the Contractor is making a change to a WMBE guarantee, then the Contractor must use good faith efforts to recruit another WMBE Subcontractor to do the Work.

D. Employment Non-Discrimination Requirements

1. The Contractor must not inquire, collect, or otherwise condition employment based on immigration status. Unless otherwise provided in the Contract, no background checks will be performed as part of the employment process. The City has strict policies regarding the use of background checks, criminal checks, and immigrant status for contract workers. The policies are incorporated into the Contract and available for viewing on-line a https://www.seattle.gov/purchasing-and-contracting/social-equity/background-checks.

2. The Contractor must not discriminate against any employee or applicant for employment, and will make Affirmative Efforts to solicit and employ women and minorities, and to ensure that applicants are treated during employment without regard to race, color, age, sex, marital status, sexual orientation, gender identity, political ideology, creed, religion, ancestry, national origin; or the presence of any sensory, mental or physical handicap, unless based upon a bona fide occupational qualification. Such Affirmative Efforts include: employment, upgrading, promotion, demotion, or transfer; recruitment or recruitment advertising, layoff or termination, rates of pay, or other forms of payment and selection for training, including apprenticeship.

3. The Owner may monitor or audit the Contractor's non-discrimination policies and practices, including Affirmative Efforts to employ women or minority employees and Acceptable Work Sites. Monitoring may include proactive observations at the Work Site, interviews of individuals familiar with the Work Site, data that may evidence disparities, investigation of complaints by an individual familiar with the Work Site, or other evidence. The Owner may find unacceptable behavior and may pursue all appropriate contractual remedies.

4. Equal Employment Opportunity Officer: The Contractor must have a designated Equal Employment Opportunity Officer (EEO Officer).

5. The Contractor must ensure that all employees, particularly supervisors, are aware of and comply with their obligation to maintain a working environment free from discriminatory conduct, including harassment and intimidation of minorities and women or WMBE businesses. The Contractor must display at each Work Site location, including the Project Site office, the appropriate materials supplied by the Owner

regarding Acceptable Work Sites.

E. Records

1. The Contractor must provide evidence of compliance with SMC 20.42, including the Inclusion Plan, to PC, on request and on such form as may be provided. The Contractor must allow access to its records of employment, bidding, and subcontracting, and other pertinent data requested by the City to determine compliance with these requirements. Records must be available at reasonable times and places for inspection by authorized representatives of the Owner.

2. The Contractor must maintain relevant records and information necessary to document the Contractor's Affirmative Efforts to use WMBEs and other businesses as Subcontractors and Suppliers under the Contract, for at least 24 months after the Completion Date. The Owner has the right to inspect and copy such records. The Contractor must also require of its Subcontractors that the records of the Subcontractors be retained and open to similar inspection and copying for the same period of time.

3. Notification Requirements for Federal Immigration Enforcement Activities

a. Prior to responding to any requests from an employee or agent of any federal immigration agency including the Immigration and Customs Enforcement, the U.S. Department of Homeland Security, Homeland Security Investigations, Enforcement Removal Operations, Customs and Border Protection, and U.S. Citizenship and Information Services regarding this Contract, Contractor must notify the Engineer immediately. Such requests include, but are not limited to:

1. Requests for access to non-public areas in City buildings and venues (i.e., areas not open to the public such as staff work areas that require card key access and other areas designated as "private" or "employee only"); or

2. Requests for data or information (written or oral) about workers engaged in the work of this Contract or Owner employees.

b. No access or information shall be provided without prior review and consent of the Owner. The Contractor must request the federal immigration agency to wait until the Engineer is able to verify the credentials and authority of the federal immigration agent and directs the Contractor on how to proceed.

F. Apprentice Utilization

1. General

a. The following Apprenticeship requirements apply to projects with an Engineer's Estimate of $1 Million or more.

b. The Owner has determined that there is a need for increased training and apprenticeship opportunities in the construction industry and that a diverse and well trained workforce is critical to the economic and social vitality of the region. In establishing requirements for the use of apprentices on the Project, it is the Owner's intent to encourage the training and promotion of apprentices to journey level status.

2. Apprentice Utilization Requirements And Goals

a. The Contractor must ensure that 15 percent of the total Contract Labor Hours used on the project are performed by apprentices registered with the WSATC.

b. Total Contract labor hours include additional hours worked as a result of Change Orders, and exclude hours worked by foremen, superintendents, supervisors, owners, and workers who are not subject to prevailing wage requirements. However, it may be determined that they are subject to prevailing wage requirements under the following criteria of WAC 296- 127-015: 2 supervisors (e.g. foreman, general foreman, superintendents) are entitled to receive at least the journey level prevailing rate of wage for performing manual or physical labor:

1) For each hour spent in the performance of manual or physical labor if it is for more than 20 percent but less than 50 percent of their hours worked on a public works project during any given week.

2) For all hours worked in any given week if they perform manual or physical labor for 50 percent or more of their hours worked on a public works project during such week.

c. The Contractor must include the apprentice utilization requirements of this **subparagraph 1.05.F.2** in all subcontracts executed for the Project, and ensure that all Subcontractors working on the Project are notified of the apprentice utilization requirements. The Contractor is responsible for meeting the apprentice utilization requirements of the Contract, including overall compliance on all Contract labor hours worked by Subcontractors.

d. The Contractor must make good faith efforts to:

1) Ensure that apprentice hours worked are equally distributed in each trade/craft and consistent with the apprentice utilization percentage requirement of the Contract.

2) Recruit and hire minority and women apprentices for the Project. Of the total apprentice utilization requirement percentage, the Contractor must pursue a goal of using 21 percent labor hours performed by minority apprentices and 20 percent labor hours performed by women apprentices.

e. The Contractor must ensure compliance with RCW 49.04, WAC 296-05, and the apprenticeship training standards for each trade/craft classification used on the Project, as set forth by L&I.

3. Apprentice Utilization Plan

a. As specified in **subparagraph 1.02.C.5 of Section 00 21 13**, the Contractor must submit to PC, as part of the Social Equity Plan, a comprehensive plan outlining how the apprentice utilization requirements will be met on the total Contract labor hours. The plan must be submitted on a form provided by the Owner or by accessing https://www.seattle.gov/purchasing-and-contracting/social-equity/apprenticeships.. An approved plan is required prior to the Execution Date.

b. PC may provide assistance in directing the Contractor to available resources for hiring apprentices. The Contractor, the Engineer, and PC must meet to discuss and change the plan as appropriate.

4. Changes To The Apprentice Utilization Requirement

a. If the Contractor determines that it will be unable to achieve the apprentice utilization percentage, the Contractor may make a written request to PC to reduce the required apprentice utilization percentage. The request must include documentation of the Contractor's good faith efforts to hire apprentices registered with WSATC approved programs. These documents must demonstrate:

1) That an inadequate number of apprentices are available to comply with the required apprentice utilization percentage or that there is a disproportionately high ratio of material costs to labor hours, which does not make the required minimum levels of apprentice participation possible for this Contract; and

2) That the Contractor has made good faith efforts to comply with the requirement.

b. PC will evaluate the request and, if appropriate, the Engineer will prepare a Change Order reducing the required utilization percentage. If PC determines that a reduction in the required utilization percentage is not justified, PC will communicate the decision in writing to the Contractor.

5. Apprentice Utilization Reporting

a. The Contractor and every Subcontractor must submit a profile for each worker into LCP Tracker through an online portal at h ttps://prod-cdn.lcptracker.net/login/login including but not limited to gender, ethnicity, and apprenticeship status of each worker.

b. The Contractor must submit other information as requested by the Owner to verify compliance with the apprentice utilization requirements of the Contract. The Owner may add, delete, or change the information required by the Contractor, as necessary.

6. Monitoring

a. PC will verify the registration of each apprentice used on the project with the WSATC. PC will monitor the apprentice utilization data provided by the Contractor. The Owner will make routine visits to the Project Site for the purpose of confirming the use of apprentices.

G. Violations

1. Any violation of the requirements of this Section or other local, state or federal non-discrimination laws, is a material breach of the Contract for which the Contractor may be subject to damages and sanctions, including but not limited to payment of full payment to employees entitled to receive equal benefits during the term of the Contract who did not receive such benefits, imposition of a civil fine or forfeiture under the Seattle Criminal Code as well as various civil remedies, suspension or termination of the Contract and/or the withholding of any funds due or to become due, or debarment per SMC Ch. 20.70.

2. The Contractor must immediately report any violation of the requirements of this Section to PC.

H. Acceptable Work Site

1. The Contractor must ensure an Acceptable Work Site and must include this Section in all subcontracts.

2. The intent of the person that appears to violate the Acceptable Work Site is not a measure of whether such behaviors are appropriate; rather the standard is whether a reasonable person should have known that such behavior would cause a worker to be humiliated, intimidated, or otherwise treated in an inappropriate, discriminatory, or differential manner.

3. Behaviors that violate an Acceptable Work Site include but are not limited to:

a. Persistent conduct that to the reasonable person would be perceived as offensive and unwelcome;

b. Conduct that a reasonable person would perceive to be harassing or bullying in nature;

c. Conduct that a reasonable person would perceive to be hazing;

d. Verbal references that a reasonable person would perceive to be offensive stereotypes or racial/gender slurs;

e. Jokes about race, gender, or sexuality that a reasonable person would perceive to be offensive;

f. Task assignments that stratify, or give a perception of stratification, based on race, gender, or other defining characteristics;

g. Language that a reasonable person would perceive to be offensive based on race, gender, or oriented towards sexuality;

h. Name-calling, cursing or unnecessary yelling, including from a supervisor, foreman, or other more senior person that a reasonable person would perceive as offensive;

i. Repeating rumors about individuals in the Work Site that a reasonable person would perceive as harassing or harmful to the individual's reputation;

j. Refusal to hire someone based on race, gender, sexuality, or any other protected class; and

k. Reference to or requests for immigration status other than those required by law, religious affiliation, gender affiliation, criminal background, or other related aspects of a worker unless mandated by federal law.

4. To maintain an Acceptable Work Site, all Work must be assigned in a manner that respects training objectives for apprentices and ensures an equitable distribution of meaningful work, training, and assignments among all workers.

5. While maintaining and managing an Acceptable Work Site is the Contractor's responsibility, each subcontractor must also have accountability for performance in sustaining and managing their Work Sites. PC will monitor Work Sites and determine whether a risk or circumstance exists that may merit a remedy. Monitoring may include proactive observations of the Work Site, interviews of individuals familiar with the Work Site, collection of data that may evidence disparities, investigation of complaints by an individual familiar with the Work Site, or other evidence. If risks or circumstances that may merit a remedy are discovered, PC will notify and collaborate with the prime Contractor to discuss appropriate remedies and may likewise notify subcontractors and appropriate unions when necessary for the resolution of the situation, except when unusual circumstances require confidentiality. PC may also require other remedies such as those found in Section 1-08.1(3), if PC regards the situation as urgent, of potential harm, or without timely resolution.

6. This Section is for the benefit of the Owner and its interest in the Project. It does not create any third-party beneficiaries or form the basis of any action against the Owner by a third party.

1.06 RESERVED

1.07 INSURANCE

A. Specified in **Section 00 73 16 – Insurance Requirements**.

1.08 COMMENCEMENT, PROSECUTION, AND COMPLETION

A Contractor's Responsibility for Work and Damage

1 General

a. Except as provided for otherwise in the Contract, the Work, including Change Order Work, is at the sole risk of the Contractor until the Completion Date. Except as specifically limited for underground utilities by RCW 19.122.040(3), damage to or destruction of either permanent or temporary portions of the Work, existing utilities, street improvements, Materials, or equipment and facilities on the Project Site must be promptly rebuilt, restored, repaired, corrected, or replaced by the Contractor, at the Contractor's expense, regardless of the cause of damage.

b. Exceptions to the above are limited exclusively to the following:

1) Damage to the permanent Work caused by acts of nature, such as earthquake, flood, or other cataclysmic phenomenon of nature.
2) An act of the public enemy or a government authority.
3) A slide occurring on a finished slope after the Physical Completion Date of the Work.
4) Third party damage or vandalism occurring after the Physical Completion Date.

The above exceptions do not apply when damages are due to the Contractor's failure to comply with any contractual responsibilities or to perform sound engineering and construction practices in the conduct of the Work, or to take reasonable precautions under the circumstances.

c. If Work is delayed as a result of damage by others not party to the Contract, an extension of time will be evaluated as specified in **Paragraph 1.08.I**.

d. Damage qualifying under any of the exceptions listed in **subparagraph 1.08.A.1.b** above must be corrected promptly upon request, and payment will be made as specified in **Paragraph 1.02.D**. Where public safety is affected and an emergency exists, the Engineer may elect to accomplish repair by Owner or other forces as specified by **Paragraph 1.03.H**.

e. The contents of this Section do not relieve the Contractor of responsibility for, or damage resulting from, the Contractor's, or Subcontractor's, operations, or negligence, nor is the Contractor relieved from full responsibility for making good any defective Work or unauthorized Work.

f. The Contractor is solely responsible for:

1) Damage to property located within or outside the Project Site limits as a result of the Contractor's construction operation, this includes, but not limited to, damage caused by erosion, situation, or runoff; and
2) Any pollution of a river, stream, ground water, or other water that may occur as a result of the Contractor's construction operation.

2 Relief of Responsibility For Completed Work

a. Upon written approval from the Owner, the Contractor may be relieved of the responsibility of maintaining and protecting certain portions of the Work, as described in this Section that have been completed in all respects as specified in the Contract. Such release will not affect any past, present, or future claims rights of the City. The Contractor is not relieved from damage resulting from any flaw or defect in Materials incorporated into or workmanship of the completed Work or the ongoing operations or negligence of the Contractor or any of its Subcontractors.

b. Portions of the Work for which the Contractor may be relieved of the responsibility of maintenance and protection as provided in **subparagraph 1.08.A.1** include but are not limited to:

1) The completion of at least 2 city blocks, or approximately 1/4mile, of roadway including the traveled way, shoulders, drainage control facilities, planned roadway protection Work, lighting, and any required traffic control and access facilities.

2) A bridge or other Structure of major importance.

3) A complete unit of a traffic control signal system or street lighting system.

4) A complete unit of permanent street protection Work.

5) A building that is functionally complete and open to the public.

6) Any Contract Bid Item.

3 Relief of Responsibility For Damage By Public Traffic

a. When it is necessary for traffic to use a roadway facility during construction, the Contractor will be relieved of responsibility for damage to permanent Work caused by traffic under the following circumstances:

1) The Work is as specified in the Contract or approved Drawings;

2) The Work is on a section of roadway required by the Contract to be opened to traffic; and

3) The traffic control is per the approved traffic control plans.

b. If traffic is relocated to another section of roadway, the Contractor must resume responsibility for the Work until the section of roadway is again open to traffic or the Contractor submits a written request for Work that is completed to a point where relief can be granted as specified in **subparagraph 1.08.A.2**.

4 Repair of Damage

a. The Contractor must promptly repair all damage as directed by the Engineer. For damage qualifying for relief under **subparagraph 1.08.A.2 or 1.08.A.3**, payment will be made as specified in **Paragraph 1.02.D**. Payment will be limited only to repair of damaged Work. No payment will be made for delay or disruption to the Work.

b. The Engineer may elect to accomplish repair by its own forces or other means.

B. Preliminary and On-Going Matters

1 Copies of Contract

a. Specified in Section 00 01 15 – Contract Documents List and Distribution.

2 Contract Conferences And Meetings

a. Conferences and meetings are specified in **Section 01 31 19 – Contractor's Project Management**. Items include in that section include:

1) Preconstruction Conference

2) Preoperational Conferences

3) Weekly Progress Meetings

4) Daily Tailgate Meetings

5) Close-Out meeting

3 Subcontracting

a. Work done by the Contractor's own organization must account for at least 30 percent of the awarded Contract Price. The Contract may specifically designate any Work that may be excluded from the calculation of the 30 percent of the awarded Contract Price. If it does, then the Contractor must subtract the cost of any excluded Work from the awarded Contract Price before computing this percentage.

b. Work must not be subcontracted, regardless of tier, without written consent of the Engineer. A request to subcontract must be made on the Subcontractor Approval Application Form provided by the Engineer. If the Owner requests, the Contractor must provide documentation that the Subcontractor meets the supplemental bidder responsibility criteria. Each subcontract must contain a provision that requires the Subcontractor to comply with Chapter 39.12 RCW and furnish to the Contractor all certificates, statements, and submittals that the Contractor is required by the Contract to furnish to the Owner. The Contractor is responsible for verifying that the Subcontractors, of every tier, meet the Responsible Bidder requirements of **Paragraphs 1.01.A and 1.01.B of Section 00 21 13.**

c. Along with the request to subcontract, the Contractor must submit the names of any contracting firms a Subcontractor proposes to use of any tier. Collectively, these second and lower tier Subcontractors must not do an amount of work that exceeds 25 percent of the total amount subcontracted to the first tier Subcontractor. When a Subcontractor is responsible for construction of a specific Structure or Structures, the following Work may be performed by second and lower tier Subcontractors without being subject to the 25 percent limitation:

1) Furnishingand driving of piling; and

2) Furnishingand installing concretereinforcing andposttensioning steel.

d. Except for the 25 percent limit, second and lower tier Subcontractors must comply with the same requirements as first tier Subcontractors.

e. Consent to subcontract will not be provided unless the Engineer is satisfied with the proposed Subcontractor’s prior performance, equipment, experience, and ability to perform the Work. Approval to subcontract does not:

1) Relievethe Contractor of any responsibility to carry out the Contract;

2) Relievethe Contractor of any obligation or liability under the Contract and the Contractor’s bond;

3) Createany Contract between the Owner and the Subcontractor; or

4) Conveyto the Subcontractor any right against the Owner.

f. The Owner will not consider as subcontracting:

1) The purchase of sand, gravel, crushed stone, crushed slag, batch concrete aggregates, ready mixed concrete, off-site fabricated structural steel, other off-site fabricated items, and any other materials supplied by established and recognized commercial facilities;

2) Delivery of any of the materials identified in **subparagraph 1)** immediately above to theProject Site in any vehicle owned or operated by the Materialperson of such material or by a recognized independent or commercial hauling company. Such purchase is considered as being purchased from Materialpersons.

g. The Washington State Department of Labor and Industries may determine that Chapter 39.12 RCW applies to the employees of any Materialperson identified in **subparagraphs 1) and 2)** immediately above per Chapter 296-127 WAC. If this should occur, the provisions of **Section 00 73 43**, as modified or supplemented, applies.

h. When a portion of the Work that has been subcontracted by the Contractor is not being prosecuted as satisfactory to the Engineer, the Subcontractor must be removed and replaced immediately upon the Engineer's written order and must not again be employed on the Work unless the Contractor makes protest and the Contractor's protest is upheld by the Owner.

i. If the Engineer determines that any Subcontractor is performing any services in an unsatisfactory manner or is not completing the Work as specified in the Contract or is otherwise undesirable or unacceptable, the Engineer will so advise the Contractor by written notice. The Contractor must then take immediate steps to terminate such Subcontractor. Further subcontracting by Subcontractors will be subject to the same Owner's rights and Subcontractors' obligations. The Contractor and each of its Subcontractors must ensure that such Owner's right is included in each subcontract and sub subcontract for any portion of the Work.

j. The Contractor's cost records pertaining to any subcontracting of this Contract must be open to inspection, subject to retainage periods, and as specified in **Paragraph 1.09.L**.

k. TheContractor must report on Subcontractors as specified in **subparagraph 1.05.C.2.**

4 Subcontracting Communication

a. The Contractor may not impede, restrict, or prohibit subcontractors, suppliers, and vendors from communicating directly with the Engineer for any of the following reasons:

1) Respondingto City-initiated communications

2) Inquiring, seeking assistance on, or reporting a violation of Acceptable Work Site provisions as specified in **Paragraph 1.05.H of this Section 00 72 00**.

3) Inquiring or seeking assistance on weekly payroll issues involving LPCtracker as specified in **Article 1.02 of Section 00 73 43**

4) Inquiring or seeking assistance on issues related to equal opportunity, non-discrimination, Affirmative Efforts and Apprenticeship provisions as specified in **Paragraphs 1.05.B, 1.05.C, 1.05.D and 1.05.F of this Section 00 72 00**

5) Inquiring or seeking assistance related to progress payments and prompt pay requirements as specified in **Paragraph 1.09.N.2 of this Section 00 72 00**; or

6) Inquiring or seeking assistance related to Subcontractor retainage as specified in **subparagraph 1.09.N.4 of this Section 00 72 00.**

b. The Owner is not obligated to respond to any direct communication from a Subcontractor, Vendor or Supplier allowed by this Section, and this Section does not create a contractual relationship between theOwner and any Subcontractor, Vendor or Supplier, or bestow the status of a third-party beneficiary on any of those entities for any purpose. This Section does not alter or waive any notice requirement under the Contract or otherwise.

5. Hours of Work

a. The normal hours of Work must be between 7:00 a.m. and 7:00 p.m. on any Working Day and consists of 8 hours, exclusive of a lunch period of not more than 1 hour. The normal work week must not exceed 40 hours of Work. The normal hours of Work are established at the preconstruction conference or before the Contractor starts the Work and must not be changed or extended without approval of the Engineer.

b. The Engineer, in their sole discretion, may grant permission to work beyond the normal daily hours, normal work week, or Working Days subject to certain conditions.

c. Permission to work outside normal hours of Work may be withdrawn at any time. The Contractor has no claim for damages or delay should such permission be withdrawn.

d. Any request to perform Work outside of normal hours of Work or on Non-Working Days must be submitted to the Engineer before noon on the Working Day before the Day that the Contractor is requesting permission to work.

6. Reimbursement For Overtime Work Of Employees Of Owner

a. If the Contractor requests permission to work on a Saturday, Sunday or Holiday, or in excess of the established normal hours of Work described in **subparagraph 1.08.B.5** and the Engineer approves, then such work is considered overtime work. On all such overtime work, the Contractor must reimburse the Owner for each of the Owner's employees required to work overtime hours to support Contractor requested overtime on any project related construction activity. The number of Owner employees, and the duration of their participation in supporting the Contractor's overtime Work is at the sole discretion of the Engineer.

b. The Contractor must reimburse the Owner according to a table of overtime charges contained in the Project Manual. If no table of overtime charges is included in the Project Manual, the Contractor must reimburse the Owner $100 per hour for each Owner employee supporting the Contractor's overtime Work.

c. The Contractor hereby authorizes the Engineer to deduct the reimbursement required in the paragraph immediately above from any amount that might then be or thereafter become due or payable by the Owner to the Contractor under or by virtue of the Contract until such reimbursement has been recouped by the Owner.

C Assignment

1. The performance of the Work or any part of it must not be assigned without written consent of the Owner. Consent will not be provided to a proposed assignment that would relieve the Contractor or the Contractor's Surety of their responsibilities under the Contract.

2. The Contractor may assign moneys due or to become due to the Contractor under the Contract. This assignment will be recognized by the Owner, if provided notarized written notice, to the extent permitted by law. Assignment of monies is subject to all set offs, withholdings, and deductions provided by law and under the Contract.

D CriticalPath Schedule And ScheduleRestraints

2 CriticalPath Schedule

a Specifiedin **Section 01 32 10 – Construction Progress Documentation**.

E NoticeTo Proceed And Prosecution Of The Work

1. After the Execution Date of the Contract is established, the Contractor may proceed on submittals and procurement of Materials critical to project completion within Contract Time. The Contractor bears all risks for any Work begun before the Contract Execution Date. The Contractor must not start any other Work until the Notice to Proceed has been provided by the Engineer. The Engineer may provide a limited Notice to Proceed and authorize only a portion of the Work to commence. Notice to Proceed will be provided after the Contract has been Executed and the Payment and Performance Bond and evidence of insurance have been approved and filed by the Owner.
2. The Contractor bears all risks for any Work begun before the Notice to Proceed except for submittals and procurement after Execution of the Contract. Contract time starts on the Notice to Proceed Date.
3. The Contractor must diligently pursue the Work to the Physical Completion Date within the time specified in the Contract. The Contractor must not voluntarily shut down or slow Work operations without requesting and obtaining prior approval of the Engineer. Such approval does not relieve the Contractor from the contractual obligation to complete the Work within the Contract Time.

F Time For Completion

1 The Work must be physically complete within the time specified in the Contract or as changed by the Engineer.

2 Unless the Contract specifies otherwise, the Contract Time will be stated in Working Days, starts on the Notice to Proceed Date, and ends on the Physical Completion Date.

3 Each successive Working Day, starting with the Notice to Proceed Date and ending with the Physical Completion Date, must be charged to the Contract Time as it occurs except a Day or part of a Day that is designated a Non-Working Day or an Engineer determined Unworkable Day.

4 The Engineer will furnish Contractor with a weekly report showing:

a The number of Working Days charged against the Contract Time for the preceding week
b The Contract Time in Working Days
c Thenumber of WorkingDays remaining in the ContractTime
d Therevised Physical Completion Date asapplicable
e The number of Non-Working Day
f Any whole Days during the immediately preceding week that the Engineer declared to be an Unworkable Day.

5 If the Contractor elects to work 10 hours a Day and 4 Days a week 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.

6 The Contractor will be allowed 10 Days after the date of each report in which to file a written notice of protest of an alleged discrepancy in the Contract Time as reported. Otherwise, the report will be deemed to have been accepted by the Contractor as correct.

7 Unworkable Days may be granted for unsuitable weather and such other conditions beyond the control of the Contractor that prevent satisfactory and timely performance of the Work, see **Paragraph 1.08.G**.

G. Suspension of Work

1 The Contractor must immediately suspend the Work or resume suspended Work only when ordered or authorized in writing to do so by the Engineer. The Engineer may suspend all or part of the Work and for such periods of time as the Engineer may deem proper if:

a. Unsuitable weather and such other conditions beyond the control of the Contractor occur that prevent satisfactory and timely performance of the Work; or

b. The Contractor does not comply with the Contract or the Engineer's orders.

2 When ordered by the Engineer to suspend or resume Work, the Contractor must do so immediately.

3 If the Work is suspended for **reason a, subparagraph 1.08.G.1.a** above, the period of Work stoppage will be counted as Unworkable Days. The Engineer will set the number of Unworkable Days or parts of Days by deciding how long the suspension delayed the entire project.

4 In order to be granted an Unworkable Day, the Contractor must demonstrate vigorous work on the affected work and this work must be on the critical path as shown on the Contractor's latest CPM schedule. The Contractor may be granted 1 Unworkable Day when weather or other conditions beyond the control of the Contractor prevent work for a period greater than 1/2 of a Working Day.

5 If the Work is suspended for **reason b, subparagraph 1.08.G.1.b,** above, the period of Work stoppage will be counted as Working Days. The lost Work time, however, does not relieve the Contractor from any Contract responsibility.

6 If the Contractor believes that the performance of the Work is suspended, delayed, or interrupted for an unreasonable period of time and such suspension, delay, or interruption is the responsibility of the Owner, the Contractor must immediately submit a written notice of dispute to the Engineer as specified in **Paragraph 1.02.E**. No adjustment will be allowed for any costs incurred more than 10 Calendar Days before the date the Engineer receives the Contractor's written notice of protest.

7 The Engineer will determine if an equitable adjustment in cost or time is due as specified in this **Paragraph 1.08.G**. The equitable adjustment for increase in costs, if due, is subject to the limitations specified in **Paragraph 1.09.D**, provided that no profit of any kind will be allowed on any increase in cost necessarily caused by the suspension, delay, or interruption.

8 Request for extensions of time will be evaluated as specified in **Paragraph 1.08.I**.

9 The Engineer's determination as to whether an adjustment should be made will be final as specified in **Paragraph 1.03.A**.

10 No claim by the Contractor under this clause is allowed unless the Contractor has followed the procedures specified in **Paragraph 1.02.E**.

H. Maintenance During Suspension

1 In preparing for or during suspensions of the Work as described in **Paragraph 1.08.G**, the Contractor must do whatever is necessary to prevent damage to or deterioration of the Work. The Contractor's safety and maintenance responsibilities remain unchanged except for those assumed by the Engineer under the conditions set forth in this Section.

2 At no additional expense to the Owner, the Contractor must maintain a safe, smooth, and unobstructed roadway, sidewalks, paths, temporary roads, or detours for public

use through the construction area during suspension of the Work as specified by **Section 01 55 80**.

3 If the Engineer determines that the Contractor failed to pursue the Work vigorously, diligently, and without unauthorized interruption before the suspension, or failed to comply with the Contract or the Engineer's orders, the Contractor must maintain the temporary roadway, detour, sidewalks, or paths in use during suspension. In this case, the Contractor bears the maintenance costs. If the Contractor fails to maintain the temporary roadway, detour, sidewalks, or paths, the Owner will do the maintenance work and deduct all resulting costs from payments due to the Contractor specified in **Paragraph 1.03.H**.

4 If the Engineer determines that the Contractor has pursued the Work vigorously, diligently, and without unauthorized interruption before the suspension, the Owner will do the routine maintenance work and bear its cost. The maintenance performed by the Owner will include only routine maintenance of:

a. The traveled way and shoulders, sidewalks, paths, and detour surface.

b. Roadway drainage along and under the traveled roadway or detour.

c. All barricades, signs, and lights needed for directing traffic through the temporary roadway or detour in the construction area.

5 The Contractor must protect, maintain, and bear the costs of completing all other portions of the Work in areas not used for traffic.

6 After a suspension, during which the Owner has done the routine maintenance, the Contractor must accept the traveled roadway or detour as is, when the Work resumes. The Contractor must make no claim against the Owner for the condition of the roadway or detour.

7 After any suspension, the Contractor retains responsibility for repairing or restoring the roadway, its slopes, and its drainage system to the requirements of the Contract.

I. Time Extensions and Delays Entitlement and Compensation

1. General

a. The Engineer determines the Contract Time sufficient to complete the Work. For this reason the Engineer will not grant a time extension for any reason except those specified in **subparagraph 1.08.I.3.a**.

b. The Contract will be extended for a period equivalent to the actual time the Work is suspended or delayed for an excusable reason. Entitlement, length of time extension, and applicable payment will be determined by the Engineer.

c. If the Work is suspended or delayed and the Contractor believes the reason for the suspension or delay is excusable or compensable, the Contractor must submit to the Engineer a written notice requesting an adjustment in the Contract Time, in the costs, or both. To be considered, the request must be submitted to the Engineer no later than 10 Days after the claimed suspension or delay occurs. The request must state the reasons why the adjustment should be granted. Upon receipt, the Engineer will evaluate the Contractor's request and determine if the:

1) The portion of the Work that was delayed:

a) Is on the critical path of the critical path schedule in effect at the time as specified in this Section below; or

b) Has increased in cost, time, or both as a result of such suspension or delay.

2) Delay was caused by one or more conditions beyond the control of, and were not the fault of, the Contractor or any of the Contractor's Materialperson or Subcontractor at any approved tier;

3) The suspension was not on an Unworkable Day;

4) Performance was not suspended or delayed by any other cause; and

5) Adjustment is provided for or specifically excluded, under any other term or condition of this Contract.

d. If the Engineer agrees that an adjustment is warranted considering all evaluation criteria stated in **subparagraphs 1.08.I.1.c.1 through 1.08.I.1.c.5, items 1) through 5)** immediately above, the Engineer will make an adjustment in Contract Time, cost, or both (excluding profit) and change the Contract accordingly. No adjustment will be allowed for any cost that was incurred by the Contractor more than 10 Working Days before the date the Engineer received the Contractor's written notice requesting an adjustment. The reasons for and times of extensions are determined by the Engineer and such determination is final under **Paragraph 1.03.A**. Any disagreement with the Engineer's determination must be pursued as specified in **Paragraph 1.02.E**.

e. The Contractor's accepted critical path schedule in effect at the start of the claimed delay will be used to evaluate the extent of the delay and the claimed delay's impact on the Contract Time. The Contractor is responsible for showing on this critical path schedule that the change or event:

1) Had a specific impact on the critical path, and except in cases of concurrent delay, was the sole cause of such impact; and

2) Could not have been avoided by resequencing of the Work or other reasonable alternative.

f. Failure of the Contractor to efficiently use all available time after the Notice to Proceed Date will be considered in evaluating requests for extensions of time.

g. The granting of a time extension or granting payment of additional payment or granting of both will be made by Change Order, except that time extensions and/or payment of additional payment for suspensions of the Work on Days determined by the Engineer to have been Unworkable Days will be as specified in **Paragraph 1.08.I**.

2. Non-Excusable Delays

a. Non-excusable delays are those delays caused by factors within the Contractor's control that could have been foreseen or avoided had the Contractor exercised due care, prudence, foresight, or diligence and pursued the Work vigorously and without unauthorized interruption. Non-excusable delays do not entitle the Contractor to an extension of time and are not compensable.

b. Non-excusable delays include, but are not limited to:

1) Delays caused by or resulting from the Contractor's own Subcontractors or Material persons.

2) The Contractor's lack of sufficient working capital.

3) The default of the Contractor.

4) The Contractor's act or failure to act.

5) The Contractor's failure to procure Materials or to provide labor or to perform the Work according to the Contract.

6) Changes, protests, increased quantities, or changed conditions that do not delay the completion of the Contract or prove to be an invalid or inappropriate time extension request.

7) Delays caused by Contractor submittal as specified in **Section 01 33 10.**

8) Rejection of faulty or inappropriate equipment as specified in Paragraph 1.03.I.

c. The Contract may be terminated for a non-excusable delay.

3. Excusable Delays

a. General

1) Excusable delays are those delays caused by one or more factors beyond the control and without fault or negligence of the Contractor.

2) Excusable delays:

a) May be compensable; and

b) Will entitle the Contractor to an extension of time:

(1) If the activities that are subject to the delay are on the critical path of the accepted critical path schedule in effect at that time; and

(2) The Contractor has submitted a request for an extension of time within the prescribed time limits.

3) Excusable delays include:

a) Acts of nature;

b) Acts of the public enemy;

c) Acts of a government in its sovereign capacity;

d) Acts or omissions or defaults of the Owner, or any of its officers and employees, including the Engineer, or of another Contractor employed by the Owner;

e) Unforeseeable conditions not the fault of the Contractor;

f) Fires or floods due to nature or other casualty for which the Contractor is not responsible;

g) Epidemics;

h) Quarantine restrictions;

i) Unusual transportation delays such as freight embargoes;

j) Strikes or combined actions of labor;

k) Unusually severe weather as defined in this Section, provided that:

(1) The Engineer has not already allowed it as an Unworkable Day as specified in **Paragraph 1.08.F**;

(2) The Contractor timely filed a written notice of protest (per **Paragraph 1.08.F**) asserting that time the Engineer charged as a Working Day should have been allowed as an Unworkable Day or portion thereof; and

(3) The Engineer responded to the Contractor's written notice of protest of **subparagraph (2) immediately above** with a written notice approving that time as an Unworkable Day or portion thereof;

l) Any other conditions for which the Contract permits time extensions including but not limited to:

(1) **Paragraph 1.02.D** if a change increases the time to do any of the Work including unchanged Work;

(2) **Paragraph 1.02.E** if increased time is part of a dispute that is found to be valid;

(3) If a dispute or claim also involves a delay in completing the Contract and the dispute or claim proves to be valid;

(4) **Paragraph 1.02.F** if increases in the quantities of any Bid Item of Work exceed 25 percent and these increases caused a delay in completing the Contract;

(5) **Paragraph 1.02.G** if a changed condition is determined to exist that caused a delay in completing the Contract;

(6) **Section 01 33 10** if the Engineer does not approve properly prepared and acceptable Shop Drawings within the specified time frame for review;

(7) **Paragraph 1.08.A** if the performance of the Work is delayed as a result of damage by others not party to the Contract;

(8) **Section 01 76 00** if the removal or the relocation of any utility by forces except the Contractor caused a delay;

(9) **Paragraph 1.04.X** if a delay results from the Owner not purchasing the Right of Way necessary for construction and the Project Manual does not make specific provisions regarding unpurchased Right of Way;

(10) **Paragraph 1.08.G** if the performance of the Work is suspended, delayed, or interrupted for an unreasonable time that proves to be the responsibility of the Engineer or Owner; or

m) Causes not specifically identified in **subparagraphs 1.08.I.3.a.3.a through 1.08.I.3.a.3.l above**, provided the request letter proves the Contractor had no control over the cause of the delay and could have done nothing to avoid or shorten it.

4) Unusually severe weather will be as determined by the Engineer. Minimum requirements for unusually severe weather are monthly average temperature, precipitation, or precipitation events outside of 2 standard deviations of the historical weather data of the past nine years. Weather meeting the minimum requirements for unusually severe weather will be subject to evaluation based on its effect on active work. If the Contractor elects not to perform the Work during periods of normal inclement weather that does not qualify as unusually severe weather, and the Engineer does not grant an Unworkable Day(s), the Contractor is not entitled to an extension of time.

b. Compensable Delays

1) Payment will be provided for an increase in cost of performance of the Work (excluding profit) if the performance of all or any part of the Work is suspended or delayed for an unreasonable period of time by an act of the Engineer or the Owner in the administration of the Work and such act is not expressly or implicitly authorized by the Contract; or by failure of the Engineer or Owner to act within a time period specified in the Contract (or if no time is specified, within a reasonable time). However, no adjustment will be made under this **Paragraph 1.08.I** for a suspension or delay if:

a) The performance would have been suspended or delayed by any other cause including the fault or negligence of the Contractor, or

b) Payment is provided for or excluded under any other provision of the Contract (i.e. Concurrent Delays).

2) Compensable time extensions may be granted for reasons arising from the changes or changed conditions (differing site conditions) Contract provisions. However, a time extension granted under the changes or changed conditions (differing site conditions) Contract provisions are not considered a delay or suspension of the Work as defined in this **Paragraph 1.08.I**. If the Contractor believes an excusable delay is compensable, the Contractor must immediately submit a written request for adjustment as specified in **subparagraph 1.08.I.1**. The Engineer will determine if an equitable adjustment in cost or time is due. The equitable adjustment for increase in costs, if due, is subject to the limitations specified in **Paragraph 1.09.D**, provided that no profit of any kind will be allowed on any increase in cost necessarily caused by the suspension, delay, or interruption.

3) The Engineer's determination as to whether an adjustment should be made will be final unless the decision is disputed per the dispute resolution procedures specified in **Paragraph1.02.E**.

c. Non-Compensable Delays

1) Non compensable delays are delays to the completion of the Work arising from conditions beyond the control and without fault or negligence of the Contractor, the Engineer, or the Owner. Non compensable delays include, but are not limited to:

a) Acts of nature
b) Acts of the public enemy
c) Fires
d) Floods due to nature
e) Epidemics and quarantine restrictions
f) Unusual transportation delays (freight embargoes)
g) Strikes or combined actions of labor
h) Unusually severe weather
i) Delays of Subcontractor or Material person at any tier

4. Concurrent Delays

a. Concurrent delays are those delays where progress on critical path activities is impeded over the same period of time due to causes attributable to both the Contractor and Engineer or Owner. In the event of a concurrent delay, neither party is entitled to payment from the other over the period of time that concurrency of delay exists.

5. Cost for SPU Crews Due to Contractor Delays

a. Except for excusable delays specified in Section 1-08.8(3), the Contractor must reimburse SPU for work the Contractor has scheduled to be completed by SPU crews for water transfers and connections, if the Contractor is not prepared to allow SPU to perform the work as scheduled. The Contractor must reimburse SPU for the costs to mobilize crews for the scheduled work and for the crew time lost on a time and materials basis.

J. Liquidated Damages

1. Time is of the essence to the Contract. By entering into this Contract, the Contractor has agreed to complete the project within the specified Contract Time. Liquidated Damages have been agreed upon to provide payment for damages resulting from failure to complete the Contract on time. Such obligation is not construed as a penalty.

2. The Contractor:

   a. Must pay Liquidated Damages for delay or for overruns in the Contract Time;

   b. Authorizes the Engineer to deduct these damages from any money due or to become due to the Contractor; and

   c. Is liable for any other damages as provided in this Contract.

3. For overruns in Contract Time occurring before the Substantial Completion Date and for overruns in Contract Time occurring before the Physical Completion Date, the Liquidated Damages amount is set forth in **Section 00 52 00 – Agreement Form, Section 4**.

4. Liquidated Damages will not be assessed for any Day for which an extension of time is granted. No deduction or payment of such damages for delay will release the Contractor, in any degree, from further obligations and liabilities to complete the entire Contract.

K. Termination of Contract

1. Termination For Default

   a. The Owner may determine sufficient cause exists to terminate the Contract. Upon determination by the Owner, the Contractor and its surety will be notified. Notification will include the reasons for the determination and provide opportunity to cure. The Owner may make a default determination upon the occurrence of any one or more of the following events:

      1) If the Contractor fails to supply sufficient skilled workers or suitable Materials or equipment.

      2) If the Contractor refuses or fails to prosecute the Work with such diligence as will ensure its Physical Completion within the Contract Time and any extension of time that may have been granted to the Contractor by Change Order or otherwise.

      3) If the Contractor is adjudged bankrupt or insolvent, or makes a general assignment for the benefit of creditors, or if the Contractor or a third party files a petition to take advantage of any debtor's act or to reorganize under the bankruptcy or similar laws concerning the Contractor, or if a trustee or receiver is appointed for the Contractor or for any of the Contractor's property on account of the Contractor's insolvency, and the Contractor or its successor in interest does not provide the Engineer adequate assurance of future performance as specified in the Contract within 15 Days of receipt by the Contractor or its successor in interest of a request for assurance from the Engineer.

      4) If the Contractor disregards any law, ordinance, rule, code, regulation, directive, or similar requirement of any public entity having jurisdiction.

      5) If the Contractor disregards the authority of the Engineer.

6) If the Contractor performs any portion of the Work in a way that deviates from the Contract requirements, and neglects or refuses to correct any rejected performance.

7) If the Contractor otherwise violates in any material way any material provision or requirement of the Contract.

8) If the Contractor failed to disclose or submitted false or misleading information in the Supplemental Bidder Responsibility Criteria Form or attached documentation.

b. In case of an emergency such as potential damage to life or property, the response time to cure the default after the written notice may be shortened. If the cure does not take place to the satisfaction of the Engineer, the Engineer, by serving written notice to the Contractor and Surety, may either:

1) Transfer the performance of the Work from the Contractor to the Surety; or

2) Terminate the Contract and, at the Engineer's option, prosecute it to completion by Contract or by other means. Any extra costs or damages to the Owner will be deducted from any money due or coming due to the Contractor or Surety under the Contract.

c. If the Owner elects to pursue 1 cure, it will not bar the Owner from pursuing other cures on the same or subsequent defaults.

d. Upon receipt of a written notice that the Work is being transferred to the Surety, the Surety will enter on the Project Site and take possession of all Materials, tools, and appliances for the purpose of completing the Work under the Contract and employ by Contract or otherwise any person or persons satisfactory to the Engineer to complete the Work and provide the Materials without termination of the Contract. Such employment does not relieve the Surety of its obligations under the Contract and the Payment and Performance Bond. If there is a transfer to the Surety, payments on progress estimates covering the Work after the transfer is made to the extent permitted under law to the Surety or its agent without any right of the Contractor to make any claim against the Owner for such sums.

e. If the Contractor fails to cure any default within the time specified in the Owner's written notice and if the Owner terminates the Contract or provides such sufficiency of labor or Materials as is required to complete the Work, then the Contractor is not be entitled to receive any further payment on the Work until the Work has been fully performed. The Contractor bears all extra expenses incurred by the Owner in completing the Work, including all increased costs for completing the Work, and all damages sustained, or that may be sustained, by the Owner by reason of such refusal, neglect, failure, or discontinuance of the Work by the Contractor. If Liquidated Damages are provided for in the Contract, the Contractor is liable for whatever amount of such damages accrues through the Substantial Completion Date. After all Work encompassed by the Contract has been completed, the Engineer will calculate the total expenses and damages for the completed Work. If the total expenses and damages are less than any unpaid balance due the Contractor, the excess will be paid by the Owner to the Contractor. If the total expenses and damages exceed the unpaid balance, the Contractor and the Surety are jointly and severally liable to the Owner and must pay the difference to the Owner on demand. The

Contractor and its sureties are liable for all damages and costs, including but not limited to: (1) compensation for Architect and engineering services and expenses; (2) any other costs or damages incurred by the Owner in completing and/or correcting the Work; and (3) any other special, incidental or consequential damages incurred by the Owner which results from the termination..

f. In exercising the Engineer's right to prosecute the Work to Physical Completion, the Engineer has the right to exercise sole discretion as to the manner, method, and reasonableness of the costs of completing the Work. In the event that the Owner takes Bids for remedial work or Physical Completion of the project, the Contractor is not eligible for the Award of such contract.

g. In the event the Contract is terminated, the termination of the Contract does not affect any rights of the Owner against the Contractor, including any warranties or assurances. The rights and remedies of the Owner under the termination clause are in addition to any other rights and remedies provided by law or under this Contract. Any retention or payment of monies to the Contractor by the Owner will not release the Contractor from liability.

h. If a written notice of termination for default has been issued and it is later determined for any reason that the Contractor was not in default, the rights and obligations of the parties is the same as if the written notice of termination had been issued under Termination for Public Convenience in **subparagraph 1.08.K.2**. This result applies where the Contract is terminated for default because of failure to prosecute the Work, and where a Contractor's delay was found to be excusable as specified in **Paragraph 1.08.I**. Any termination for default may be grounds for debarment as specified in **subparagraph 1.08.K.8.**

2. Termination For Public Convenience

a. The Owner may terminate the Contract in whole, or from time to time in part, whenever:

1) The Contractor is prevented from proceeding with the Work as a direct result of an Executive Order of the President with respect to the prosecution of war or for national defense; or an Executive Order of the President or Governor of the State with respect to the preservation of energy resources.

2) The Contractor is prevented from proceeding with the Work by reason of a preliminary, special, or permanent restraining order of a court of competent jurisdiction where the issuance of such restraining order is primarily caused by an act or omission of a person or agency except the Contractor.

3) The Owner determines that such termination is in the best interest of public or the Owner.

4) The Owner determines that such termination is mutually beneficial to the Owner and the Contractor.

3. Payment For Termination For Public Convenience

a. Whenever the Contract is terminated as specified in **subparagraph 1.08.K.2**, payment will be made for actual Work performed at Bid Item prices for completed Bid Items of the Work. An equitable adjustment for partially completed Bid Items of Work and disposal of Materials will be made as specified in **Paragraph 1.09.E**.

4. Termination Claim By Contractor

a. After receipt of a written notice of termination of Contract for public convenience, the Contractor must submit to the Engineer a termination claim in sufficient detail to enable the Engineer to ascertain the basis and amount of the claim. The claim must provide the minimum detailed information specified in **subparagraph 1.02.E.4**. The claim mu+9st be submitted promptly but in no event later than 60 Days after the effective date of termination. The Contractor must pursue resolution of the claim through the established administrative channels of the Owner. The Contractor must make its business and office records available to the extent necessary for the Engineer to verify the Contractor's claim and to determine the amount of entitlement as specified in **Paragraph 1.09.L**. The decision of the Engineer is final, see **Paragraph 1.03.A**.

5. Termination for Delays Due To Litigation

a. Pursuant to RCW 60.28.080, if the delay caused by litigation exceeds 6 months, the Contractor may then elect to terminate the Contract and receive payment in proportion tothe quantity of the Work completed plus the cost of the delay. Amounts retained and accumulated under RCW 60.28.011 will be held for a period of 60 Days following the election of the Contractor to terminate.

6. Responsibility of the Contractor and Surety

a. Termination of the Contract or anOrder of Debarment does not relieve the Contractor of any responsibilities under the Contract for Work performed.

b. Termination of the Contract or an Order of Debarment does not relieve the Surety or Sureties of obligations under the Payment and Performance Bond, and Retainage Bond if applicable, for Work performed.

7. Termination Before Completion

a. Pursuant to RCW 60.28.011(7), if after a substantial portion of the Work has been completed, an unreasonable delay will occur in the completion of the remaining portion of the Contract for any reason not the result of a breach thereof, theOwner may, if the Contractor agrees, delete from the Contract the remaining Work and accept as final the Improvement at the stage of completion then attained and make payment in proportion tothe quantity of the Work accomplished. In such case, whatever amount of the Contractor’s payment has been retained and accumulated under RCW 60.28.011(7) will be held for the statutory period of 60 Days following the establishment of the Completion Date. In the event that the Work has been terminated before Completion, the Owner may thereafter enter into a new contract with the same Contractor without an Advertisement for Bids or Bid for the performance of the remaining Work or Improvement for an amount equal to or less than the cost of the remaining Work under the original Contract.

8. Debarment

a. TheOwner may debar aContractor under SMC20.70.

1.09 MEASUREMENTAND PAYMENT

A Measurement of Quantities

1. Inmeasuring allacceptably completed Bid Itemsof Work, the Engineer will:

a. Use United States standard measure.

b. Make all measurements as described in this Section, unless individual Specifications require otherwise.

c. Follow methods generally recognized as conforming to good engineering practice.

d. Conform to the usual practice of the Owner by carrying measurements and computations to the proper significant figure or fraction of units for each Bid Item.

e. Measure horizontally or vertically (unless otherwise specified).

2. The terms listed below are defined as follows in all measurements under this Section:

a. Lumpsum (when used as a Bid Item of payment): Complete payment for the Work described for that item in the Contract.

b. Gauge: In the measurement of plates as the U.S. Standard Gauge; in the measurement of galvanized sheets used to manufacture corrugated metal pipe, metal plate pipe Contracts and arches, and metal cribbing, as specified in AASHTO M 36, M 167, M 196, M 197, or M 219; and in the measurement of wire as specified in AASHTO M 32.

c. Ton: The short ton is equal to 2,000 pounds of avoirdupois weight. All Materials that are measured or proportioned by weight will be weighed according to the requirements of **Paragraph 1.09.B**. If Material is shipped by rail, the car weight may be accepted provided only the actual weight of Material is paid for. However, car weights are not acceptable for Material to be passed through mixing facilities.

d. Calculated: When the unit of measurement is calculated, payment or deduction will be calculated per the applicable specification. Calculated (abbreviated CALC) will be used as the Bid Item unit of measurement in the Bid form. The extended Bid Item amount in the Bid form will be either zero or an estimated amount for bidding purposes only.

3. For each basis of measurement listed below, the Engineer will use the method of measurement described. For Bid Items or Materials measured on the basis of:

a. Square Yard or Square Foot: The measurement must be a calculation from the neat dimensions shown on the Drawings or as changed by the Engineer. If there is an exception within the measured area where the item of Work is not performed (such as a drainage Structure within a measured sidewalk) and if the exception area is greater than 9 square feet, then the area of the exception will be subtracted from the payment area calculated from the neat dimensions.

b. Linear Foot: Measure length along an element unless otherwise specified.

c. Weight: Weighed as required in **Paragraph 1.09.B**.

d. Volume:

1) Excavation and Embankment: Measured by the average end area method or by the finite element analysis method using digital terrain modeling techniques. All or some computations may be based on ground elevations and other data derived photogrammetrically. The Engineer may correct for curvature.

2) In Hauling Vehicle: Measured at the point of delivery. Hauling vehicles may be of any size or type the Engineer approves provided that the body is of such shape that the actual contents may be readily and accurately determined. If the Engineer requires, the Contractor must level loads at the delivery point to facilitate measurement.

3) Mineral Aggregates: Measured by the cubic yard compacted in place to the neat line dimensions indicated on the Drawings or Standard Plans.

4. Unit weight – volume conversion factors for measurements:

a. Bid Items for which the Contract requires measurement by volume may, at the Contractor's request and with the Engineer's approval, or at the discretion of the Engineer, be converted to weight from volume measurements using a determination of density (unit weight) factor. Bid Items for which the Contract requires measurement by weight may, at the Contractor's request and with the Engineer's approval, or at the discretion of the Engineer, be converted to volume from weight measurements using a determination of density (unit weight) factor.

b. The relationship between degree of compaction of aggregates or soils in a hauling unit, stockpile, or compacted in-place are unknown. The conversion for measurement will be based on bulk density (unit weight) factor at location and condition of measurement; typically compacted in- place. The following test may be applicable:

1) ASTM D6938 Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods

2) ASTM C29 / C29M Standard Test Method for Bulk Density(Unit Weight) and Voids in Aggregate

3) ASTM D698 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort

4) ASTM D1557StandardTest Methodsfor LaboratoryCompaction Characteristics of Soil Using Modified Effort

5) Other methods as approved by the Engineer

6) When proposed by the Contractor, conversion factor testing must be performed at the Contractor's expense by an Engineer approved independent materials Laboratory retained by the Contractor; the Engineer may verify testing and if testing results are in conflict, the Engineer's conversion factors will govern. When directed all testing for conversion factor will be by the Engineer.

5. For each item listed below, the Engineer will use the method of measurement described:

a. Structures: Measured on the neat lines shown in the Drawings or as changed by the Engineer. When a complete Structure or Structural unit is specified as the unit of measurement, the unit must include all fittings and accessories.

b. Timber: Measured by the thousand board feet (MBM) actually used in the Structure. Measurements will be based on the nominal width, thickness, and the extreme length of each piece.

c. Standard Manufactured Items: Materials such as fence, wire, plates, rolled shapes, pipe conduit, when specified, must be measured by the manufacturer's identification of gage, unit weight, and section dimension.

The Engineer will accept manufacturing tolerances set by each industry unless cited Specifications require more stringent tolerances.

d. Portland Cement: Measured by the pound, ton, or sack. A sack weighs 94 pounds.

e. Asphalt: Measured by the gallon or ton. If measured by gallon, measurement will be made at 60 F (or will be corrected to the volume at 60 F in keeping with ASTM D 1250). If shipped by rail, truck, or transport, measurement will be by net certified scale weights or certified volumes (corrected for Material lost en-route or not actually incorporated into the Work). The Engineer will use the volume weight conversion table below to compute asphalt measurements:

f. Conversion Factor Table

Conversion Factors

Average Weights and Volumes of Asphalt

Grade	Gallons per Ton	Pounds per Gallons
Liquid Asphalt	@ 60 F	@ 60 F
70	253	7.90
250	249	8.03
800	245	8.16
3000	241	8.30
Paving Asphalt		
All PG Grades	235	8.51
Emulsified Asphalt		
All Grades	240	8.33

6. No measurement will be made for:

a. Work performed or Materials placed outside lines shown in the Drawings or set by the Engineer;

b. Materials wasted, used, or disposed of as contrary to the Contract;

c. Rejected materials (including those rejected after placement if the rejection resulted from the Contractor's failure to comply with the Contract);

d. Hauling and disposing of rejected materials;

e. Material remaining on hand after the Work is completed, except as provided in **Paragraph 1.09.H**; or

f. Any other Work or Material contrary to any Contract provision.

B. Weighing Equipment

1. General Requirements for Weighing Equipment

a. Materials proportioned, or measured and paid for by weight must be weighed on accurate, approved scales by competent, qualified personnel at locations satisfactory to the Engineer.

b. Scales for the weighing of natural, manufactured, or processed construction materials obtained from natural deposits, stockpiles, or bunkers which are required to be proportioned or measured and paid for by weight, must be

furnished, erected and maintained by the Contractor, or must be certified, permanently installed commercial scales.

c. Each truck to be weighed must have a unique identification number. This number must be legible and in plain view of the scale operator. Trucks used to haul Material being paid for by weight must be weighed empty at least once daily or at such times as the Engineer directs. Duplicate weight tickets must be prepared and accompany each truckload of Material delivered to the project. The duplicate weight tickets must be submitted to the Engineer on the Day of delivery. The tickets must be legible and contain the following information:

1) Preprinted ticket serial number
2) Identification number of truck/truck trailer
3) Date and hour of weighing
4) Type of Material
5) Weight of load including gross, tare and net weights. If the scale has a tare beam so the net weight can be read directly, only the net weight need be recorded on the ticket.
6) Weighman's identification
7) Item number
8) Contract number
9) Unit of measure
10) Legal gross weight in remarks section
11) Location of delivery (station or by street name)

d. The net weight of Material measured by the ton that is being placed in each truck must be printed on the ticket by an automatic weighing device from a certified scale.

e. Scales must:

1) Be accurate to within 1/2 of 1 percent throughout the range of use
2) Not include spring balances
3) Include beams, dials, or other reliable readout equipment
4) Be arranged so that operators and inspectors can safely and easily see the dials, beams, rods, and operating scale mechanisms
5) Be built to prevent scale parts from binding, vibrating, or being displaced and to protect all working parts from falling material, wind, and weather
6) Be carefully maintained, with
    a) Bunkers and platforms kept clear of accumulated materials that could cause errors.
    b) Knife edges given extra care and protection.

f. At each batch and platform scale location, the Contractor must keep 10 standard 50 pound weights for scale calibration and testing. If the Engineer has approved other calibration and testing equipment, the Contractor may substitute the approved other equipment for these weights.

g. **Underweighting/Overweighing Scales**: In the event inspection, or random checks, reveals that scales have been under-weighing, the scales must be adjusted and no additional payment to the Contractor will be allowed for

Materials previously weighed and recorded. Scales overweighing (indicating more than true weight) are not permitted to operate and all Materials received after the last previous corrected weighing accuracy test will be reduced by the percentage of error in excess of 1/2 of 1 percent. No payment will be made for Materials received by weight which have not been weighed per the foregoing Specification or other methods specifically approved in writing for the individual project. In the event these random checks result in net weights that are different by more than 1 percent of the smaller net weight, the Contractor must, at the Engineer's option, use a certified scale of the Engineer's choice.

h. **Payment**: All costs in connection with furnishing, installing, certifying and maintaining scales for furnishing check weights and scale house and for all other items specified in this Section for the weighing of construction Materials for proportioning or payment are included in the Bid Item prices for the various Bid Items of Work which comprise the Contract.

2. Specific Requirements For Batching Scales

a. All Materials proportioned by weight must be weighed on anaccurate, approved scale by qualified operators. Scale locations require the Engineer's approval.

b. Each scale must be designed to support a weighing hopper. The arrangement must make it convenient for the operator to remove Material from the hopper while watching readout devices. Any hopper mounted on a platform scale must have its center of gravity directly over the platform centerline.

c. Marked intervals on the readout device must be spaced evenly throughout and must be based on the scale's nominal rated capacity. These intervals must be at least 1 pound, but less than 1/10 of 1percent of nominal rated capacity.

d. An agent of the scale manufacturer must test and service any batch scale before its use at each new site and then at 6 month intervals. The Contractor must provide the Engineer a copy of the final results after each test. Whenever the Engineer requests, the Contractor's operators must test the scale while the inspector observes.

e. Portland or asphalt cement must be weighed on ascale not used for other materials.

3. Specific Requirements For Platform Scales

a. Platform scales must be certified scales that automatically print the net, tare, and gross weights on the ticket and must have the size and capacity to weigh an entire hauling vehicle or combination of connected vehicles at one time. No part of the connected vehicle or combination can be off the platform when weighing.

b. A platform scale operator must be assigned by the Contractor to weigh all materials on the Contractor's platform scales and make the records thereof. The Contractor may also elect to use commercial scales. The Contractor must furnish approved load tickets at the scale and legible duplicate copies to the Engineer at the delivery point and guarantee permission for Owner personnel to periodically observe the weighing and to check and compile the daily record of scale weights. Tare weights of each conveyance must be taken 2 or more times daily.

c. The scales must be calibrated daily. The scales check methods and documentation procedures for scale checks and recording tare weights must be approved by the Engineer. Checks must be made throughout each Day to see that the scales are balanced and return to zero when no load is on them.

d. Any Contractor supplied scale must include a scale house with a floor space of at least 6' by 10'. The scale house must:

1) Be wind and weather tight.

2) Have windows for light and ventilation.

3) Include a door.

4) Be lockable.

The scale house must include a table, a chair, electrical power, and a space heater. The Contractor must provide a rest room near the scale house.

e. Platform scales must be installed and maintained with the platform level and rigid bulkheads at each end to eliminate binding and shifting. The platform scale beam or dial must have graduated intervals of no more than 40 pounds. When testing the scales, the weights must be read and recorded to the nearest 20 pounds and during weighing operations, weights must be read and recorded to the nearest hundred weight (cwt.).

f. Before use at a new site and every 6 months thereafter, the scales must be approved per local ordinances or rules of the State Department of Agriculture's Weights and Measures Section or be serviced and tested by a scale company representative with at least 10,000 pounds, with a copy of the final test results provided to the Engineer.

4. Specific Requirements For Belt Conveyor Scales

a. Conveyor belt weighing may be accepted for untreated Materials provided that this method or device meets the general requirements of weighing equipment.

b. Belt conveyor scales must comply with the requirements for belt conveyor scales as specified in the National Bureau of Standards, Handbook No. 44, except as modified by these Specifications.

c. A daily static load test must be made after an approximate 1/2 hour of continuous running of the belt conveyor and whenever the air temperature varies significantly. A chain test will be required whenever a need for adjustment has been determined by the daily static load test.

d. The test chain calibration computation, calibration procedures and results, and related documents must be available for review by the Engineer. The test chain must be clearly marked with its calibration. The test chain must be carried in a suitable container and must be immediately available for testing of the belt conveyor scales.

e. Comparisons of accuracy may be made by checking the average of 5 or more sequential hauling unit payloads on platform scales meeting the requirements of these Specifications. A comparative accuracy of ± 0.5 percent of the payload of the average hauling unit will be acceptable. Since the recording odometer, of conveyor belt scales in general use, is graduated in 0.1 ton (200 lb.) increments and, since the recording is a cumulative process, minor differences in reading or variations smaller than 0.1 ton carry over from one vehicle unit to another. For greater

accuracy, confirmation of the conveyor weights will be based on the tonnage values obtained from readings taken from the sealed odometer at the starting and end of each check period. The number of check loads may be increased by the Engineer should the test results fluctuate.

f. The Contractor must furnish appropriate serially numbered tickets as approved by the Engineer for self-printing of the time and date of loading and the approximate load out weight. Each ticket must be imprinted from a recording device at the loading point by the truck driver and delivered to the Engineer at the Project Site. The delivered ticket must be marked with hauling conveyance equipment number.

g. The recording tape, odometer, totalizer, calibration adjustment and clock time imprinter must be secured and locked. All keys must be in the possession of the Engineer.

C. Scope of Payment

1. General

a. The Contractor must receive and accept payment provided in the Contract as full payment for the following:

1) Furnishing all Materials and for performing all Work under the Contract in a complete and acceptable manner including changes in the Work, Materials, or Drawings as provided for by approved Change Orders.

2) All risks, loss, damage, or expense of whatever character arising out of the nature or prosecution of the Work.

3) All expense incurred as a result of the suspension or discontinuance of the Work as specified in the Contract.

b. The payment of any estimate or retained percentage does not relieve the Contractor of the obligation to make good any defective Work or unauthorized Work or defective Materials.

c. Unless the Contract provides otherwise, the Bid Item prices for the various Bid Items of the Work listed in the Bid Form will be full payment for all labor, Materials, Supplies, equipment, tools, and all things of whatever nature required for the complete incorporation of the Bid Item into the Work.

d. The term lump sum, when used as a Bid Item or Bid Items of payment, means full payment for the Work described for that Bid Items in the Contract.

e. Unless modified otherwise in the Contract, the Bid Items listed or referenced in the payment clause of each Section of the Specifications will be the only Bid Items for which payment will be made for the Work described in or specified in that particular Section. Should the Contractor perform Work that is listed as a Bid Item in a payment clause but not in the Bid Form, payment for that Work will be made as specified in paragraph 1.02.A.3.

f. If the payment clause in **Section 01 22 10 – Measurement And Payment** relating to any Bid Item price in the Bid Form requires that said Bid Item price cover and be considered payment for certain Work or Material

essential to the item, then the Work or Material will not be measured or paid for under any other Bid Item which may appear elsewhere in the Bid Form or Specifications.

g. Certain Bid Items appearing in **referenced Standard Specifications sections** may be modified in **Section 01 22 10** to include words such as:

1) "For Structure," or "For Concrete Barrier," or "For Bridge" with the intent of clarifying specific use; and/or

2) "Site (site designation)," with the intent of clarifying where a specific item of Work is to be performed.

h. Modifications of the Bid Items in this manner do not change the intent of the **referenced Standard Specifications sections** relating to these items.

i. Payment for Bid Items listed or referenced in the payment clause of any particular **referenced Standard Specifications section** includes all Work required, specified, or described in that particular Section. Payment items will generally be listed generically in the **referenced Standard** Specifications (e.g. "Maintenance hole (type)") and specifically in the Bid Form **and in Section 01 22 10** (e.g. "Maintenance hole, Type 202A"). When items are to be furnished under one payment item and installed under another payment item, such items must be furnished FOB to the Project Site or, if specified in the Contract, delivered to a designated Owner site. The Contractor is responsible for Materials furnished or furnished and installed under these conditions, with regard to storage, until such items are incorporated into the Work or, if such items are not to be incorporated into the Work, delivered to the applicable City storage site if specified.

j. Payment for Material furnished but not yet incorporated into the Work may be made on progress estimates to the extent allowed.

2. Lump Sum Breakdown

a. This breakdown will be used to determine partial lump sum Bid Item payments on progress payments. Without an accepted lump sum breakdown, partial lump sum payments will be at the discretion of the Engineer. Submittals must be as specified in **Section 01 33 10**

b. Within 3 Working Days of the Notice to Proceed or at the preconstruction conference, the Contractor must submit a lump sum breakdown for each lump sum Bid Item except mobilization, Bid Items less than $5,000, and short term Bid Items for scopes of work that can be completed in less than 2 weeks. The Contractor's lump sum breakdown must be by elements of work. For elements of work with a cost greater then $5,000, the breakdown must also include costs by labor, equipment, and Material. Short term Bid Items and elements of Work in a lump sum breakdown that are partially complete will be paid at a prorated percentage as determined by the Engineer.

c. If this Project Manual contains **Section 01 29 73– Schedule of Values**, requirements for the lump sum breakdown are specified in that Section.

D. Equitable Adjustment For Changes

1. Changes In Contract Work

a. The equitable adjustment provided for elsewhere in the Contract will be determined by agreement between the Contractor and the Owner using:

1) Unit prices, or

2) Other agreed on prices including lump sum.

b. When payment is by lump sum the Contractor shall must provide substantiation of the lump sum price in accordance with as specified in **Section 01 29 73**. Payment shall include all costs for overhead and profit. The payment includes all costs for the Work, overhead, and profit.

c. The Contractor must include retail sales tax in the agreed price, as specified in paragraph 1.04.B

d. The following limitations apply in determining the amount of the equitable adjustment:

1) "The equipment rates must not exceed the rates set forth in the AGC/WSDOT Equipment Rental Agreement in effect at the time the Work is performed as specified in **Paragraph1.09.F.**

2) To the extent any delay or failure of performance was concurrently caused by the Owner and the Contractor as specified in **subparagraph 1.08.I.4**, the Contractor is entitled to a time extension for the period of delay, provided it make such a request as specified in **Paragraph 1.08.I**; however, the Contractor is not entitled to any adjustment in Contract Price.

3) No claim for anticipated profits on deleted, terminated, or uncompleted Work will be allowed.

4) No claim for consequential damages of any kind will be allowed.

e. If the parties cannot come to an agreement, then the Owner will determine the total price for the Work including overhead and profit.

2. Changes In Law Or Taxes

a. Adjustments in the amount to be paid by the Owner under the terms and conditions of the Contract will not be made as a result of any change in laws, ordinances or regulations except as specifically provided by the following:

1) Changes in Laws: The Owner will not adjust payment to compensate the Contractor for changes in legal requirements unless those changes are specifically within the scope of RCW 39.04.120. For changes under RCW 39.04.120 the Owner will compensate the Contractor as specified in **subparagraph 1.09.D.1.**

2) Changes in Taxes: The Owner will adjust payment to compensate for tax changes under the following conditions:

a) The changes involve federal or state taxes on Materials used in or consumed for the Work.

b) The changes increase Contractor paid taxes by more than $500.

c) For items in the original Contract, the tax change must occur after the Bid Opening Date.

d) For negotiated Contracts, the tax change must take place after the Execution Date of the Contract.

e) The Contractor if requested by the Engineer certifies in writing that the awarded Contract Price does not include an extra amount to cover a possible change in taxes.

f) The Contractor permits the Owner to audit the Contractor's records to the extent necessary to substantiate any claim for payment under this Section.

b. Within the above conditions the Owner will adjust payment by the actual dollar amounts of increase or decrease caused by the tax changes.

E. Deleted or Terminated Work

1. The Engineer may delete work by Change Order as specified in **Paragraph 1.02.D**. The Owner may terminate the Contract in whole or part as specified in **Paragraph 1.08.K**. When the Contract is terminated in part, the partial termination will be treated as a deletion Change Order for payment purposes under this **Paragraph 1.09.E**.

2. Payment for completed items will be at Bid Item prices.

3. When any item is deleted in whole or in part by Change Order or when the Contract is terminated in whole or in part, payment for deleted or terminated work will be made as follows:

a. Payment will be made for the actual number of units of work completed at the Bid Item unit prices unless the Engineer determines the Bid Item unit prices are inappropriate for the work actually performed. When that determination is made by the Engineer, payment for work performed will be as mutually agreed. If the parties cannot agree the Engineer will determine the amount of the equitable adjustment as specified in **Paragraph 1.09.D**.

b. Payment for partially completed lump sum Bid Items will be as mutually agreed. If the parties cannot agree, the Engineer will determine the amount of the equitable adjustment as specified in **Paragraph1.09.D**.

c. To the extent not paid for by the Bid Item prices for the completed units of work, the Owner will pay as part of the equitable adjustment those direct costs necessarily and actually incurred by the Contractor in anticipation of performing the Work that has been deleted or terminated.

d. The total payment for any 1 Bid Item in the case of a deletion or partial termination cannot exceed the Bid Item price as modified by approved Change Orders less the estimated cost (including overhead and profit) to complete the Bid Item of work and less any amount paid to the Contractor for the Bid Item.

e. The total payment where the Contract is terminated in its entirety cannot exceed the revised Contract Price less those amounts paid to the Contractor before the effective date of the termination.

f. No claim for damages of any kind or for loss of anticipated profits on deleted or terminated work will be allowed because of the termination or Change Order.

4. Contract Time will be adjusted as the parties agree. If the parties cannot agree, the Engineer will determine the equitable adjustment for Contract Time.

5. Acceptable Materials ordered by the Contractor before the date the Work was terminated as specified in **subparagraph 1.08.K.2** by the Owner or deleted as specified in **Paragraph 1.02.D** by the Engineer, will either be purchased from the Contractor by the Owner at the actual cost and become the property of the Owner, or the Owner will reimburse the Contractor for the actual costs connected with returning these Materials.

F. Force Account

1. General

a. The terms of the Contract or of a Change Order may call for Work or Material to be paid for by force account. The Owner will reimburse the Contractor for all costs associated with the force account Work, including costs of labor, small tools, Supplies, equipment, specialized services, direct material costs, disposal costs, and applicable taxes, The mark-up values provided in this Section are intended to compensate for all applicable overhead, and profit. The amount to be paid is determined as specified in this section.

b. Nothing in this provision precludes the Contractor from seeking an extension of time or time-related adjustments to unchanged Work arising as a result of the force account Work. The amount and costs of anyWork to be paid by force account will be computed by the Engineer, and the result is final as specified in **Paragraph 1.03.A**

c. The parties may agree at any time to convert items included in the Bid as force account or added by Change Order as force account into agreed on unit prices or lump sums applicable to the remaining Work.

d. Mark-up in **subparagraphs 1.09.F.2 to 1.09.F.5** will only be applied once, regardless of whether such items areprovided by the Contractor or by any tier of Subcontractor. However, the mark-up in **subparagraphs 1.09.F.2 to 1.09.F.5** will not be applied for services acting in the manner of a Subcontractor. Services acting in themanner of a Subcontractor as specified in **subparagraph 1.09.F.7** are considered a Subcontractor. Mark-up on work performed by a Subcontractor specified in **subparagraph 1.09.F.7** will only be applied once, regardless of tier of Subcontractor, and not at all for work performed by the prime Contractor.

2. Labor

a. Labor reimbursement calculations are based on a Contractor's Project Labor List (Labor List) prepared and submitted to the Engineer by the Contractor for the Contractor and for any Subcontractor before that firm commences force account Work. All Labor List submittals must be made as specified in **Section 01 33 10**. The Engineer will have 10 Working Days to review and either approve or reject a Labor List. If a Labor List is rejected, the Engineer will identify the reasons for rejection and the Contractor or Subcontractor will have 2 Working Days to submit a new Labor List for review and approval. Once a Labor List is approved by the Engineer, it will be used to calculate force account labor payment until a new Labor List is submitted and approved. The Engineer may compare the Labor List to payrolls and other documents and may, at any time, request the Contractor to submit a new Labor List. The Contractor may also submit a new Labor List at any time subject to the same procedure for review and approval as the initial Labor List. Prior payments will not be adjusted as a result of a new Labor List.

b. To be approved, the Labor List must be accurate and comply with the requirements of this **subparagraph 1.09.F.2**. The Labor List must include regular time rates and overtime rates for all employees and work classifications expected to participate in force account Work. These rates must meet or exceed the basic prevailing wage and fringe benefits, the current rates for Federal Insurance Compensation Act (FICA), Federal Unemployment Tax Act (FUTA) and State Unemployment Tax Act (SUTA),

the firm's present rates for medical insurance and Industrial Insurance premiums, and the planned payments for travel and per diem payment. The rates can not include any type of overhead cost or profit.

c. If there is no approved Labor List at the time for Work or Material to be paid for by force account the Engineer may elect to unilaterally develop a Labor List, using data that the Engineer determines to be the best available. Prior calculations prepared using the Engineer's Labor List will not be changed as a result of differences with the Contractor's Labor List.

d. In addition to payment for direct labor costs defined above, the Owner will pay the Contractor 27 percent of the sum of the costs calculated for labor reimbursement to cover project overhead, general company overhead, profit, bonding, insurance specified in **Section 00 73 16**, Business & Occupation tax, and any other costs incurred. This overhead amount will include any costs of standard safety training and health tests.

3. Materials

a. The Owner will reimburse invoice cost for Contractor-supplied Materials. For the purpose of the provision, direct material costs include those items incorporated into the Work, Supplies used during the Work and items consumed as part of the Work. This cost includes freight and handling charges and applicable taxes. Before Work is started, the Engineer may require the Contractor to obtain multiple quotations for the Materials to be used and the Engineer may select the vendor with prices and terms most advantageous to the Owner.

b. The Owner may provide Materials. In this case, the Contractor will not receive payment for any costs, overhead, or profit arising from the value of the Materials themselves. Additional costs to handle and place the Owner (or Agency) furnished Material will be compensated as specified in **Paragraph 1.09.F**.

c. Tipping fees, material disposal services, and other material disposal costs are not considered Materials, and are considered subcontracted services as specified in **subparagraph 1.09.F.5**.

d. The Contractor will provide a list of the types and quantities of Contractor-supplied Materials, subject to verification by the Engineer. This list will be furnished promptly after the material is incorporated, on a daily basis unless agreed otherwise. The Contractor must attach valid copies of vendor invoices to the list. Tickets of lading must be submitted to the Engineer the Day Materials are received.

e. The Engineer will have 10 Working Days to review the prices and quantities on the Contractor- supplied Materials list. If the Engineer agrees to the proposed prices, the Engineer will approve the completed list. If the Engineer does not agree, the list will be returned to the Contractor for revision. The Contractor must submit the revised list to the Engineer within 3 Working Days. If the Engineer does not agree with revised prices or if the list has not been received by the Engineer within 3 Working Days after the list has been returned to the Contractor for revision, the Engineer will determine the cost for all or part of those Materials, using the best data available.

f. If invoices are not available for Materials from the Contractor's stocks, the Contractor must certify actual costs at a reasonable level by Affidavit

including an explanation of how the actual costs certified were determined and supported by any relevant information supporting the certification. The Engineer will have 5 Working Days to review. If the Engineer agrees to the certified prices, the Engineer will approve the completed list. If the Engineer does not agree, the list will be returned to the Contractor for re-certification. If the Engineer does not agree with revised prices or if the list has not been received by the Engineer within 3 Working Days after the list has been returned to the Contractor for re-certification, the Engineer will determine the cost for all or part of those Materials, using the best data available.

g. Once the list is approved, the prices will be used in the calculationof force account reimbursement for Materials.

h. In addition to payment for direct Materials cost, the Owner will pay the Contractor 17 percent of the sum of direct Material costs to cover project overhead, general company overhead, profit, bonding, insurance specified in **Section 00 73 16**, Business & Occupation tax, and any other costs incurred.

4. Equipment

a. The Owner will reimburse the Contractor for the cost of equipment used in the force account Work. The equipment provided by the Contractor must be of modern design and in good working condition. For the purpose of this provision, provided means that the equipment is owned (either through outright ownership or through a long-term lease) and operated by the Contractor or Subcontractor, or that the equipment is rented and operated by the Contractor or Subcontractor.

b. Equipment that is not being directly used for the force account work will not be compensated on a stand-by or any other basis. Equipment that is being used on-site for Contract work and for force account Work will only be compensated under force account for the actual operational use, not on a stand by basis. Equipment required by the Engineer to be on-site for force account Work and no other Contract Work will be compensated either for actual operational use or on a stand by basis. Equipment that is rented with operator can not be included here, but is considered a service or service acting as a subcontractor and addressed according to **subparagraph 1.09.F.5** Services.

c. The amount of payment for any Contractor-owned equipment that is used is determined according to the version of the AGC/WSDOT Equipment Rental Agreement in effect at the time the force account Work is authorized. The rates listed in the Rental Rate Blue Book (as modified by the current AGC/WSDOT Equipment Rental Agreement) will be full payment for all fuel, oil, lubrication, ordinary repairs, maintenance, and all other costs incidental to furnishing and operating the equipment except labor for operation.

d. Contractor-owned equipment reimbursement calculations are based on a Contractor-owned equipment list (equipment list) prepared and submitted by the Contractor and by any Subcontractor before that firm commences force account Work. All equipment list submittals must be made as specified in **Section 01 33 10**. Once an equipment list is approved by the Engineer, it will be used to calculate force account Contractor-owned equipment payment until a new equipment list is submitted and approved. The equipment list must contain only equipment expected to be used in force account Work. The

Engineer will compare the equipment list to the Rental Rate Blue Book, at any time, and may require the Contractor to submit a new equipment list. The Contractor may submit a new equipment list at any time. Prior payment will not be adjusted as a result of a new equipment list.

e. To be approved, the equipment list must be accurate and comply with the requirements of this Section. The equipment list must be supplemented with a rental equipment list showing daily, weekly, and monthly rental rates as applicable. Rental agreements must be attached for all equipment that may be used on force account.

f. In the event that an acceptable initial equipment list or a revised equipment list is not received within 3 Working Days of a request by the Engineer, the Engineer will unilaterally develop an equipment list, using the best data available. The Engineer's equipment list will be used until a Contractor's equipment list is received and approved. Prior payments, prepared using the Engineer's equipment list, will not be changed as a result of differences with the Contractor's equipment list.

g. Payment for rented equipment will be made on the basis of a valid invoice, covering the time period of the Work. Before this Work is started, the Engineer may require the Contractor to obtain multiple quotations for the rental of equipment to be used and select the vendor with prices and terms most advantageous to the Owner. In the event that prior quotations are not obtained and the vendor is not a firm independent from the Contractor or Subcontractor, then after-the-fact quotations may be obtained by the Engineer from the open market in the vicinity and the lowest such quotation may be used in place of submitted invoice.

h. In addition to the payments for Contractor-owned and rented equipment, 1 or more lump sum payments may be made for small tools. The amount to be paid is determined as outlined in the AGC/WSDOT Equipment Rental Agreement.

i. The Owner will add 17 percent to equipment costs to cover project overhead, general company overhead, profit, bonding, insurance as

required by **Section 00 73 16**, Business & Occupation tax, and any other costs incurred. This markup will be over and above those equipment costs and will not be adjusted for any equipment overhead amounts included in the Blue Book rates.

j. Copies of the AGC/WSDOT Equipment Rental Agreement will be maintained on the WSDOT's web site: http://www.wsdot.wa.gov/.

5. Services

a. A service is one that is typically billed through invoice in standard industry practice and consists of work that is being directly supervised or overseen by the Contractor. Tipping fees, material disposal services, and other material disposal costs incurred as a result of a force account item are considered subcontracted services. Payment under force account for services will be made on the basis of an invoice from the service provider unless otherwise directed as provided for within this Section.

b. Before force account Work is started, the Engineer may require the Contractor to obtain multiple quotations for the service to be used and select the provider with prices and terms most advantageous to the

Owner. A service will be approved by the Engineer before the start of the service provider's work. If services are not preapproved, or in the event that prior quotations are not obtained and the service invoice is submitted, then after-the-fact quotations may be obtained by the Engineer from the open market in the vicinity and the lowest such quotation may be used in place of the submitted invoice, or the Engineer may require the services to itemize labor, equipment, and Materials and be paid based on these itemized rates, whichever results in the lower cost to the Owner.

c. Except as noted below and up to and including $10,000 of invoiced cost, the Owner will pay the Contractor an additional 17 percent of the sum of the costs included on invoices for services to cover initial and ongoing project overhead, general company overhead, profit, bonding, insurance required by **Section 00 73 16**, Business & Occupation tax, and any other costs incurred.

d. Mark ups for services which are acting in the manner of a Subcontractor are specified in **subparagraph 1.09.F.7**. When a Supplier of services is compensated through invoice cost over $10,000, the firm is acting in the manner of a Subcontractor as specified in **subparagraph 1.09.F.7**, and the markup for the invoiced costs over $10,000 must be as specified in **subparagraph 1.09.F.7**.

6. Force Account Mobilization

a. Force account mobilization is defined as the preparatory Work performed by the Contractor including procurement, loading and transportation of tools and equipment, and personal travel time (when such travel time is a contractual obligation of the Contractor or a customary payment for the Contractor to all employees). Mobilization also includes the costs incurred during demobilization. Pro-rata adjustments may be made when the mobilization applies to both force account and other Contract Work. The Owner will pay for mobilization for off-site preparatory Work for force account items provided that notice has been provided sufficiently in advance, as determined by the Engineer, to allow the Engineer to witness the off-site preparatory Work, if desired.

b. Any costs experienced during mobilization activities for labor, equipment, Materials, Supplies, or services will be listed in those Sections of the force account summary and paid accordingly.

7. Contractor Markup on Subcontractors And Services Acting In The Manner Of A Subcontractor

a. When Work is performed on a force account basis by one or more approved Subcontractors (including lower-tier Subcontractors or Suppliers), or through invoice by service firms acting in the manner of a Subcontractor, the Contractor will be allowed a markup, from 1 of the tables below.

b. The markup in this **subparagraph 1.09.F.7** will only be applied once, regardless of tier level of Subcontractor.

c. The markup rates for the Contractor are calculated based on the accumulative cost, as specified in **subparagraphs 1.09.F.2 to 1.09.F.4**, and **subparagraph 1.09.F.5** if applicable, for the Work done by each Service or each Subcontractor on each force account item established.

d. The Engineer may request detailed breakdown of invoices as needed to verify costs and markups have been applied as specified in the Contract.

e. A service provider or any other firm may be considered to be acting as a Subcontractor when the Engineer observes one or more of the following characteristics:

1) The person in charge of the firm's activities takes an active role in managing the overall project, including extensive coordination, interpretation of Drawings, interaction with the Owner or Engineer, or management of a complex and inter-related operation.

2) Rented equipment is provided, fueled, operated and maintained by the firm. Operators of rented equipment are supervised directly by the firm's representative. There is little interaction between the Contractor and the employees of the firm.

3) The firm appears to be holding the risk of performance and quality of the work.

4) The firm appears to be responsible for liability arising from the work.

5) The firm is performing a significant amount of work for the project, or force account item if applicable; the firm has performed over $10,000 of invoiced work on the project, or force account item.

f. Markups on Work Performed by Subcontractors

Accumulative Costs	Applicable Mark-up
On amounts of $25,000 or less	12 percent
On amounts greater than $25,000 up to $100,000	10 percent
On amounts greater than $100,000	7 percent

g. Markups on Work Performed by Services Acting in the Manner of a Subcontractor

Accumulative Costs	Applicable Mark-up
Up to $10,000	No additional mark up if a mark-up was provided on the first $10,000 of invoices under **subparagraph 1.09.F.5** or If no mark-up was provided under **subparagraph 1.09.F.5**, then 12 percent
On amounts greater than $10,000 up to $25,000	12 percent

On amounts greater than $25,000 up to $100,000	10 percent
On amounts greater than $100,000	7 percent

G. Payment For Mobilization

1. Mobilization consists of preconstruction expenses and the costs of preparatory Work and operations performed by the Contractor that occur at the beginning of a project.

2. For the basis of calculating and paying mobilization as defined in this Section, the Contract Price excludes the mobilization Bid Item, the price of Change Orders, and payments made for Materials on hand. If applicable, taxes will be included in all calculations for mobilization payment.

3. Based on the Bid Item lump sum price for "Mobilization," progress estimates will be made as follows:

   a. When 5 percent of the Contract Price (with exclusions applied) is earned from the original Contract Bid Items, the lower of either 50 percent of the amount Bid for mobilization or 5 percent of the Contract Price (with exclusions applied) will be paid.

   b. When 10 percent of the Contract Price (with exclusions applied) is earned from the original Contract Bid Items, the lower of either 100 percent of the amount Bid for mobilization or 10 percent of the Contract Price (with exclusions applied) will be paid.

   c. Any remaining costs for the mobilization Bid Item will be paid following the project's Physical Completion Date.

H. Payment For Material On Hand

1. Progress estimates, to a maximum of 90 percent of the invoiced cost of Materials excluding taxes, or the Bid Item price, whichever is less, may be made for Materials not yet incorporated into the Work if the Materials:

   a. Meet the requirements of the Contract based upon inspections or testing by the Engineer;

   b. Are delivered to Project Site or are stockpiled at a storage facility not on the Project Site;

   c. Are properly stored and protected; and

   d. Are insured against loss or damage.

2. In addition to the requirements in **subparagraph 1.09.H.1** above, Material delivered to the Project Site or to a storage facility not on the Project Site as permitted in **subparagraph 1.09.H.1.b** above, will be considered for progress estimate only if the following additional conditions are met:

   a. The storage of Materials is required for more than 30 Days;

   b. The Material is segregated from materials for any other project;

   c. The Material is tagged, labeled, or otherwise identified as belonging to the project; and

d. All costs associated with transportation of Material to the Project Site or other provisions acceptable to the Engineer made with regard to eventual delivery to the Project Site, are at the sole expense of the Contractor and must be considered included in the Bid Item price.

3. The Materials on hand payment amount will be determined by quotes or invoices from suppliers that have sufficient detail to determine the actual cost. The Contractor must furnish the Engineer an invoice for the Material marked “paid” within 60 Days of the progress payment by the Owner for that Material on hand. If the paid invoice is not furnished within the prescribed time, and the Material has not been incorporated in the Work, a payment that has been made for that Material will be deducted from the next progress estimate and the Material is not eligible for future payment as Material on hand.

4. The Engineer will not consider requests for payment for individual items or group of items of Material on hand, amounting to an invoice total of less than $2000. Payment for sales taxes due on the purchase of such Material or equipment will not be made unless said taxes were paid by the Contractor to the Materialperson or fabricator for transmittal to the State by the Materialperson or fabricator and such tax is included on the invoice issued by the Materialperson.

5. Payment for Materials will not constitute acceptance. Unacceptable Material will be rejected even though payment may have been made for such Material in a progress estimate.

6. Deductions at the same rates and equal in amount to the payment for Material on hand will be made to future progress estimates as Material is incorporated into the Work and paid at the Bid Item unit price, or for a Bid Item lump sum price, the progress estimates percentage of the Bid Item lump sum price. Deductions, at the same rates and equal in amount to the payment for Material on hand, will also be made for Material on hand which is rejected after a payment was made.

I. Payments

1. Progress Estimates

a. General

1) Payments for completed Work and Material on hand will be based on progress estimates prepared by the Engineer and signed by the Contractor. A progress estimate cutoff date will be established at the preconstruction meeting.

2) Within 3 Days after the progress estimate cutoff date but notmore often than once a month, the Contractor must submit an Application for Payment to the Engineer for review. The Application for Payment, filled out and signed by the Contractor, must cover the Work completed, accepted, and not in dispute for the payment period before the progress estimate cutoff date. Application for Payments that include force account Work must be accompanied by documentation supporting the claim for payment.

3) Payment requested for Materials and equipment on hand must be as specified in **Paragraph 1.09.H**. The initial progress estimate will be made not later than 30 Days after the Contractor commences the Work, and successive progress estimates will be made every month thereafter until the Completion Date. Progress estimates made during progress of the Work are tentative and made only for

the purpose of determining progress payment. The progress estimates are subject to change at any time before the calculation of the final payment.

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

a) Unit Price Bid Items in the Bid Form: The approximate quantity of Bid Item units of Work completed multiplied by the Bid Item unit price.

b) Lump Sum Bid Items in the Bid Form: The estimated percentage of each lump sum Bid Item completed multiplied by the Bid Item lump sum price.

c) Materials on Hand: To a maximum of 90 percent of invoiced cost of Material delivered to the Project Site or other storage area specified in **Paragraph1.09.H**.

d) Change Orders: Entitlement for approved extra cost or completed extra work as determined by the Engineer.

5) Progress payments will be made per the progress estimate less:

a) 5 percent per RCW 60.28.

b) The amount of progress payments previously made.

c) Funds withheld by the Owner for disbursement as specified in the Contract.

6) Progress payments for Work performed is not evidence of acceptable performance or an admission by the Engineer that any Work has been satisfactorily completed.

7) Payments will be made by warrants, issued by the Owner's fiscal officer, against the appropriate fund source for the project.

8) Payments received by the Contractor on account of Work performed by a Subcontractor are subject to RCW39.04.250.

b. Final Progress Payment

1) The Final Contract Price will be calculated based on a final progress estimate made by the Engineer. The final progress payment will not be paid until the Contractor has submitted on the Owner-provided form a complete list of all Subcontractors of all tiers and Suppliers who worked on the project and information including but not limited to Subcontractor name, UBI Number, Intent and Affidavit Numbers, and total amount paid.

2) Acceptance by the Contractor of the final payment is a release to the Owner from the Contractor:

a) Of all claims and all liabilities of the Owner, except claims in stated amounts which have been asserted under the Dispute and Claim Resolution process as specified in **Paragraph 1.02.E**;

b) For all things done or furnished in connection with the Work;

c) For every act and neglect by the Owner; and

d) For all other claims and liability relating to or arising out of the Work.

3) A payment (monthly, final, retainage, or otherwise) does not:

a) Release the Contractor or the Contractor's Surety from any obligation required under the terms of the Contract or the Payment and Performance Bond; or

b) Preclude the Owner from recovering damages, setting penalties, or obtaining such other remedies as may be permitted by law.

2. Retainage Options

a. Pursuant to Chapter 60.28 RCW there will be reserved and retained from monies earned by the Contractor on progress estimates during the progress of the Work, a sum equal to 5 percent of the monies earned by the Contractor. Such retainage will be used as a trust fund for the protection and payment of:

1) Claims by the State with respect to taxes imposed under Titles 50, 51, and 82 RCW that may be due from such Contractor;

2) The claims of any person or persons, mechanic, Subcontractor or Material person who performs any labor under such Contract or the doing of said Work, and all persons who supplies such person or persons or Subcontractors with provisions or supplies for carrying on such Work; and

3) After satisfaction of the foregoing claims, the Owner may withhold from the remaining retained amounts or bond for claims it may have against the Contractor and thereafter must pay or in the case of a bond, release, the balance, if any, to the Contractor under RCW 60.28.021.

b. At the option of the Contractor, monies reserved under provisions of Chapter 60.28 RCW will be:

1) Retained in a non-interest bearing fund by the Owner.

2) Deposited by the Owner in an interest bearing account in a bank, mutual savings bank, or savings and loan association. Interest on moneys reserved by the Owner under a public improvement Contract will be paid to the Contractor.

3) Placed in escrow with a bank or trust company by the Owner. When the monies reserved are to be placed in escrow the Owner will issue a check representing the sum of the monies reserved payable to the bank or trust company and the Contractor jointly. Such check must be converted into bonds and securities chosen by the Contractor and approved by the Owner and the bonds and securities held in escrow. Interest on the bonds and securities may be paid to the Contractor as the interest accrues.

4) Provided for by the Contractor’s submission of a retainage bond (bond in lieu of retained funds). The Owner may accept the retainage bond if it is complete, on aform provided by the Owner, provided by a Surety meeting the requirements of **Section 00 21 13, subparagraph 1.02.C.3**, for the amount equal to 5 percent of the Contract Price, less Washington State sales tax, and meets the provisions of RCW 60.28.

c. The Contractor must select the option desired on the Agreement Form at the time the Contractor executes the Contract with the Owner. If the

Contractor chooses option 2) or 3) on the Agreement Form, the Contractor assumes full responsibility to pay all costs that may accrue from escrow services, brokerage charges or both, and further assumes all risks in connection with the investment of the retained percentages in securities.

d. Retainage will not be reduced for any reason below the minimum limit provided by law.

3. Owner's Right to Withhold and Disburse Certain Amounts

a. The Contractor agrees that in addition to moneys retained per RCW Ch. 60.28, RCW 39.04.250, RCW Ch. 39.12, and RCW Ch. 39.76, the Owner may withhold progress payments to cover the costs to remedy the following situations:

1) Damage to another contractor when there is evidence thereof and a claim has been filed.

2) Where the Contractor has not paid fees or charges to public authorities or municipalities that the Contractor is obligated to pay.

3) Using Material, tested and inspected by the Engineer, for purposes not connected with the Work, see **Paragraph1.03.F**.

4) Landscape damage assessments as specified in **Section 01 76 00.**

5) For over time work performed by City personnel as specified in **subparagraph 1.08.B.5.**

6) Anticipated or actual failure of the Contractor to complete the Work on time:

a) Per **Paragraph 1.08.I** Time Extensions and Delays Entitlement and Compensation; or

b) Lack of construction progress based upon the Engineer's review of the Contractor's approved progress schedule that indicates the Work will not be completed within the Contract Time. When calculating an anticipated time overrun, the Engineer will make allowances for weather delays, approved unavoidable delays, and suspensions of the Work. The amount withheld under this subparagraph will be based on the Liquidated Damages amount per Day set forth in Contract multiplied by the number of Days the Contractor's approved progress schedule, in the opinion of the Engineer, indicates the Contract may exceed the Contract Time.

7) Failure of the Contractor to perform any of the Contractor's other obligations under the Contract, including but not limited to:

a) Failure of the Contractor to promptly pay as specified in **Paragraph 1.09.M.**

b) Failure of the Contractor to provide the Engineer with a field office when specified in the Contract.

c) Failure of the Contractor to protect items such as survey stakes or markers, or to provide adequate survey work as specified in **Section 01 71 23**.

d) Failure of the Contractor to submit approved Washington State Department of Natural Resources permits prior to the destroying or removing of survey monuments, or failure to submit completion reports after destroying or removing survey monuments as specified in Section 1- 07.28, item 17.

e) Failure of the Contractor to correct defective or unauthorized Work as specified in **Paragraph 1.03.H**.

f) Failure of the Contractor to furnish a Manufacture's Certificate of Compliance instead of Material testing and inspection as specified in **Paragraph 1.03.T**.

g) Failure to submit weekly payrolls, Intent to Pay Prevailing Wage forms, or correct underpayment to employees of the Contractor or Subcontractor of any tier as specified in **Section 00 73 43**.

h) Failure of the Contractor to pay worker's benefits (Title 50 and Title 51 RCW) as specified by **Section 00 73 16, Article 1.10.**

i) Failure of the Contractor to submit and obtain approval of, and revise as required, a progress schedule as specified in **Section 01 32 10**.

j) Failure to comply with non-discrimination requirements as specified in **Article 1.05 of this Section**.

k) Failure of the Contractor to comply with the outcome of the resolution of payment disputes. In this instance, the withholding of funds will be consistent with the terms of the dispute resolution process, including any cost of the dispute resolution process as applicable, see **Paragraph1.02.E of this Section.**

l) Failure of the Contractor to timely comply with submittal requirements, including providing the Engineer with updates to the submittal control document, see **Section 01 33 10**.

m) Failure of the Contractor to comply with requirements of the social equity provisions, including but not limited to WMBE Inclusion, Priority Hire, labor standards, or related submittals and deliverables.

b. The Contractor authorizes the Owner to act as agent for the Contractor in disbursing such funds as have been withheld under this Section to a party or parties who are entitled to payment. Disbursement of such funds, if the Owner elects to do so, will be made only after giving the Contractor 15 Calendar Days prior written notice of the Owner's intent to do so, the reason the funds are being withheld or deducted, and stating what action, if any, the Contractor must take to remedy the situation or resolve the dispute. The Owner will withhold or disburse the funds after the expiration of the 15 Calendar Day period so long as:

1) No legal action has commenced to resolve the validity of the claims; and
2) The Contractor has not disputed such disbursement as specified in **Paragraph 1.02.E of this Section 00 72 00**.

c. A proper accounting of all funds disbursed on behalf of the Contractor as specified in this Section will be made. A payment made under this Section is considered as payment made under the terms and conditions of the Contract. The Owner is not liable to the Contractor for such payment made in good faith.

d. If legal action is instituted to determine the validity of the claims before expiration of the 15 Day period mentioned above, the Owner will hold the funds until determination of the action or written settlement agreement of the parties.

4. Contract Completion and Retainage Release

a. Request For Contract Completion Date

1) The Engineer will submit an acceptance package with supporting documents to PC after the Physical Completion Date and after all obligations, including disputes and settlements, of the Contract except retainage release have been completed. In order for PC to declare the project complete, PC requires the following:

a) Documents that all Work is completed:

(1) The State Notice of Completion (NOC) of Public Works Contract form (LNI form F215-038-000) filled out electronically by the administering department with as much information as possible (PC will submit the form);

(2) NTP, Substantial, and Physical Completion Notices with Dates;

(3) All Change Orders;

(4) All calculations of Liquidated Damages;

(5) All claims under **Paragraph 1.02.E** resolved and the Final Contract Price set;

(6) All permit conditions completed;

(7) A Contractor Performance Evaluation is completed for all applicable projects; and

(8) Evidence that all other requirements of the Work are met.

b) The Contractor must furnish all documentation and reports electronically online, or via paper where allowed, as required by the Contract and required by law, necessary to allow the Owner to certify the Contract as complete. These include but are not limited to:

(1) List from the Contractor on the Owner-provided form of all Subcontractors of all tiers and Suppliers who worked on the project and information including but not limited to Subcontractor name, UBI Number, Intent and Affidavit Numbers, and total amount paid;

(2) The Contractor's approved Affidavit of Wages Paid on file with L&I;

(3) Final Subcontractor Payment Report submitted online as specified in **subparagraph 1.05.C.2**;

(4) Audits as specified in **subparagraph 1.02.E.7** Physical Completion;

(5) Material certifications as specified in **Paragraph 1.03.T.** if not provided by Physical Completion

(6) Certified payrolls and prevailing wage statements as specified in **Section 00 73 43**.

(7) All Apprenticeship Utilization Reports as specified in **Paragraph 1.05.F**, if applicable;

(8) If it is a federally-funded Contract; all federal final approvals have been received, an all final federal reports

including training, EEO, and prevailing wage certified payrolls have been submitted; and any other federally required reports, and

(1) Anyother reports or documentation required.

b. Completion Date

1) PC will review the acceptance package and supporting documents to ensure all obligations of the Contract are complete except release of retainage.

2) PCwill then:

a) Set the Completion Date and issue the Certificate of Completion.

b) Send the Notice of Completion of Public Work Contract to the state agencies as required by RCW 60.28.051.

c) Publish a Notice of the Completion and the deadline for filing liens and claims in the City's Official Publication.

d) Notify the Surety andthe Contractor.

3) The Contractor agrees that establishment of the Completion Date does not relieve the Contractor of the responsibility to indemnify, defend, and protect theOwner against any claim of loss resulting from the failure of the Contractor, a Subcontractor of any tier, or any other person who provides labor, Supplies, or provisions for carrying out the Work or for any payments required for unemployment payments under Title 50 RCW or for Industrial Insurance and medical insurance required under Title 51 RCW. The establishment of the Completion Date will not constitute acceptance of unauthorized Work or defective Work or Material.

4) Failure of the Contractor to perform any or all of the Contractor's obligations under the Contract does not bar the Owner from unilaterally certifying the Contract as complete.

c. ReleaseOf Retainage

1) Release of the retainage or retainage bond will be made following the Completion Date under Chapters 39.12 RCW, 39.76 RCW, and 60.28 RCW provided all following conditions are met:

a) On Contracts totaling more than $35,000.00 (excluding tax), a release has been obtained from the Washington State Department of Revenue, the Employment Security Department and the Department of Labor and Industries (RCW 60.28.051).

b) No claims, as provided by law, have been filed against the retainage (RCW 60.28.021).

c) The Owner has no claim against the Contractor forunpaid fees, taxes, or other amounts.

2) For retainage bonds, notification will be provided to the Surety and Contractor of the release of the retainage bond.

3) Retainage will be released no later than 10 Working Days after all legal requirements have been met and retainage has been approved for release.

J. Reserved

K. Reserved

L. Audits

1. General

a. The Contractor's wage, payroll, and cost records on this Contract must be open to inspection or audit by representatives of the Owner during the life of the Contract and for a period of not less than 3 years after the Completion Date. The Contractor must retain these records for that period. If requested, the Contractor must promptly furnish copies of these records to the Owner. The Contractor must also guarantee that the wage, payroll, and cost records of all Subcontractors, regardless of tier, be retained and open to similar inspection or audit for the same period of time.

b. The audit may be performed by employees of the Owner or by an auditor under contract with the Owner. The Contractor and Subcontractors of any tier must provide adequate facilities, acceptable to the Owner, for the audit during normal business hours and must make a good faith effort to cooperate with the auditors.

c. If an audit is to be commenced more than 60 Calendar Days after the Completion Date, the Contractor will be provided 20 Calendar Days Written Notice of the time when the audit is to start. If any litigation, claim, or audit arising out of, in connection with, or related to this Contract is initiated, the wage, payroll, and cost records will be retained until such litigation, claim, or audit involving the records is completed.

2. Claims

a. All claims, and documentation for mediation, filed against the Owner are subject to audit at any time following the filing of the claim or request for mediation as applicable. Failure of the Contractor or a Subcontractor of any tier or their agents, if applicable, to maintain and retain sufficient records to allow the auditors to verify all or a portion of the claim and documentation for mediation when applicable, or to allow the auditor access to books and records, constitutes a waiver of a claim and will bar any recovery thereunder.

3. Required Documents For Audits

a. The Contractor must make available all documents requested by the auditors including, but not limited to, the following documents:

1) Daily time sheets and supervisor's daily reports.
2) Union agreements.
3) Insurance, welfare, and benefits record.
4) Payroll registers.
5) Earnings records.
6) Payroll tax forms.
7) Material invoices and requisitions.
8) Material cost distribution worksheet.
9) Equipment records (e.g. list of company equipment and rates).
10) Vendors, rental agencies, Subcontractors, and agents invoices.
11) Subcontractor agreements and, as specified in **subparagraph 1.08.B.3**, payment certifications including those of second and lower tier Subcontractors when applicable.

1) Cancelled checks (payroll and Vendors).
2) Job cost report.
3) Job payroll ledger.
4) General ledger.
5) Cash disbursements journal.
6) Financial statements for all years that reflect the operations on this Contract. In addition, City auditors may require additional financial statements for 3 years preceding the Execution Date of the Contract, and for 3 years following the Completion Date.
7) Depreciation records on all company equipment whether these records are maintained by the company involved, its accountant, or others.
8) If a source other than depreciation records is used to develop costs for the Contractor's internal purposes in establishing the actual cost of owning and operating equipment, all such other source documents.
9) All documents that relate to each and every claim together with all documents that support the amount of damages as to eachclaim.
10) Worksheets or softwareused to prepare the claim establishing the cost components for items of the claim including but not limited to labor, benefits and insurance; materials, equipment, Subcontractors; all documents which establish the time periods, individuals involved, the hours for the individuals, and the rates for the individuals; and home office overhead.
11) Worksheets, software, and all other documents used by the Contractor to prepare its Bid.

M. Reserved

N. Prompt Payment to Subcontractors and Persons Supplying Labor, Materials and Supplies

1. General

a. This Section requires every Contractor of any tier to pay every Subcontractor who is also a small business, within 30 Calendar Days of satisfactorily completed Work and delivered materials. A Subcontractor who is also a small business is defined as those the Contractor has engaged by agreement to provide labor or Materials for the project, including a person or persons, mechanic, Subcontractor, Supplier or Materialperson, when the Subcontractor is registered as a WMBE firm with the City of Seattle, is a business certified by the King County Small Business Concerns Program, or is certified by theState of Washingtonas a DBE or by the State of Washington as a WMBE firm.

b. Payment is considered made when mailed or personally delivered to the Contractor; an invoice is considered received when date-stamped or marked as delivered. If not date-stamped or marked as delivered, the invoice date is the date recorded by the Contractor.

c. Nothing in this Section negates the right or importance of Subcontractors filing a claim against the bond or retainage and otherwise protecting their legal rights.

2. Progress Payments And Prompt Payment To Subcontractors

a. The Contractor must promptly pay, within 30 Calendar Days, for invoiced Work satisfactorily completed or Materials delivered by a certified small business Subcontractor (defined as above as a Subcontractor who is a WMBE firm who is registered with the City of Seattle, a certified Small Business Concern by King County, or a DBE or a WMBE firm certified by the State of Washington) and no later than 10 Working Days of receipt of a progress payment from the Owner for all other work by Subcontractors which are not certified small businesses.

b. The Contractor of any tier must pay such Subcontractor, less applicable retainage, for all work that the Contractor has found to meet the quality and performance agreed on with the Subcontractor. This includes payment for actual mobilization costs incurred. This also includes work that has been directed to the Subcontractor when the price has been agreed to by the Owner, Contractor, and Subcontractor, whether the Owner has provided payment or executed a Change Order to the Contractor. Amounts withheld are limited to the value of the portion of work that has not been satisfactorily completed, with a documented dispute as specified in **subparagraph 1.09.N.3.** Such withheld amount cannot exceed 150 percent of the disputed amount.

3. Unsatisfactory Performance By Subcontractor

a. If any work or product is unsatisfactory and subject to withholding of payment, the Contractor must provide written notification to the Subcontractor and Owner of corrective actions required by the Subcontractor including a date to be completed. Such written notice must be provided as soon as practicable after work has been performed.

b. After the Subcontractor satisfactorily completes the corrections, the Contractor must pay the Subcontractor within 8 Working Days the remaining amounts withheld, less retainage. Should a Contractor find work unsatisfactory without reasonable cause, fail to provide written notification within a reasonable time, or otherwise fail to comply with the scheduled Days herein, the Contractor may be found to be in breach of the Contract by the Owner, subject to all remedies.

4. Payment of Retainage To Subcontractors

a. The following procedure applies to all subcontracts entered into as apart of this Contract.

1) Requirements

a) The Subcontractor must make a written request to the Contractor for there lease of the Subcontractor'sretainage or retainage bond.

b) Within 10 Working Days of the request, the Contractor must determine if the subcontract has been satisfactorily completed and must notify the Subcontractor, in writing, of the Contractor's determination.

c) If the Contractor determines that the subcontract has been satisfactorily completed, the Subcontractor's retainage or retainage bond must be released by the Contractor within 10 Working Days from the date of the written notice.

d) If the Contractor determines that the Subcontractor has not achieved satisfactory completion of the subcontract, the

Contractor must provide the Subcontractor with written notice, stating specifically why the subcontract work is not satisfactorily completed and what has to be done to achieve completion. The Contractor must release the Subcontractor's retainage or retainage bond within 10 Working Days after the Subcontractor has satisfactorily completed the work identified in the notice.

e) In determining whether satisfactory completion has been achieved, the Contractor may require the Subcontractor to provide documentation such as certifications and releases, showing that all laborers, lower-tiered Subcontractors, Suppliers of material and equipment, and others involved in the Subcontractor's work have been paid in full. The Contractor may also require any documentation from the Subcontractor that is required by the subcontract or by the Contract between the Contractor and Owner or by law such as Affidavits of wages paid, material acceptance certifications and releases from applicable governmental agencies to the extent that they relate to the Subcontractor's work.

f) If the Contractor fails to comply with the requirements of the Specification and the Subcontractor's retainage or retainage bond is wrongfully withheld, the Subcontractor may seek recovery against the Contractor under applicable prompt pay statutes in addition to any other remedies provided for by the subcontract or by law.

2) Conditions

a) This clause does not create a contractual relationship between the Owner and any Subcontractor as stated in **subparagraph 1.08.B.3**. Also, it is not intended to bestow upon any Subcontractor, the status of a third- party beneficiary to the Contract between the Owner and the Contractor.

b) This Section of the Contract does not apply to retainage withheld by the Owner from monies earned by the Contractor. The Owner will continue to process the release of that retainage based on the Completion Date of the project as defined in **Paragraph1.08.F** Time for Completion and per the requirements and procedures set forth in RCW Chapter 60.28.

5. Incorporation of Provisions.

a. The Contractor must include either specifically in each of its subcontracts a provision setting forth the payment and interest penalty clause of **this Paragraph, 1.09.N**, or in each of its subcontracts a provision incorporating by reference all terms of its Contract with the Owner. In addition, the Contractor must require its Subcontractors to include such a payment and interest penalty clause in each of their subcontracts and to require each of their Subcontractors to include such clauses in their subcontracts with each lower tier Subcontractor, either specifically or by reference.

6. Other Subcontract Payment Provisions

a. \Any subcontract agreement, at any tier, with provisions for Subcontractor payment sooner than those specified in this **Paragraph 1.09.N**, or interest payments greater than those specified in this **Paragraph 1.09.N**, takes precedence over the Specifications of this Section.

7. Subcontractor Claims Against Bonds

a. Notification of the Owner is only part of the lien and claim process; All Subcontractors and Suppliers are responsible to take all actions required under law to perfect their claims and liens including taking additional legal steps beyond notification of the Owner.

b. To obtain a copy of a bond or notify the Owner of a lien or claim against the Contractor's Payment and Performance Bond or the Retainage Bond, send the request or notification to the PC Director at the PC mailing address, see **subparagraph 1.01.I.1 of Section 00 21 13**.

1.10 TEMPORARYTRAFFIC CONTROL

A. Specified in Section 01 55 80 – Public Convenience and Safety/Temporary Traffic Control.

PART 2 - PRODUCTS

Not applicable

PART 3 - EXECUTION

Not applicable

End Of Section 00 72 00

PART 1 - GENERAL

1.01 MINIMUM INSURANCE COVERAGE, LIMITS AND OTHER REQUIREMENTS

A. General

1. Insurance must provide the minimum coverages and limits of liability and comply with all other requirements in this Section. Providing evidence of coverage for these stated minimum limits of liability does not relieve the Contractor, any Subcontractor of any tier, or their respective insurers from liability for claims in excess of such stated minimum limits of liability.

2. If Work is subcontracted, applicable minimum coverages and limits of liability may be evidenced by any Subcontractor as specified in **Article 1.06** provided that such insurance fully meets the applicable requirements set forth herein and includes the City of Seattle as an Additional Insured as specified in **Article 1.03**.

1.02 REQUIRED TYPES OF INSURANCE

A. Commercial General Liability (CGL) insurance

1. CGL insurance must include coverage for:

   a. Premises/Operations

   b. Products/Completed Operations

   c. Personal/Advertising Injury

   d. Contractual

   e. Independent Contractors

   f. Stop Gap, unless insured as Employers Liability under Part B. of a Workers Compensation Insurance Policy

   g. Per project aggregate per ISO CG 25 03 (Aggregate Limits of Insurance per project) or Equivalent

   h. Blasting, if explosives are used in the performance of the Work

2. Such insurance must provide a minimum limit of liability of $1 Million each Occurrence Combined Single Limit Bodily Injury and Property Damage (CSL) except $1 Million each Offense Personal/Advertising Injury and $1 Million each Accident/ Disease - Policy Limit/ Disease - each Employee Stop Gap or Employers Liability.

B. Automobile Liability Insurance

1. Automobile Liability for owned, non-owned, hired, and leased vehicles, as applicable, with a minimum limit of liability of $1 million CSL. If pollutants are to be transported, MCS 90 and CA 99 48 endorsements are required on the Automobile Liability insurance policy unless the transportation pollution risk is covered under the Contractor’s Pollution Liability insurance policy.

C. State of Washington Statutory Workers’ Compensation Insurance

1. The Contractor must comply with Workers’ Compensation coverage per Title 51 RCW.

D. Reserved

E. XCU and Subsidence Perils Not Excluded (1-31-2011)

1. The Contractor's CGL insurance must not exclude perils generally known as XCU (Explosion, Collapse and Underground Property Damage), Subsidence, Absolute Earth Movement (except as respects earthquake peril only) or any equivalent peril.

F. **Products and Completed Operations Additional Insured** (1-31-2011)

1. The Contractor's CGL insurance must include the Owner as an additional insured for Products and Completed Operations by providing additional insured status on the ISO CG 20 10 11 85 or CG 20 37 endorsement, or by an equivalent policy or endorsement provision. The Products and Completed Operations additional insured status for the Owner must remain in effect for not less than 3 years following the Physical Completion Date or Final Acceptance of the Work (as applicable) by the Owner.

G. Reserved

H. **Umbrella or Excess Liability Insurance** (4-9-2018)

1. The Contractor must provide minimum Excess or Umbrella Liability coverage limits of $1 Million each occurrence in excess of the primary CGL and Automobile liability insurance limits specified in **Paragraph 1.02.B**. The minimum total limits requirement of $2 Million may also be satisfied with primary CGL insurance limits or any combination of primary and excess/umbrella limits.

I. Reserved

J. Reserved

K. Reserved

L. Reserved

M. Reserved

N. Reserved

O. Reserved

P. Reserved

1.03 GENERAL REQUIREMENTS (DO NOT APPLY TO STATE OF WASHINGTON STATUTORY WORKERS' COMPENSATION INSURANCE)

A. No Work is to begin until documentation of insurance has been delivered to and approved by the Owner. The Contractor must keep required insurance in force at all times during the term of the Contract. The term insurance includes but is not limited to

self-insurance, alternative risk transfer techniques, capital market solutions, or any other form of risk financing.

B. Each insurer must either be authorized to do business in the State of Washington and maintain A.M. Best's ratings of A-: VII or higher, or procured as surplus lines per RCW Chapter 48.15, except as otherwise approved by the Owner.

C. The City of Seattle must be included as an Additional Insured for primary and non-contributory basis with respect to insurance coverages specified in **Paragraph 1.02.A** (CGL insurance), **Paragraph 1.02.B** (Automobile Liability insurance), and if required, **Paragraph 1.02.G** (Contractor's Pollution Liability Insurance). For CGL insurance, Automobile Liability, and Contractor's Pollution Liability Insurance, if required, such additional insured status must:

1. Be evidenced by an ISO endorsement form CG 20 10 or equivalent designated or blanket additional insured endorsement or policy language;
2. Be primary and non-contributory as respects the Owner's insurance; and
3. Contain a separation of insureds provision.

D. ISO endorsement form CG 20 12 or equivalent endorsement or blanket additional insured language limiting additional insured status to governmental permitting does not satisfy the requirements of this paragraph. For Automobile Liability insurance, such additional insured status must be evidenced by ISO endorsement form CA 20 48 or equivalent designated or blanket additional insured endorsement or policy language, must be primary and non-contributory for the Owner's insurance, and must contain a separation of insureds provision.

E. Written notice of cancellation must be delivered or mailed to the Owner not less than 30 Days before the effective date of any cancellation except for cancellation for non-payment of premium, which cannot be less than 10 Days before such date, unless a longer period of written notice is required under RCW 48.18.290 for cancellation by insurer.

F. Notice under this paragraph must be issued to:

Purchasing and Contracting
Department of Finance and Administrative Services
700 Fifth Avenue, Suite 4350
P.O. Box 94687
Seattle, WA 98124-4687

G. If emailed, send as a PDF or XLS format attachment to FAS_PW_ADMIN@Seattle.Gov.

H. Failure on the part of the Contractor to maintain the insurance as required constitutes a material breach of Contract, on which the Owner may, after giving 5 Business Days notice to the Contractor to correct the breach, may 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 Owner on demand, or at the sole discretion of the Owner, offset against funds due the Contractor from the Owner.

I. Any self-insured retention (S.I.R.) in excess of $25,000 that is not fronted by an insurer must be disclosed and is subject to the Owner's approval. Upon request by the Owner, the Contractor must furnish financial information that the Owner may reasonably require to assess the Contractor's risk bearing capacity, and must provide a written statement that the Contractor will defend and indemnify the Owner against any claim within the

Contractor's S.I.R. at least to the same extent that coverage would be afforded to the Owner under the relevant insurance policy meeting the requirements stated herein. The Contractor is responsible for the cost of any payments for defense and indemnity falling within the S.I.R.

J. The Contractor and/or any Subcontractor of any tier must comply with all of a railroad's risk management requirements including purchasing Railroad Protective Liability Insurance before performing construction services work adjacent to or on a railway's Right of Way and/or property.

K. All costs for insurance are incidental to and included in the unit or lump sum Bid Item prices of the Contract and no additional payment will be made.

1.04 SUBCONTRACTOR INSURANCE

A. The Contractor must contractually require that each Subcontractor of every tier maintain at a minimum the insurance coverages specified in **Paragraph 1.02.A** (CGL insurance) and **Paragraph 1.02.B** (Automobile Liability insurance) for a value commensurate with their subcontract value, and include the City of Seattle as an Additional Insured for primary and non-contributory limits of liability.

1.05 NO LIMITATION OF LIABILITY; ADDITIONAL INSURED

A. The limits of liability specified herein are minimum limits only. Such minimum limits of liability requirements are not construed to limit the liability of the Contractor, that of any Subcontractor of any tier or of any of their respective insurers. Any provision in any Contractor or Subcontractor insurance policy that limits available limits of liability to those specified in a written agreement or contract does not apply and all insurance policies, with the exception of Professional Liability and Workers Compensation, must include the City of Seattle as an additional insured for primary and non-contributory limits of liability for the full valid and collectible limits of liability maintained by the Contractor or Subcontractor, whether such limits are primary, excess, contingent or otherwise. This provision applies regardless of whether limits maintained by the Contractor are greater than those required by this Contract, and regardless of whether the certification of insurance provided by a Subcontractor of any tier under **Article 1.04** specifies lower minimum limits than those specified for or maintained by the Contractor.

1.06 EVIDENCE OF INSURANCE (DOES NOT APPLY TO STATE OF WASHINGTON STATUTORY WORKERS' COMPENSATION)

A. The Contractor must provide the Owner documentation of insurance meeting these requirements before the Execution Date is established. The documentation must include the following:

1. An ACORD certificate or equivalent form fully disclosing all coverages and limits of liability maintained.

2. A copy of the additional insured endorsement or blanket additional insured language to the Commercial General Liability, Automobile Liability, and, if required, Pollution Liability insurance documenting that the City of Seattle is an additional insured for primary and non-contributory limits of liability and, if required, Products and Completed Operations Additional Insured; a statement of additional insured status on an ACORD or other form of certificate of insurance will not satisfy this requirement.

3. A copy of each policy's Declarations page with the verifications of the limits of liability and schedule of forms and endorsements.

4. Any other policy language or endorsements that documents compliance with these requirements, including CA 99 48 and MCS 90 endorsements, if required.

5. An All Named Insured Endorsement is required if the Contractor's name on the ACORD certificate, Declaration Page(s), or Schedule of Forms is different from the legal name of the Contractor on the Bid Forms.

B. Should any insurance policy neither be issued nor delivered to the named insured Contractor at the time it delivers the signed Contract for the Work, the Contractor must deliver and maintain on file with the City, binders of insurance evidencing compliance with the requirements. As soon as practicable after delivery of the policy, the Contractor must deliver the insurance certification specified above.

C. At any time upon the Owner's request, the Contractor must forward to the Owner a true and certified copy of any insurance policy.

D. Certification of insurance must be issued to:

Purchasing and Contracting
Department of Finance and Administrative Services
700 Fifth Avenue, Suite 4350
P.O. Box 94687
Seattle, WA 98124-4687

E. If emailed, send as a PDF or XLS format attachment to FAS_PW_Admin@Seattle.Gov.

1.07 RESERVED

1.08 RESERVED

1.09 INDEMNIFICATION

A. The Contractor must defend, indemnify, and hold harmless the Owner and its officials, officers, employees, and agents from every claim, risk, loss, damage, demand, suit, action, judgment, and attorney's fee, and any other kind of expense:

1. On account of injury to or death of any and all persons, or on account of property damage of any kind, whether tangible or intangible, or loss of use resulting there from, arising out of or in any manner connected with the Work performed or to be performed under this Contract; or

2. Caused or occasioned by the presence of the Contractor's materials, equipment, vehicles, or other personal property on or in proximity to the property of the Owner, or an official, officer, employee, or agent of the Contractor, a Subcontractor, or a Supplier on or in proximity to the property of the Owner, at any time before the Completion Date; or

3. Caused or occasioned by the Contractor's violation of any applicable law, regulation, or permit, or by the Contractor's breach of this Contract.

B. If the claim, suit, or action for injuries, death, or damage is caused by or results from the concurrent negligence of the Contractor or its officers, agents, or employees and the Owner or its officials, officers, agents or employees, the indemnity provisions are valid and enforceable only to the extent of the Contractor's negligence.

C. The Contractor also must defend, indemnify, and hold harmless any state, county, city, or district and the officials, officers, and employees of the state, county, city, or district connected with the Work within the limits of which county, city or district the Work is being performed, all in the same manner and to the same extent as provided above for the protection of the Owner and the Owner's officials, officers, employees, and agents, provided that no retention of money due to the Contractor will be paid by the Owner except as provided in RCW 60.28, pending disposition of suits or claims for damages brought against the state, county, city, or district.

D. The Contractor assumes all risk of damage to its property, or injury to its officers, directors, agents, Suppliers, Subcontractors, or invitees, in or about the project from any cause, and waives all claims against the Owner. The Contractor further waives, with respect to the Owner only, its immunity under Title 51 RCW Industrial Insurance, or any other worker's compensation law.

E. The Contractor and the Owner acknowledge that the provisions of this Indemnification section have been negotiated by them, that the Contractor considered these obligations of this Indemnification Section in preparing their Bid, and that the Contract Price reflects this negotiation.

F. Neither the requirement that the Contractor maintain insurance, nor the type or amount of any insurance maintained by the Contractor, are construed as waiving or limiting the Contractor's liability under this Indemnification section.

1.10 WORKER'S BENEFITS

A. The Contractor must make all payments required for unemployment payment under Title 50 RCW and for industrial insurance and medical aid required under Title 51 RCW. If any payment required by Title 50 or Title 51 is not made when due, including payments due from Subcontractors, the Owner may retain such payments from any money due the Contractor and pay the same into the appropriate fund.

B. For Work on or adjacent to water, the Contractor is responsible for ensuring workers are covered under the Longshoremen's and Harbor Worker's Compensation Act administered by the U.S. Department of Labor, or the State Industrial Insurance coverage administered by the Washington State Department of Labor and Industries, or both coverages.

C. The Contractor must include in the Bid, all costs for payment of unemployment payment and for providing either or both of the insurance coverages. The Contractor is not entitled to any additional payment for failure to include such costs, or for determinations made by US DOL or L&I regarding the insurance coverage.

D. The Public Works Contract division of L&I will provide the Contractor with applicable industrial insurance and medical aid classification and premium rates. The L&I Request for Release form also serves the purpose of obtaining a release with respect to the payments of industrial insurance and medical aid premiums.

End of Section 00 73 16

PART 1 - GENERAL

1.01 PREVAILING WAGE RATES

A. General

1. The Work is subject to the wage requirements of RCW 39.12 (Prevailing Wages on Public Works), RCW 49.28 (Hours of Labor), and to RCW 49.46 (Minimum Wage Act) as amended or supplemented. The Contractor, any Subcontractor, and all individuals and firms required to pay prevailing wages under WAC 296-127-010, must pay all laborers, workers, or mechanics no less than the applicable prevailing hourly wage rate and fringe benefits appropriate to the worker's classification. Higher wages and benefits may be paid at the option of the employer.

2. The Contractor is responsible for assigning the appropriate classification to all laborers, workers, or mechanics that perform any Work under this Contract, under the scope of work descriptions established by the L&I Industrial Statistician. Laborers, workers, and mechanics must be paid in full at least once each week and in lawful money of the United States. If the Contractor assigns the wrong prevailing wage classification, the Contractor is responsible for and must pay the amount of the corrected prevailing wage. The difference is not subject to an equitable adjustment or Change Order.

3. The Contractor must ensure that all Subcontractors, and all other individuals and firms as applicable, comply with all prevailing wage requirements including payroll reporting requirements and payment of prevailing wages. The Contractor is responsible for any violations of prevailing wage requirements by Subcontractors, individuals, or firms, and The Owner will take enforcement action against the Contractor to remedy any violations and achieve compliance with prevailing wage requirements

B. Applicability OF Federal Prevailing Wage Rates

1. On projects funded in whole or part from federal monies, federal wage laws and rules also apply. If the Work is subject to both the provisions of the State (RCW 39.12) and federal (Davis Bacon and Related Acts, DBRA) prevailing wage requirements, the Contractor and every Subcontractor must pay the higher prevailing wage rate for the classification.

C. Wage Rates

1. Any listing of wages and fringe benefits in the Project Manual for any classification is intended only as a guideline for the Contractor and does not necessarily reflect the most recent classification or prevailing wage rate. Prevailing wage rates will be determined by L&I and published on the first Business Day of February and the first Business Day of August of each year. All prevailing wage rates become effective 30 Days after they are published. Current prevailing wage information may be obtained online:

   Washington State Department of Labor and Industries
   https://Lni.wa.gov/licensing-permits/public-works-projects/prevailing-wage-rates

2. For projects funded in whole or part with federal monies, current federal prevailing wage information may be obtained upon request from the:

   U.S. Department of Labor

https://www.dol.gov/whd/govcontracts/dbra.htm

3. By including wage and fringe benefit rates in the Project Manual, the Owner does not imply that the Contractor will find labor available at those rates. The Contractor must calculate any amount above the minimums that have to be paid.

4. If the Contractor employs labor in a classification not covered by WAC 296-127, the Contractor must request the Industrial Statistician at L&I determine the correct prevailing wage rate for that classification and locality. If the project is federally funded, the Contractor must request the Secretary of the U.S. Department of Labor (US DOL) determine a federal prevailing wage rate for that classification and locality in addition to requesting the State prevailing wage rates. In such case, the Director of L&I's, and if applicable the Secretary of US DOL's, decision regarding the rates is final, conclusive, and binding on all parties. If the state and federal wage rates differ, the Contractor must pay the higher wage rate.

D. Overtime

1. General

a. Pursuant to the provisions of RCW 49.28 and WAC 296-127-022, Work performed on public works contracts will not require the payment of overtime rates for the first 2 hours worked in excess of 8 hours per Day when the employer and employee voluntarily enter into a written agreement wherein the employee will work up to 10 hours per Day in a 4-Day week to accomplish 40 hours of work. Working more than 10 hours on any Calendar Day on a public works project is prohibited except in cases of extraordinary emergency, such as danger to life or property. The Contractor must refer to the Benefits Code Key attached to the Prevailing Wage Schedule for specific overtime rates. Overtime rates must be paid for all hours worked more than 40 hours per week. This Section provides a minimum public works overtime standard and does not supersede prevailing overtime wage rates established under RCW 39.12.

2. Written Overtime Agreement

a. Recognizing that there may be Days when a full 10 hours of work is not available, the remainder of the forty hours may be made up on another work Day or Days within the same work week. However, work performed on Saturdays, Sundays, and Holidays is subject to the established prevailing overtime provisions for a given trade or occupation, as provided in RCW 39.12.

b. For the purpose of this **Paragraph 1.01.D**, an agreement must:

1) Have been authorized by employees who bargained collectively with their employers through representatives of their own choosing; or

2) Be obtained in writing, signed, and dated by both parties;

3) Be entered into individually with each employee;

4) Be entered into separately for each public works project, except that an employer, at its option, may obtain an annual authorization;

5) State the name of the public works project with specificity; and

6) Be entered into voluntarily by the employer and employee.

c. Each employer must retain copies of individual employee authorization agreements for 3 years from the Completion Date of the Work. Absence of an authorization record for an employee will be deemed per se evidence of lack of that employee's authorization. Such records are payroll records, subject to the requirements of WAC 296-127-320.

d. For any overtime work performed on a federally funded project per the agreements referenced above, the Contractor, Subcontractor, and all other individuals or firms required to pay prevailing wages must submit a copy of such authorization agreement for each affected employee to PC, either in person or by mail.

1) Physical address
Seattle Municipal Tower
700 Fifth Avenue
Suite 4350
Seattle, WA 98104-5008

2) Mailing address
City of Seattle
FAS-Purchasing and Contracting
P.O. Box 94687
Seattle, WA 98124-4687

1.02 PAYROLL REPORTS

A. Payroll reports for the Contractor, every Subcontractor, and all other individuals or firms required to pay prevailing wages for Work performed must be submitted weekly via an online reporting portal: http://prod-cdn.lcptracker.net. The Contractor is responsible for approving electronically the payrolls submitted by all Subcontractors. Payroll reports must contain the following information:

1. Name and residence address of each worker
2. Classification of work performed by each worker. The classification must be specific and match the classification categories listed in the applicable wage schedule
3. Total number of hours employed each Day
4. Total number of hours employed during the payroll period.
5. Straight time and overtime hourly rate of wages paid to each worker
6. Total or gross amount earned by each worker.
7. Deductions for medical insurance, FICA, federal withholding tax, and any other deductions taken.
8. Net amount paid each worker
9. Contractor's or Subcontractor's name and address
10. All Days during the pay period
11. Date of final Day of pay period
12. Whether fringe benefits were paid to each worker as part of the hourly wage rate or whether fringe benefits were paid into an approved plan, fund, or program; and the hourly rate of fringe benefits paid, if any.

B. For federally-funded projects, payroll reports may be submitted on federal payroll form WH 347 or equivalent, which may be obtained by accessing their website: https://www.dol.gov/agencies/whd/government-contracts/construction/payroll-

certification reverse side of the form contains an Affidavit that must be filled out and signed. If the Contractor's payroll reports are computerized, the computerized reports may be submitted along with a Statement of Compliance Affidavit form, which may be photocopied from the sample in the Project Manual.

C. The first payroll submitted for the Work for both the Contractor and each Subcontractor must be labeled Initial. The last payroll submitted for the Work for both the Contractor and each Subcontractor must be labeled Final. If no work is performed for the week, the Contractor must submit a certified payroll noting that no work has been performed.

1.03 ENFORCEMENT

A. The Contractor, every Subcontractor, and all other individuals or firms required to pay prevailing wages for Work performed on this Contract are subject to investigation by PC and L&I in regard to payment of the required prevailing wage to workers, laborers, and mechanics employed on the project.

B. If the investigations result in a finding that an individual or firm has violated the requirement to pay the prevailing rate of wage, the unpaid wages will constitute a lien against the Contractor's Bond and retainage. The Owner may also withhold payments to the Contractor specified in **Section 00 72 00, subparagraph 1.09.I.3**. Per RCW 39.12.065 and 39.12.050, the Contractor or Subcontractor may also be subject to civil penalties and may be prohibited from bidding on any public works contract within the State of Washington for the period specified by law. The Owner may consider such violations in preparing performance evaluations specified in **Section 00 72 00, subparagraph 1.03.M.2**, in determining whether a Contractor or Subcontractor is a responsible Bidder specified in **Section 00 21 13, Paragraph 1.01.B**, and under debarment proceedings per SMC 20.70.

1.04 POSTING NOTICES

A. The Contractor must post in a location acceptable to L&I and in compliance with the requirements of RCW 39.12.020:

1. One copy of the approved Statement of Intent to Pay Prevailing Wages for the Contractor, each Subcontractor regardless of tier, and any other individual or firm required to pay prevailing wages per WAC 296-127-010.
2. A copy of the prevailing wage rates for the project.
3. The address and telephone number of the L&I Industrial Statistician along with notice that complaints or questions about wage rates may be directed there.

1.05 PREVAILING WAGES FOR APPRENTICES

A. An apprentice is defined as a laborer, worker, or mechanic employed to perform the Work for whom an apprentice agreement is established through a Training Program that is registered and approved by the Washington State Apprenticeship and Training Council (WSATC). Per RCW 39.12.021 and RCW 49.04, apprentices must be paid the applicable prevailing hourly rate for an apprentice of that trade. If the Contractor or Subcontractor of any tier makes use of an apprentice on work also governed by federal wage rates and regulations, the Contractor must present to the Owner written evidence of registration of such employees in a program approved by the WSATC. On any project that is federally funded and where submission of payroll reports is required, such evidence must be submitted with the first payroll on which the name of the employee appears.

1.06 PREVAILING WAGE DISPUTES

A. Prevailing wage disputes are not subject to the dispute resolution process specified in **Section 00 72 00, Paragraph 1.02.E.** For purposes of prevailing wage disputes the following applies:

1. If there is a dispute regarding prevailing wages, PC and the Contractor must attempt to resolve the dispute and to receive corrected prevailing wage documents such as amended certified payrolls and other supporting documents as requested. If the Contractor does not make good faith efforts to resolve the dispute within 30 Calendar Days of receiving notification, PC may conduct its own investigation or refer the dispute at any time thereafter to L&I and/ or US DOL as applicable. If PC determines that it will conduct an investigation, PC will provide written notice of the investigation to the Contractor and after its investigation is complete, PC will furnish its written determination to the Contractor including the identification of any or all enforcement actions specified in **Article 1.03 of this Section**. The Contractor may appeal this determination in writing to the Director of PC. The Director will provide a written response to the Contractor regarding the appeal. Nothing in this process precludes other interested parties from filing complaints or disputes with L&I or US DOL or taking other legal action.

2. In the event that after exhausting the foregoing process, the Contractor disagrees with the Owner's final determination of a prevailing wage dispute involving a state prevailing wage rate, the matter will be referred to the Director of L&I. In such cases, the Director's decision is final, conclusive, and binding on all parties. If the dispute involves a federal prevailing wage rate, the matter will be referred to the Secretary of U.S. DOL for a decision. In such case, the Secretary's decision is final, conclusive, and binding on all parties.

B. When the Work is subject to both State and federal prevailing wage requirements, the Contractor and every Subcontractor must pay whichever rate is higher.

1.07 REQUIRED DOCUMENTS

A. Before payment is made by the Owner of any sums due under this Contract, the Contractor and each Subcontractor regardless of tier must have a Statement of Intent to Pay Prevailing Wages (form F700 029 000), approved by L&I. Wage rates listed on an approved Statement of Intent to Pay Prevailing Wages may not comply with federal prevailing wage requirements.

B. Each progress estimate submitted for payment must include an Owner-provided form listing all Subcontractors and Suppliers, who performed Work on the project during that pay period, including but not limited to, Subcontractor Name, UBI Number, Intent Number and Affidavit Number as applicable, along with a statement completed and signed by an authorized representative of the Contractor certifying the prevailing wages have been paid per RCW 39.12.040.

C. Upon Physical Completion and before final progress payment and funds retained under RCW Chapter 60.28 can be released to the Contractor, the Contractor and each Subcontractor regardless of tier must have an Affidavit of Wages Paid (form L700 007 000) approved by L&I. See **Section 00 72 00, Paragraph 1.09.I**.

D. The Contractor or Subcontractor, as applicable, is responsible for payment of fees for each Statement of Intent to Pay Prevailing Wages and Affidavit of Wages Paid and must submit all forms directly to L&I for approval. The cost of these fees is included in the Bid Item prices that comprise this Contract. Intent and Affidavit forms may be obtained from L&I at the following website:

https://lni.wa.gov/licensing-permits/public-works-projects/prevailing-wage-policies

E. To facilitate the State of Washington review of all Statements of Intent to Pay Prevailing Wages and Affidavits of Prevailing Wages paid, the Contractor and all subcontractors and suppliers must use the following information (verbatim) when completing the forms online.

Awarding Agency: Seattle, City of

Awarding Agency Address: 700 Fifth Avenue Seattle, WA 98104

Awarding Agency Contact: Fred Gu

Awarding Agency Contact Phone Number:206-666-7795

Contract Number: PW#2019-094

Project Name: West Seattle Junction Landbank Park

Project Site Address or Directions: 4731 40TH Ave SW

1.08 AUDITS

A. Payroll, wage, and cost records must be retained, and may be audited or inspected, as specified in **Section 00 72 00, Paragraph 1.09.L**.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

End of Section 00 73 43

This Section contains the

Contractor Performance Evaluation Form

City of Seattle

CONTRACTOR PERFORMANCE EVALUATION

CONTRACTOR			CONTRACTOR REPRESENTATIVE:	
PROJECT NAME			PW CONTRACT NO.:	
COS DEPARTMENT PROJECT MANAGER:		COMPLIANCE REPRESENTATIVE:	LABOR EQUITY REPRESENTATIVE:	
CONTRACT AWARD SUM:	FINAL CONTRACT SUM:	CWA (Yes or No):	REVIEW TYPE (Mid or Final):	REVIEW DATE:
PROJECT DESCRIPTION:				

CATEGORY #1 - CONSTRUCTION WORK

SCORING CRITERIA: Deficient: 0-59, Subject to Improvement: 60-69, Standard: 70-79, Good: 80-89, Superior: 90-100

	Construction Work Criteria	Relative Weight (Percent)	Score (0-100)	Points
1	All work has been done as specified in the Contract Specifications and Plans (including workmanship)	9.5%	0	0
2	The Contractor is continuously represented by a duly authorized representative at the project site during progress of the Work.	3.5%	0	0
3	Contractor's supervision is on-site and knowledgeable on contract specifications and plans. Keeps Owner up to date	4.3%	0	0
4	RFI's have been submitted using provided format within the specifications and submitted with appropriate information.	2.8%	0	0
5	Submittals have been prepared and submitted per the project manual	3.0%	0	0
6	Contractor keeps at the project site for review by the Engineer shop drawings and other drawings accurately detailing deviations from original drawings per the project manual.	5.8%	0	0
7	Critical Path (CPM) Schedule and Look Ahead Schedule has been prepared, submitted, and updated per the project manual.	6.8%	0	0
8	Contractor has effectively coordinated work between subcontractors and suppliers.	7.5%	0	0
9	Equipment and machinery are adequate for the purposes used, kept in good working condition, and operated by competent operators per the project manual.	5.2%	0	0
10	Relations and coordination with the general public, other agencies and adjacent contractors per the project manual.	7.7%	0	0
11	Contractor maintains Safety Standards and Responsibilities to the Public per the project manual.	8.7%	0	0
12	Project site kept clean	6.2%	0	0
13	Compliance with environmental laws, ordinances, & regulations	8.2%	0	0
14	Payments submitted accurate and on time with supporting documentation	7.0%	0	0
15	Contract Change Orders have been submitted on time, on approved forms, and with appropriate documentation	8.8%	0	0

City of Seattle

16	Diligence in completing final (punch list) work within scheduled timeframe (Mid-point Review will result in a score of 100)	5.0%	0	0

NOTE: All scoring criteria receiving a "Deficient" score (0-59) will require an explanation justifying the rating in the Comment Box.

COMMENTS:

CATEGORY #1: CONSTRUCTION WORK - CATEGORY SCORE	**100%**		**0**

CATEGORY #2 - CONTRACT COMPLIANCE

SCORING CRITERIA: Deficient: 0-59, Subject to Improvement: 60-69, Standard: 70-79, Good: 80-89, Superior: 90-100

	Compliance Criteria	Relative Weight (Percent)	Score (0-100)	Points
17	All on-line reports are accurate and up to date each month (LCPtracker and B2Gnow	20.0%	0	0
18	Eligible subcontractors are receiving prompt payments (30 days after invoice).	20.0%	0	0
19	Contractor is on-track for achieving their goals (WMBE goal /Apprentice Utilization goal/DBE goal). Contractor makes good faith efforts to achieve	20.0%	0	0
20	Prevailing Wage Compliance. Contractor complies with prevailing wage law and resolves issues in a timely manner.	20.0%	0	0
21	Worksite is free from harassment, bullying or hazing conduct, and meets the Acceptable Work Site standards.	20.0%	0	0

NOTE: All scoring criteria receiving a "Deficient" score (0-59) will require an explanation justifying the rating in the Comment Box.

COMMENTS:

CATERGORY #2: CONTRACT COMPLIANCE- CATEGORY SCORE	**100%**		**0**

CATERGORY #3 - LABOR EQUITY (For Projects with a Community Workforce Agreement (CWA))

SCORING CRITERIA: Deficient: 0-59, Subject to Improvement: 60-69, Standard: 70-79, Good: 80-89, Superior: 90-100

	Labor Equity Criteria	Relative Weight (Percent)	Score (0-100)	Points
22	Contractor has submitted a feasible Social Equity Plan for Priority Hire projections and Apprenticeship utilization. Projections were feasible at the start of construction and were updated if/when requested.	10%	0	0
23	Contractor exceeds, meets or provides evidence of good faith efforts towards the project workforce requirements for Priority Hire Apprentices, Priority Hire Journey-Level workers, and Preferred Entry Apprentices.	60%	0	0
24	Contractor has demonstrated compliance with articles II, III, IV, VI, VII, X of the CWA	10%	0	0
25	Contractor and all subcontractors submit pre-job paperwork at least two weeks prior to beginning work and attend pre-job conferences	10%	0	0
26	Contractor attends the Joint Administrative Committee (JAC) and discusses project progress and workforce performance.	10%	0	0

NOTE: All scoring criteria receiving a "Deficient" score (0-59) will require an explanation justifying the rating in the Comment Box.

COMMENTS:

City of Seattle

CATERGORY #3: LABOR EQUITY - CATEGORY SCORE	100%		0

OVERALL PERFORMANCE EVALUATION

SCORING CRITERIA: Deficient: 0-59, Subject to Improvement: 60-69, Standard: 70-79, Good: 80-89, Superior: 90-100

CATERGORY #1: CONSTRUCTION WORK - Point Allocation	50%	0
CATERGORY #2: CONRACT COMPLIANCE - Point Allocation	50% w/out CWA, 25% w/CWA	0
CATERGORY #3: LABOR EQUITY - Point Allocation	0% w/out CWA, 25% w/CWA	0
OVERALL PEFORMANCE EVALUATION SCORE		0

CONTRACTOR COMMENT/CONTRACTOR FEEDBACK:

Note: A Contractor may contest any final score or comment by submitting a protest in writing. Protests must submitted to the FAS-Purchasing and Contracting Director within five (5) business days after receiving the Final Contractor Perfromance Evaluation. Submit Final Contractor Peformance Evaluation scoring protests to FAS-Purchasing and Contracting at:

By mail:

P.O. Box 94669
Seattle, WA
98124-4669

By email:

FAS_PW_Admin@Seattle.gov

Capital Department - Project Manager Date

FAS - Contract Compliance Signature Date

FAS - Purchasing and Contracting Date

FAS - Labor Equity Signature Date

Contractor Representative Signature Date

FAS - PC Div. Director/Dep Div. Director Date

DIVISION 01

General Requirements

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. This Section covers the Scope of Work describing the construction activities that must take place at the Project Site as specified in the Contract Documents.

1.02 RELATED SECTIONS – RELATED SECTIONS INCLUDE BUT ARE NOT LIMITED TO:

A. Section 01 22 10 – Measurement and Payment
B. Section 01 23 00 – Base Bid and Optional Bid Items
C. Section 01 35 29 – Health & Safety
D. Section 01 74 19 – Construction Waste Material and Disposal
E. Section 01 76 00 – Protection of Existing Facilities
F. Section 01 78 39 – Record Documents

1.03 SCOPE OF WORK

A. The Contract Work is summarized below. The summary descriptions may not include specific reference to all incidental work elements required to complete the Contract. Include all labor, Materials, equipment, and incidentals required for completion of the Work as shown on the Drawings and specified in the Project Manual.
B. Installation and maintenance of temporary erosion and sedimentation controls.
C. The following scope elements are part of the Base Contract:

1. General Conditions, Site Preparation and Security
2. Construction Stormwater Control
3. Selective Demolition
4. Site Furnishings
5. Concrete Paving
6. Engineered Wood Fiber Safety Surfacing
7. Soil Preparation
8. Hydroseeding
9. Landscape Planting
10. Metal Fabrications
11. Metal Handrails & Guardrails
12. Electrical and lighting
13. Plumbing including irrigation
14. Miscellaneous Carpentry

D. Grading and Street Use permits will be obtained by the Engineer.

Any additional permits and/or permissions that may be required for the Work must be provided by the Contractor. The Contractor must comply with all applicable requirements and regulations.

E. The following Work elements are Optional Bid Items that may be incorporated in the Contract. These are more fully described in Section 01 23 00 and further detailed elsewhere in the Drawings and Specifications.

1. Additive #1: Pebble Seating and Boardwalk system

F. The following Work elements are Unit-Priced Bid Items – NONE

G. Procore is a construction document control application available for use by the Contractor at no cost via the Seattle Parks and Recreation (SPR) Procore account. Documents processed in Procore will include, but not be limited to, the following items:

1. Submittals
2. Schedule of Values
3. RFI's
4. Pay Estimate Requests
5. Change Events
6. Closeout Documentation

Procore offers adoption training for Contractors and SPR can provide limited support upon request to the Engineer. Procore is available for use on desktop computer, laptop, tablet and smart phone.

1.04 CONTRACT

A. There is one Contract for the Project, which includes the Work described in or implied by the Project Manual, Drawings, any Addenda issued prior to Bid Opening, and all approved Change Orders to the Contract.

B. The Contractor must provide all items, articles, Materials, operations or methods listed, noted or scheduled in the Drawings and/or Project Manual, including all labor, equipment and incidentals necessary and required for proper and timely completion of the Work. The Contractor must use new Materials unless specifically noted or directed.

C. Required Work not specifically described in the Project Manual and/or Drawings must be performed in accordance with the current City of Seattle Standard Specifications and Plans or City, County, State or National reference standards.

1.05 USE OF DOCUMENTS

A. Technical Specifications are enumerated in the Table of Contents of the Project Manual. The numbering of Sections is for identification only and may not be consecutive. The Contractor must cross check the Project Manual contents against the Table of Contents to verify that they are consistent with each other. The

Contractor must notify the Engineer of any inconsistencies and request clarification if needed.

1.06 COPIES FURNISHED

A. Upon request, the Owner will provide one copy of the Contract Documents without charge. The Contractor may download additional copies of the Contract Documents from https://seattle.procureware.com/home and print at the Contractor's discretion and cost if/as needed.

1.07 WORK UNDER OTHER CONTRACT AFFECTING WORK (Reserved)

1.08 FUTURE WORK AFFECTING CONTRACT (Reserved)

1.09 WORK SEQUENCE AND SCHEDULE CONSTRAINTS (Reserved)

1.10 ORDERING LONG LEAD EQUIPMENT/MATERIAL ITEMS

A. The Contractor must schedule and prioritize the ordering and delivery of Material as required to ensure that the Work will be completed within the Contract Time.

1.11 ENGINEER FURNISHED WORK, MATERIALS AND OR EQUIPMENT (RESERVED)

1.12 RECORD OF EXISTING IMPROVEMENTS

A. The Contractor must provide to the Engineer, a digital recording that thoroughly documents the existing conditions of the entire Project Site and immediate vicinity, specifically including, but not limited to, all perimeter edge conditions; driveways, sidewalks, and roads adjacent to the site; all landscape elements and features; utility structures; and structures and surfaces on the site not designated for removal or repair. The Contractor must have a responsible representative perform the recording or hire a digital recording production consultant that specializes in this function. The Contractor must notify the Engineer at least two Working Days in advance of the scheduled time and date of the recording. The Engineer may choose to be present for the recording and may request supplemental or additional recording of site elements without additional cost to the Owner. One copy of the completed digital record must be submitted to the Engineer prior to beginning work. One copy of the digital record must be kept on file with the Contractor.

B. The Contractor must utilize digital media for the record, as approved by the Engineer. Either voice-over moderated digital video or digital still photos with captions are acceptable format options. Digital formats requiring proprietary software will not be accepted. Digital media must be submitted to the Engineer on a DVD or USB flash drive, visibly labeled to identify the Contract Number, Project Name, and date of recording.

C. During the course of inspection and electronic documentation, the Contractor must specifically identify existing improvements/features to remain that, in the opinion of

the Contractor, exhibit damage prior to physical Work beginning. The recording must clearly show such pre-existing damage. If the Contractor anticipates additional damage may occur as a result of Contract Work, the Contractor must inform the Engineer in advance of performing any Work that would result in additional damage to the item. The Engineer will decide whether such an item must be protected, repaired, or may be removed under the Contract.

D. Unless previously documented per Paragraph 1.12.C above, damage to existing improvements/features to remain that occurs as a result of the execution of the Contract must be repaired or replaced by the Contractor at no additional expense to the Owner. Repair or replacement must be in accordance with the SPR Design Standards and/or the City of Seattle Standard Plans and Specifications (most recent edition), regardless of the condition of the improvement prior to the Contract.

1.13 CONTRACTOR PERSONNEL (Reserved)

1.14 CONTRACTOR'S USE OF PREMISES

A. Hours of Work

Unless specifically allowed by the Contract, the Contractor must limit site work to between the hours of 7:00 AM and 6:00 PM, Monday through Friday, and must not work on City Holidays. The Contractor must plan and schedule Work activities to conform to and allow time for notifications, approvals, reviews and other conditions of the Contract. In facilities that are occupied during Work, the Contractor must notify the Project Manager and facility users of Work activities that may inhibit access or impact regular facility use. Any other times of Work are subject to advance written approval by the Engineer. Such permission may be requested by submitting a completed Off-Hours Work Authorization form, which follows at the end of this Section and is available electronically in Procore or the Contractor Forms Workbook (available upon request).

B. Keys

1. The Contractor must provide locks and secure the construction site at their own expense.

C. Access

1. The Contractor and their Subcontractors will be allowed on site only during the established working periods. The Contractor must use only the designated location for site access.
2. The Contractor must also address and accommodate issues such as SPR normal maintenance activities, service truck routes, special events, and other adjacent work that may be taking place.

D. Parking

1. The Contractor may use available street parking or facility parking if allowed per the Contract Drawings.
2. Keep all fire lanes clear and store no Materials in facility parking areas unless specifically identified for such use on the Contract Drawings.

E. Staging

1. The Contractor must prepare a staging Plan to show locations of Materials, trailers, and fencing layouts. The staging Plan is subject to approval by the Engineer, and the approved Plan must be followed by the Contractor. Any deviation from the approved Plan must be approved by the Engineer.

F. Existing Facilities

1. Refer to Section 01 76 00 – Protection of Existing Facilities.

G. Contractor's additional responsibilities while using the premises include:

1. Maintaining pedestrian and vehicular access to and around existing facilities.
2. Not unreasonably encumbering site with Materials or equipment.
3. Assuming full responsibility for protection and safekeeping of products stored on the premises.
4. Obtaining and paying for use of additional storage or work areas needed for operation.
5. Patching any existing paving on adjacent properties that gets damaged as a result of Work activities.
6. Keeping roads and other areas clean of dirt and other debris.
7. In an occupied facility, coordinating with facility users to minimize Work impacts to users.
8. Special Events, if any, fully cooperate with owner

1.15 STORAGE AND PROTECTION

A. Store products in accordance with manufacturer's instruction, with seals and labels intact and legible.

1. Store products subject to damage by the elements in weather-tight enclosures.
2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.
3. Storage of hazardous materials and wastes must be in accordance with local, State and Federal fire codes and regulations.
4. Comply with requirements on Safety Data Sheets (SDS).

B. Exterior Storage

1. Store fabricated products above ground. Position on blocking or skids; prevent soiling or staining. Protect products subject to deterioration with impervious sheet coverings. Provide adequate ventilation to avoid condensation.
2. Store loose granular materials in well-drained areas on solid surfaces. Prevent mixing with foreign matter.

C. Do not store Materials for other projects on Project Site unless specifically approved by the Engineer.

D. Waste Material Disposal: Refer to Section 01 74 19 – Construction Waste Material and Disposal.

1.16 SALVAGED MATERIALS

A. Salvage only those items that are noted in the Contract Documents or designated by the Engineer. The Engineer retains first right of refusal to all salvaged materials, equipment, and or products identified or not identified in the Contract Documents that are affected as part of the Contract Work.

1.17 DISPOSAL OF DEBRIS

A. All disposal of debris resulting from the Contract Work, unless specifically allocated to another scope of Work, is the responsibility of the Contractor. This includes scheduling and coordinating the use of trash collection services, containers, trucks, etc., and payment of all related costs and fees. The Contractor is responsible for awareness of, understanding of, and compliance with all local, state and federal regulations regarding the disposal of any hazardous and non-hazardous wastes.

1.18 SAFETY AND ENVIRONMENTAL CONCERNS

A. SDS for all chemicals, including paints, used in the performance of the Contractor's duties must be identified in advance to the Engineer, posted on a specified bulletin board at least 10 working days before first using the Material, and utilized in compliance with SDS recommendations and requirements.

B. Every chemical used must be considered from the perspective of its possible effect on our living collection, staff, and visitor. All possible protective devices, safeguards, shields, containment, and disposal methods must be initiated and continued throughout the period of Contract Occupancy to protect the living collection, staff, and visitors.

C. The Contractor must provide barricades, safety guards, temporary fencing, signage and/or other methods to secure trenches, open excavations, and other unsafe conditions resulting from this construction. In occupied facilities with children, the Contractor must provide additional barriers and signage to the Work and storage areas. Contractor must comply with all applicable safety regulations.

1.19 WORK QUALITY STANDARDS (Reserved).

PART 2 - PRODUCTS (Not Used).

PART 3 - EXECUTION (Not Used).

END OF SECTION 01 11 00

Off-Hours Work Authorization form follows:

Project No. _____

OFF-HOURS WORK AUTHORIZATION

Submit completed form to request approval for working non-normal working hours as defined by the Contract, such as legal holidays, weekends, before or after specified working hours, etc. Such work may not be performed without advance approval.

Project Name	PW Contract No.
Contractor Name	Contractor Phone

The above-named Contractor hereby requests permission to perform work on the above-named project during a contract holiday, weekend, or other non-normal working hours as described below:

Date(s)	Time(s)

	Name (Printed)	Signature	Date
Contractor's Representative			
Project Manager's Recommendation			

Pursuant to the above request to work on the above listed day(s), permission is hereby given and work shall be done in accordance with Section 1-07.5(4) and 1-08.1(4) of the City Standard Specifications.

This includes reference that the Contractor shall conduct the work consistent with the applicable noise control levels set forth in Seattle Municipal Code Chapter 25.08, or if outside the City limits and in King County, King County Ordinance No. 3139.

	Name (Printed)	Signature	Date
Construction Manager's Approval	Chris Mueller		

cc:
PM, Project Manager, Seattle Parks and Recreation
District Crew Chief, Seattle Parks and Recreation
Project File

SAMPLE

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes administrative and procedural requirements for Measurement and Payment, including unit priced items.

B. Related Sections: Related requirements may be found in, but not limited to, the following Sections:

Section 01 11 00 – Summary of Work
Section 01 26 00 – Modification Procedures and Change Orders
Section 01 45 00 – Quality Control
Section 31 00 00 – Earthwork for Site Work

1.02 DEFINITIONS

A. **As-Bid Unit Prices:** These are amounts proposed by Bidders, and included on the Bid Form, as prices per unit of measurement for Materials or services added to, or deducted from, the Contract based on an estimated quantity provided by the Owner on the Bid Form.

1. Unit Pricing may pertain to a base Bid Item(s), Optional Bid Item(s), and/or potential Change Orders to the awarded Contract, as prescribed by the Contract Documents.
2. Any unit pricing provided for potential Change Order item(s) will not be included in the Awarded Contract Price, but must be utilized for related Change Orders that may be issued after Contract Award. Unit-priced Change Order items are subject to the variation in quantity limitations described in Paragraph 1.03.E below.

B. **Proposed Unit Prices**: During the course of Work, the Engineer may request the Contractor to propose unit pricing for an unanticipated item(s) of repetitive Work that may be difficult to quantify in advance of execution. If accepted by the Engineer, the Proposed Unit Price will be utilized for Change Orders involving that element of additional Work.

1. At the time of the first Change Order involving the Proposed Unit Price item, the Engineer will establish a base quantity for the item. The amount of the Modification Proposal for the item will be the product of the Proposed (and accepted) Unit Price and the base quantity established by the Engineer.
2. Subsequent Change Orders involving the Proposed (and accepted) Unit Price item will continue to utilize the Proposed (and accepted) Unit Price, subject to the variation in quantity limitations described in Paragraph 1.03.E below.

1.03 PROCEDURES

A. **Bid Evaluation and Contract Award**

1. Bid Evaluation: The low responsive Bid is based on the sum of all applicable lump sum amounts (wherein the Owner's estimated quantity equals one, by definition) plus the extended (product of bid amount times quantity) for each applicable unit-priced item, as detailed below:

a. Lump Sum Base Bid amount(s);
b. Lump Sum Bid Trench Safety System;
c. Unit Priced Item(s) in Base Bid Item;
d. Each Optional Lump Sum Bid Item included in the Contract Award;
e. Each Optional unit-priced Bid item included in the Contract Award;

2. Contract Award: The Awarded Contract Price is based on all items included in Subsection 1.03, A.1 above except for items f and g, plus applicable taxes.

B. **Measurement and Payment**

1. For lump sum bid item payment procedures, refer to Section 01 29 73.
2. Refer to individual Specification Sections for Work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
3. Unit priced items must be separately identified and reimbursed in the Schedule of Value and Pay Estimate forms, in accordance with Section 01 29 73 and applicable Contract requirements.

C. Unit Pricing must incorporate all costs necessary for Materials, equipment, tools, labor, delivery, disposal, installation, insurance, overhead, profit, and taxes, as applicable.

D. The Engineer reserves the right to reject the Contractor's measurement of work-in-place that involves use of established unit prices, and to have this Work measured, at the Engineer's expense, by an independent surveyor acceptable to the Contractor.

E. Variations in Quantity

1. The Unit Price of any unit-price item may be renegotiated upon request by either the Contractor or the Engineer in the event of either of the following scenarios:

a. The actual quantity exceeds 125% of the estimated or base quantity determined by the Owner or Engineer at the time the Unit Price was accepted.

b. The actual quantity is less than 75% of the estimated or base quantity determined by the Owner or Engineer at the time the Unit Price was accepted.

c. If the Unit Price is renegotiated based on either of the above scenarios, the renegotiated Unit Price shall apply to the entire quantity for that item. If partial payment has been made, the price differential must be accounted for as part of the Reconciliation process described in Paragraph 1.03.F below.

2. If an estimated or base quantity for any Unit-Priced item equals zero, does not exist, or was not provided by the Owner or Engineer, then the associated Unit Pricing is null and void. In such case, Unit Pricing must be renegotiated with a non-zero quantity provided by the Engineer, or that body of Work negotiated as a Modification Proposal on a lump sum basis.

F. **Reconciliation of Unit-Priced Work Upon Completion**: The Owner will only pay for unit-priced Work based on the product of the actual quantity of Work done and the final-negotiated Unit Price for that Work. Prior to issuing final payment on the Contract, a final Change Order must be issued to adjust the Contract Price upward or downward to account for any discrepancies in quantity or negotiations in unit-pricing that may have occurred during the life of the Contract.

G. **Unit Price Schedule**: Paragraph 3.01 below provides a description of the unit-priced items included in the Bid Form. Specification Sections referenced in the Schedule contain requirements pertaining to each unit-priced item.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 UNIT PRICE SCHEDULE

A. Unit Price No. 1 - <Material or item, e.g., Imported Structural Fill>:

1. Description: <e.g., Structural fill import, placement, and compaction according to Division 31 Section 31 00 00 – Earthwork.> Indicate whether the item is a Base Bid item, an Optional Bid item, or a Change Order item.
2. Unit of Measurement: <e.g., Cubic yards (CY) of structural fill measured in place.>

B. Unit Price No. 2 - <Material or item, e.g., Unsuitable Soil>:

1. Description: <e.g., Unsuitable soil material according to Division 31 Section 31 00 00 – Earthwork, and as determined by the Engineer. Includes excavation, loading, hauling, and disposal on site.> Indicate whether the item is a Base Bid item, an Optional Bid item, or a Change Order item.

2. Unit of Measurement: <e.g., Cubic Yards (CY) of soil measured in place.>

END OF SECTION 01 22 00

PART 1 - GENERAL

1.01 DESCRIPTION

A. It is the intent of the Owner to award a Contract for Base Bid construction of the project as shown on the Drawings and specified herein. Based on budgetary considerations, however, the optional Bid Items listed in this Section will be considered by the Owner for incorporation in the Contract.

1. Optional Bid Items may be designated as Additive, Alternate, or Deductive items.
2. Each Optional Bid Item will be assigned a different identifying number by the Owner.
3. Optional Bid Items are identified by their numbers in the relevant Drawings and Specification Sections. All information contained on the Drawings and other Contract Documents must be considered part of the Base Bid unless specifically identified as an Optional Bid Item.
4. The Owner has sole discretion to include or exclude Optional Bid Items from the Contract.
5. The numbers assigned to Optional Bid Items are for identification purposes, and not intended to convey priority nor order of preference. For purposes of Bid Award, the Owner may select Optional Bid Items in any order the Owner desires, at the Owner's sole discretion.
6. The Bid price of each Optional Bid Item chosen by the Owner for inclusion in the Contract Award will be added to (or deducted from, if deductive) the Base Bid price in determination of the low responsive Bidder.

1.02 RELATED SECTIONS

A. Section 01 11 00 - Summary of Work
B. Section 05 52 00 – Metal Handrails & Guardrails
C. Section 11 68 13 – Play Area Equipment

1.03 BASE BID

A. The Work to be accomplished by this Contract is that Work described in the Drawings and Specifications (including all Addenda) with the exception of Optional Bid Items, as clearly delineated by the Contract Documents.

1.04 OPTIONAL BID ITEMS

A. Additive #1: Pebble seating, and Boardwalks with concrete pranks and theirs associated gateway design, structural support, railing and electrical lighting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

A. All general conditions and Technical Specification references that apply to the rest of the project also apply to the Work in this Section.

END OF SECTION 01 23 00

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Contractor must furnish and install all products specified herein. Substitutions will be considered only after the Execution of Contract. The Engineer will review the substitution request as stated in this Section. Samples of the required forms for submitting substitution requests are attached to the end of this Section. These forms are available electronically in Procore or in the Contractor Forms Workbook (available by request). Substitution requests will be managed in Procore by the Owner and designer of record.

1.02 RELATED SECTIONS

A. Coordinate related requirements specified in other parts of the Project Manual.

1.03 PRODUCTS

A. Where specified only by reference standards and/or performance criteria, select any product meeting the standards and/or criteria, by any Manufacturer.
B. Where specified by naming one or more products, whether or not indicating "or approved equal" after specified listing, the Contractor may submit any request for another product substitution on a form provided by the Engineer.
C. Occasionally, certain products or items will not be considered for substitution or may be designated as sole source items. In such case, these items will be clearly indicated as "sole source" and/or "no substitution" within the applicable Specification subsection. Otherwise, the Contractor may request substitution as described elsewhere in this Section.

1.04 SUBSTITUTIONS

A. Within 14 days after the Execution of Contract, submit written Substitution Requests (on forms provided) to the Engineer. Submit two copies of the Substitution Request forms for each product substitution being proposed.
B. Each Substitution Request must be accompanied by the following two forms:

1. RAMS – Request for Approval of Material Sources and Substitutions
2. SISR – Supplemental Information for Substitution Request.

C. Indicate one or more of the following reasons for request:

1. Substitution is required for compliance with final Code interpretation requirements or insurance regulations.

2. Specified product is unavailable through no fault of Contractor/Subcontractor.
3. Subsequent information discloses specified product unable to perform properly.
4. Manufacturer or fabricator refuses to certify or guarantee performance of specified product, as required.
5. Substitution saves substantial cost, time or other considerations. Show accurate cost data on proposed substitution in comparison with product or method specified or backup documentation from the Manufacturer pertaining to delivery times.

D. In making a request for Substitution, the Contractor represents:

1. Contractor has personally investigated proposed product, and in their opinion, it is equal or superior in all respects to that specified.
2. Contractor must coordinate installation of accepted substitution and guarantees to complete it in all respects. Contractor has outlined any changes required in accordance with form.
3. Contractor must provide an equal or greater guarantee for Substitution as for specified product.
4. Contractor waives all claims for additional costs related to Substitution, which consequently become apparent.
5. Cost data is complete and includes all related costs under this Contract.
6. Contractor must identify any related costs that the Substitution may incur with respect to other contracts or future operations/maintenance costs (describe impact on Item 3 of Supplemental Information for Substitution Request Form).

E. Substitutions will not be considered if:

1. They are indicated or implied on Shop Drawings or other project data submittals, without proper notice shown on Substitution Request form.
2. Approval will require substantial revisions of Contract Documents.

F. Approval Process:

1. Upon receipt of a Substitution Request form, the Engineer will determine within 10 working days if the request is acceptable. The Engineer will approve or disapprove the request at his/her sole discretion.
2. If the Substitution Request form is approved by the Engineer and does not involve a cost increase or credit, change in the contact time, or material change to the Project Drawings and or manual, the approved application will serve as documentation of the change. If any of the Work under the Contract changes due to the approved substitution, the Engineer will describe the change via a no-cost Modification Proposal and incorporate the Modification

Proposal in a subsequent Change Order, as appropriate to officially document the change.

PART 2 - PRODUCTS *Not Used*.

PART 3 - EXECUTION *Not Used*.

END OF SECTION 01 11 00

The following sample forms are available in Procore or in the Contractor Forms Workbook (available by request):

- RAMS (Request for Approval of Material Sources and Substitutions)
- SISR (Supplemental Information for Substitution Request)

REQUEST FOR APPROVAL OF MATERIAL SOURCES AND SUBSTITUTIONS

PROJECT NAME		PW CONTRACT NO.
CONTRACTOR	PROJECT NO.	DATE

MATERIAL SOURCES

Bid Item #	Description of Material	Sources of Supply		Approval Action *
		Local Supplier	Manufacturer or Pit #	

Each substitution listed below must be accompanied by a "Supplemental Information for Substitution Request" form

Bid Item #	Specified Material or Component		Proposed Substitution		Approval Action *
	Manufacturer	Part No. or Make	Manufacturer	Part No. or Make	

SUBMITTED BY	SIGNATURE & DATE

1. Source Approved
1A. Source Approved: Acceptance based upon 'Satisfactory' test report for samples of materials incorporated into project
2. Source Approved: Submit manufacturer certificate of compliance for 'Approval' prior to use of material
3. Source Approved: Submit millcerts prior to use of material
4. Source Approved: Submit catalog cuts and/or shop drawings for 'Approval' prior to use or fabrication of material
5. Source Approved: Only stamped 'SPR Inspected' material shall be used
6. Source Approved: Request supplier to provide SPR Pipe Acceptance Report (PAR) with pipe upon delivery
7. Source Approved: Submit mix design for 'Approval' prior to incorporation of material into project
8. Approval Withheld: Submit samples for preliminary evaluation
9. Approval Withheld: Submit brand name, name of manufacturer, treating plant, or WSDOT Pit number
10. Approval Withheld: Submit catalog cuts and/or shop drawings for approval
11. Approval Withheld: Submit bid item number
12. Approval Withheld (see explanation below)
13. Conditionally Approved (see explanation below)
14. Rejected (see explanation belo

NOTE: Forms not filled in completely will not be processed. Append supplemental information (catalog cut sheets, shop drawings, etc.) as appropriate. Use multiple forms if more space needed.

Seattle Parks and Recreation Department Use Only

REVIEWED BY (DESIGNER NAME)	SIGNATURE & DATE
EXPLANATION(S) FOR ANY ITEM CODED WITH 12, 13, OR 14	
APPROVED BY Parks Senior Civil Engineer	SIGNATURE & DATE

SAMPLE

SUPPLEMENTAL INFORMATION FOR SUBSTITUTION REQUEST

DATE	PW CONTRACT NO.	PROJECT NAME		
CONTRACTOR		**CONTACT NAME**	**E-MAIL ADDRESS**	**PHONE NUMBER**

SPECIFIED COMPONENT/ITEM/MATERIAL

SPEC. SECTION	PARAGRAPH	DESCRIPTION

DESCRIPTION OF PROPOSED SUBSTITUTION

ATTACH AND SUBMIT:

- ☐ Complete dimensional information and technical data, including laboratory tests if applicable.
- ☐ Complete information on changes to drawings and specifications which the proposed substitution will require for its proper installation.
- ☐ All necessary samples and substantiating data to prove equal quality and performance to that which is specified. Clearly mark manufacturer's literature to indicate equality in performance. Indicate differences in quality of materials and construction.

RESPOND TO THE FOLLOWING:

1	Does the substitution affect dimensions shown on the Drawings, including details? *If yes, clearly describe changes (attach drawings as necessary to show all changes).*	○ YES	◉ NO
2	Will the Contractor pay for changes to the building design (including engineering and detailing costs) caused by the requested substitution?	○ YES	◉ NO NEED
3	Does this proposal have potential to impact other trades, other contracts, and/or the Contract completion date? *If yes, describe below.*	○ YES	◉ NO
4	Are there any implications with regard to permit or code requirements associated with this substitution? *If yes, describe below.*	○ YES	◉ NO
5	In the space below, describe the differences between the proposed substitution and specified item.		
6	Does the manufacturer's guarantee(s) for the proposed substitution differ from the guarantee(s) for specified items? *If yes, describe any differences below.*	○ YES	◉ NO

CERTIFICATION OF EQUAL PERFORMANCE
AND ASSUMPTION OF LIABILITY FOR PERFORMANCE SHORTCOMINGS

This Certification must be signed by a person having authority to legally bind his/her firm to the above terms. Failure to provide legally-binding signature will result in approval retraction.

NAME & TITLE (PRINTED)	SIGNATURE	DATE
FIRM NAME	**E-MAIL ADDRESS**	**TELEPHONE**

CONCURRENCE BY		APPROVAL BY	
CONSULTANT SIGNATURE	DATE	PARK ENGINEER SIGNATURE	DATE

PART 1 - GENERAL

1.01 SUMMARY OF MODIFICATION PROPOSAL PROCEDURES

A. Changes to the Work may be required due to field conditions, requests made by the Engineer, clarifications to the Bid documents, or other needs that result in a change in the cost of the Work and/or change in the number of Contract days per Section 00 72 00 – General Conditions, paragraph 1.02.D. The changes to the Work will be tracked individually as Modification Proposals. Modification Proposals may either be prepared as a Field Directive or as a request for pricing prior to proceeding with the Work.

B. Change Orders will be issued monthly or as needed for one or more Modification Proposals that have been approved for inclusion in the Contract since Contract Execution or the prior Change Order, as applicable. Payment for changed Work will not be made until the Change Order is finalized and signed by the Director of the Seattle Parks and Recreation (SPR) Planning and Capital Development Branch.

C. The Modification Proposal must clearly describe the change and identify all labor, Material, equipment, subcontracted and incidental costs associated with the change, including Subcontractor and Supplier invoices/quotes, and Contractor's timecards. A reference from the latest approved schedule must be attached justifying any time extension request. Mark-ups accounting for all overhead, profit, bond cost, B&O taxes, and insurance must be applied in accordance with the Engineer-approved Mark-Up Agreement Form (see Section 1.01.E below). The Modification Proposal form (see sample form included at the end of this Section) will be used for directing the Work to be done in one of the two manners described below.

D. The Contractor and Subcontractors (where required), must provide a Project Labor List, identifying the hourly labor rates of the various trades supporting the Work, including a breakdown of basic wage rates, fringe benefits, FICA, FUTA, SUCA and other add-ons, per Section 00 72 00 – General Conditions, paragraph 1.09.F.2. Where premium time is involved, the Contractor must separately identify the premium labor rates broken down at the same level of detail.

E. Supplemental to Section 00 72 00 – General Conditions, paragraph 1.09.D, mark-ups for overhead and profit on Modification Proposals must be in accordance with the mark-up rates as follows. Mark-up rates include general company overhead, taxes, bonding, project overhead and profit.

General Contractor's Labor	18.00%
Materials, Equipment (owned or rented without operator), and Small Tools	10.00%
Invoiced Services ≤ $10,000	10.00%
Tipping & Material Disposal Fees, Equipment Rentals (with Operator), Subcontractors (any amount), and Invoiced Services > $10,000	
Cumulative Invoiced Cost ≤ $25,000	10.00%
$25,000 < Cumulative Invoiced Cost ≤ $100,000	5.00%
Cumulative Invoiced Cost > $100,000	2.00%

1.02 FIELD DIRECTIVE MODIFICATION PROPOSALS

A. Changed conditions and/or unanticipated circumstances may require immediate revisions to Work which are essential and from which a delay would result in a time and/or cost penalty to the project. When such a condition exists, the Engineer's Construction Manager may issue a written Field Directive to the Contractor on a form to be provided by the Engineer. The Field Directive will be identified with a Modification Proposal number.

B. The Engineer's Construction Manager will provide direction for the Contractor identifying the necessary changes to be made.

C. When Field Directive Work is being done as a lump sum agreement, the Contractor must provide pricing per Section 00 72 00 – General Conditions, paragraph 1.09.C.2, as needed to substantiate the lump sum amount, within 15 days of the completion of the Work, utilizing the Modification Proposal Worksheet (sample at the end of this Section) provided by the Engineer.

D. When Field Directive Work is being done under Force Account pricing, a daily record of labor, Materials, equipment use, subcontracted work, Material disposal costs, and any other costs must be kept. The Contractor must use the Daily Force Account Worksheet (sample at the end of this Section) provided by the Engineer for this purpose and must submit the completed form to the Engineer no later than the next Working Day. Applicable mark-ups for Force Account Work must be in accordance with Section 00 72 00 – General Conditions, paragraph 1.09.F.

1.03 LUMP SUM MODIFICATION PROPOSALS

A. The Engineer may request priced proposals which either add or delete Work prior to proceeding with any changes.

B. When requested, the Contractor must provide pricing per 1.01.C of this Section, utilizing the Modification Proposal Worksheet (sample at the end of this Section)

provided by the Engineer, for review and approval by the Engineer, prior to proceeding with the Work.

C. Once the Modification Proposal has been approved and signed by the Engineer, a commitment has been made that a subsequent Change Order will be issued covering the changes to Contract Work, time, and price, as described in the approved Modification Proposal. The Contractor may commence Work related to the Modification Proposal at this point. If the Contractor proceeds with Work described by a Modification Proposal that has not been approved, such Work will be construed as unauthorized per Section 00 72 00 – General Conditions, paragraph 1.03.G.

1.04 CHANGE ORDERS

A. Change Orders to the Work including all approved Modification Proposals that have accumulated since Contract Execution or the prior Change Order will be issued monthly or as needed. The total amount of price adds and deducts along with the change in the number of days approved in each individual Modification Proposal will be added to or deducted from the Contract Price and time. The Change Order will incorporate and be appended with the approved Modification Proposal forms (including all required back up Materials), as itemized on the Change Order form. Once approved by the Owner, a lump sum price and time adjustment will be made to the Contract, corresponding to the approved Change Order form.

B. Any Change Order that causes the resultant Contract price (including tax) to exceed 125% of the Contract Bond will require the Consent of Surety per instructions to Bidders, Section 00 21 13 – Instructions to Bidders, paragraph 1.02.C.3 (Payment and Performance Bond).

C. The payment for Work performed under the Change Order cannot be made until the change order has been signed by the Director of the Planning and Capital Development Branch.

D. If an individual change order exceeds 10% of the original Contract amount and is over $50,000, a special review may be required by the Engineer. In such cases, the Engineer will notify the Contractor as to the special circumstance of the change.

PART 2 - PRODUCTS *Not Used*

PART 3 - EXECUTION *Not Used*

END OF SECTION 01 26 00

Attachment: Modification Proposal Worksheet

Project No. _____

MARK-UP AGREEMENT FORM

Project Name	PW Contract No.
Contractor Name	Contractor Phone

The undersigned individuals hereby agree that the mark-up rates established below shall be used as applicable for purposes of determining the mark-up amounts for any and all change orders negotiated in accordance with Section 00 72 00 paragraph 1.02.D of the Contract. These mark-ups are not applicable to Force Account work, which is separately defined under Section 00 72 00 paragraph 1.09.F.

MARK-UP DESCRIPTION	Proposed Mark-Up (%)
General Contractor's Labor	
Materials, Equipment (owned or rented without operator), and Small Tools	
Invoiced Services ≤ $10,000	
Tipping & Material Disposal Fees, Equipment Rentals (with Operator), Subcontractors (any amount), and Invoiced Services >$10,000	
Cumulative Invoiced Cost ≤ $25,000	
$25,000 < Cumulative Invoiced Cost ≤ $100,000	
Cumulative Invoiced Cost > $100,000	

APPROVAL SIGNATURES			
Contractor's Representative	Name (Printed)	Signature	Date
Project Manager's Recommendation	Name (Printed)	Signature	Date
Construction Manager's Approval	Name (Printed) Chris Mueller	Signature	Date
Engineer's Approval	Name (Printed) Scott Stevens	Signature	Date

cc:
PM, Project Manager, Seattle Parks and Recreation
Construction Manager, Seattle Parks and Recreation
Project File

SAMPLE

Project No. _____
PW Contract No. _____

MODIFICATION PROPOSAL

Contractor	Modification Proposal No	Date

Project Name	Designer Firm or Name (as applicable)

Attached is the Contractor's Proposal for performing the following work:

Brief Summary of Work (~15 words or less)

Description of Work

Attachments

Cost or (Deduct)	Time Extension (Working Days)
$ -	

The payments and/or additional time specified and agreed to in this modification proposal include every claim by the Contractor for any extra payment, extended overhead, or extension of time with respect to the work described herein, including delays to the overall project. The work covered by this modification proposal shall be performed under the same terms and conditions as specified in the original Contract.

Submitted by:

Authorized Contractor Signature	Date

APPROVAL OF PROPOSAL

The following Owner's representatives have reviewed this proposal and agree that the proposed cost and time extension are fair and reasonable.

	Name (Printed)	Signature	Date
Design Consultant			
Project Manager			
Construction Manager	Chris Mueller		

FIELD DIRECTIVE

The Contractor shall proceed with the work immediately if signed below as a field directive.

	Name (Printed)	Signature	Date
Construction Manager	Chris Mueller		
NOT TO EXCEED PRICE:			

5/21/2019 File 4e

SAMPLE

CITY OF SEATTLE, DEPARTMENT OF PARKS & RECREATION

MODIFICATION PROPOSAL WORKSHEET

Project Name	Activity (WC) No.	PW Contract No.
Contractor	Modification Proposal No.	Date

Description of Modification

General Contractor's Labor Description	Hours	Hrly Rate	Subtotal	Cost
			$ -	
			$ -	
			$ -	
			$ -	
			$ -	
			$ -	
Subtotal, General Contractor's Labor				$ -

Material, Equipment & Small Tools	Quantity	Unit	Unit Cost	Subtotal	Cost
				$ -	
				$ -	
				$ -	
				$ -	
				$ -	
				$ -	
Subtotal, Materials, Equipment, & Small Tools					$ -

INVOICED SERVICES OF $10,000 OR LESS

Service Provider	Service Description	Amount	Cost
Subtotal, Invoiced Services of $10,000 or Less			$ -

SUBCONTRACTORS, TIPPING & MATERIAL DISPOSAL FEES, & EQUIPMENT RENTALS W/OPERATOR OF ANY AMOUNT, & INVOICED SERVICES >$10,000

Subcontractor/Company Name	Work or Service Description	Amount	Approved Mark-Up
Subtotal, Subcontractors, Tipping Fees, Etc.			$ -
TOTAL DIRECT COSTS			$ -

MARK-UP DESCRIPTION	APPROVED MARK-UP	Mark-Up Cost
General Contractor's Labor		$ -
Materials, Equipment, & Small Tools		$ -
Invoiced Services ≤ $10,000		$ -
Subcontractors, Tipping & Material Disposal Fees, & Equipment Rentals W/Operator Of Any Amount, & Invoiced Services >$10,000	Varies	$ -
Invoiced Cost ≤ $25,000		
$25,000 < Invoiced Cost ≤ $100,000		
Invoiced Cost > $100,000		
Subtotal, Engineer-Approved Contractor Mark-Ups		$ -
TOTAL COST OF MODIFICATION		**$ -**

SAMPLE

DAILY FORCE ACCOUNT WORKSHEET

DATE	PW CONTRACT NO.	PROJECT TITLE	MP NO.

CONTRACTOR	SUBCONTRACTOR NAME (if applicable)	PROJECT NO.

DESCRIPTION OF WORK

:

LABOR		Regular Work		Overtime Work			
Employee Name	Job Classification	Hours	Rate	Hours	Multiplier/Rate	Markup	Amount
					$ -	27%	$ -
					$ -	27%	$ -
					$ -	27%	$ -
					$ -	27%	$ -
					$ -	27%	$ -
					$ -	27%	$ -
					$ -	27%	$ -
						$	-

MATERIALS							
Description	Supplier	Invoice #	Quantity	Unit Cost	Base Cost	Markup	Amount
					$ -	17%	$ -
					$ -	17%	$ -
					$ -	17%	$ -
					$ -	17%	$ -
					$ -	17%	$ -
					$ -	17%	$ -
						$	-

CONTRACTOR-OWNED EQUIPMENT		Operating Time		Standby Time			
Equipment Desc.	Model No.	Hours	BB Rate	Hours	BB Rate	Markup	Amount
						17%	$ -
						17%	$ -
						17%	$ -
						17%	$ -
						$	-

SMALL TOOLS (PAID BY LUMP SUM PER AGC/WSDOT EQUIPMENT RENTAL AGREEMENT)					
Vendor	Equipment Description	Invoice #	Negotiated Amt.	Markup	Amount
				17%	$ -
				17%	$ -
				17%	$ -
				$	-

RENTED EQUIPMENT (RENTED WITHOUT OPERATOR ONLY)					
Rental Agency	Equipment Description	Invoice #	Invoiced Amt	Markup	Amount
				17%	$ -
				17%	$ -
				17%	$ -
				$	-

INVOICED SERVICES COSTING $10,000 OR LESS					
Providing Company	Description of Service	Invoice #	Invoiced Amt	Markup	Amount
				17%	$ -
				17%	$ -
				17%	$ -
				$	-

SUBCONTRACTS, TIPPING FEES, INVOICED SERVICES >$10,000, & EQUIPMENT RENTED WITH OPERATOR					
Providing Company	Description	Invoice #	Invoiced Amt	Markup	Amount
				12%	$ -
				12%	$ -
				12%	$ -
				$	-

TOTAL AMOUNT FOR SATURDAY, JANUARY 0, 1900	$ -

SUBMITTED BY:

Contractor's Representative

REVIEWED AND APPROVED BY:

Parks Construction Manager

cc: Parks Project Manager, Parks Inspector, Designer, Contractor

SAMPLE

PART 1 - GENERAL

1.01 SCHEDULE OF VALUES

The Contractor must submit, via Procore, a Schedule of Values for review and approval by the Engineer prior to the pre-construction meeting. The Schedule of Values shall be completed in Procore. The Contractor will be responsible for using Procore upon Contract execution. The forms are provided in Procore and are available by request from the PM. The purpose of the Schedule of Values is to break down lump sum bid amounts into discrete items of Work for purposes of determining the amount due for progress payments, hereafter called Pay Estimates. The Contractor must submit the proposed Schedule of Values for the Engineer's approval. The Contractor may use their own discretion in defining the line items within the Schedule of Values, subject to the following requirements:

A. Identify each line item with the Specification Section number that most closely aligns with the scope covered by the line item. It is acceptable for multiple line items to be associated with the same Specification Section.
B. Mobilization must include all activities and associated costs for transportation of Contractor's personnel, equipment, and operating supplies to the site; establishment of offices, buildings, traffic control measures, and other necessary general facilities for the Contractor's operations at the site; construction fencing; premiums paid for performance and payment bonds including coinsurance and reinsurance agreements as applicable; and other administrative items. The Schedule of Values must include at minimum one single line item for mobilization costs. Additional line items related to mobilization may be utilized; however, total mobilization costs must not exceed 10% of the Awarded Contract Price unless specifically approved by the Engineer.
C. Demobilization must consist of all activities and costs for cleanup and removal from the site all personnel, equipment, and Materials/supplies not required or included in the Work; including site cleanup and the disassembly, removal, and cleanup of offices, buildings, and other facilities assembled on the site specifically for this Contract. It does not include the provision of record/As-built documentation. There must be at least one line item for demobilization included in the Schedule of Values. The value of demobilization must be at minimum 1% of the Awarded Contract Price.
D. Identify a separate line item for the production and safe keeping of the Operations and Maintenance Manuals, Warranties and Bonds Manual, As-built Drawings, annotated Project Manual, and all other Record Documents.

Project Contract Value	**Percentage Minimum for Record Documents**
Less than $1 million	5%
Greater than $1 million but less than $3 million	4%
Greater than $3 million	3%

E. If hazardous waste or abatement disposal is included in the Work of the Contract, a separate line item is required to represent one third of the cost of disposal fees which is withheld until all paperwork is submitted to the Engineer. See Specification Section 02 41 13 – Selective Site Demolition, Section 1.05.A.

F. Include in each line item a directly proportionate amount of Contractor's overhead and profit.

G. For items on which progress payments will be requested for stored Materials, break down the cost of Materials, delivered and unloaded, including taxes and all applicable fees, and indicate the quantity.

H. Round off figures to the nearest whole dollar amount, if possible.

I. RESERVED.

J. If the Awarded Contract Price includes any Optional Bid Items, each such Optional Bid Item must be represented separately from the Base Bid items on the Schedule of Values. The Schedule of Values must include at minimum one single line item for each Optional Bid Item awarded. Additional line items related to a specific Optional Bid Item may be utilized; however, the additional line items must be described as pertaining to the correct Optional Bid Item, and they must add up to the total amount bid for the Optional Bid Item.

K. Verify that the sum of all items in the Schedule of Values equals the Awarded Contract Price.

1.02 APPLICATION FOR PAYMENT (PAY ESTIMATES)

A. Format and Data Required: Submit applications for payment using Seattle Parks and Recreation (SPR) Monthly Pay Estimate Forms with itemized data as established on the Schedule of Values and Change Order information listed at the Modification Proposal level of detail. Procedures and terms will be presented and reviewed at the Pre-construction Conference. An example of the required form is included at the end of this Section. The preferred method of preparing and transmitting the form is through Procore. Procore access will be provided electronically to the Contractor by the Engineer upon Contract Execution, and the Engineer will provide instruction on its use and troubleshooting support, as needed, upon request. A version of the form is also available in the Contractor's Forms Workbook (available upon request).

B. For each progress payment cycle, the Engineer, Consultant, and Contractor must agree on the percentage of Work completed on each line item. This will be the basis for the total amount payable identified on the Pay Estimate.

C. Preparation of progress payment applications (Pay Estimates):

1. Complete all required information including:
    a. Provide information based upon the approved Schedule of Values.
    b. Change Orders approved prior to Application submittal date, with line item pricing broken down to correspond with individual Modification Proposals included in the Change Order.
    c. Signature of responsible officer of Contractor.

2. Complete the following package of documents:
   a. Monthly Pay Application Cover Page.
   b. Signed - Public Works Prevailing Wage Certification & Subcontractor List statement (this certification is combined with Item C.2.a above).
   c. Signed - Contract Monthly Pay Estimate.
   d. Summary of Waste Generated by Project form, which must be completed in accordance with Section 01 74 19 – Construction Waste Material and Disposal, paragraph 1.06.E. (this form will be included in Procore and/or the Contractor Forms Workbook if applicable).

Examples of all these forms are provided at the end of this Section. These forms are also available electronically in Procore or in the Contractor Forms Workbook (available by request).

3. Submit the Pay Estimate package (all 4 forms described in Item C.2 above) to the Consultant, who will review and take one of the following actions:
   a. Approve requests for payment by signing the Pay Estimate and forwarding it to the Engineer for his/her review, approval, and processing; or
   b. Reject the package by returning it to the Contractor with requested changes.

D. Substantiating Data for Progress Payments:

1. When the Engineer or Consultant requires substantiating data, the Contractor must submit suitable information with cover letter including:
   a. Project Name.
   b. Application number and date.
   c. Detailed list of enclosures.
   d. For stored products: Identify item as shown on application; describe specific Material; provide invoice from Supplier.

1.03 *UNIT PRICES*

A. Format and Data Required: The Schedule of Values must identify each unit-priced Bid Item as a separate line item on the Schedule. For each unit-priced Bid Item, the Schedule must show the unit price, Bid quantity, and total amount bid for that item (unit cost multiplied by quantity).

B. The pay estimate value for each item must be calculated by dividing the actual quantity installed as of the period ending date divided by the original Bid quantity. The maximum percentage complete of a Bid Item is 100%.

C. Should the actual quantity vary from the Bid quantity at the conclusion of Work related to the unit price item, the Contract amount will be adjusted upward or downward accordingly by issuance of a Change Order. The deviation in quantity

and resultant price differential will then be reflected in a separate line item on the Pay Estimate form.

PART 2 - PRODUCTS: *Not Used*

PART 3 - EXECUTION: *Not Used*

END OF SECTION 01 29 73

PART 1 - GENERAL

1.01 PRE-BID SITE MEETING

A. Scheduling of Meeting: If a Pre-Bid site meeting is to be held, the date, time, and location will be shown in the Bid advertisement and in Section 00 11 13 – Pre-Bid Advertisement. If the Pre-Bid site meeting is mandatory, at least two meetings will be scheduled.

B. Attendance and Attendance Lists: The Pre-Bid site meeting is typically attended by the Engineer, the Consultant, the Contractor, Subcontractors, and Suppliers. The Consultant will compile an attendance list based on actual attendance. Attendance lists will be posted as Addenda per Section 00 21 13 – Instructions to Bidders, paragraph 1.01.F. Each attendee is responsible to ensure that their name and company is accurately included on the attendance list.

C. Mandatory Pre-Bid Site Meeting: If the pre-bid site meeting is mandatory, a representative for each Contractor planning to submit a Bid must be present for at least one of the scheduled meetings. The Owner will reject any Bid submitted by a Bidder that was not in attendance for at least one of the Pre-Bid site meetings. The attendance lists provided per paragraph 1.01.B above will be used to verify whether each Bidder attended a mandatory Pre-Bid site meeting.

D. Submittals: (None at this time).

E. Agenda: The following topics will be addressed by the Engineer and/or Consultant as applicable:

1. The Engineer: Introduction, general scope, budget, schedule, special permits, requirements, review of the inclusion plan requirements, other special administrative conditions and/or requirements.
2. The Consultant: Review of Project Drawings, Technical Specifications, and any special technical conditions and/or requirements affecting the project.
3. Tour of the Work Site: If feasible, with additional comments from the Engineer and/or the Consultant.

1.02 PRE-CONSTRUCTION CONFERENCE

A. The Engineer will establish the date, time, and place for the pre-construction conference. The Engineer will conduct the meeting to review responsibilities, procedures, personnel assignments, and to exchange preliminary submittals. The Consultant will prepare meeting minutes using a format to be provided by the Engineer. Copies of the minutes will be distributed by the Consultant at the first progress meeting.

B. Attendees: The Engineer, the Consultant, the Contractor and his/her superintendent, major Subcontractors, manufacturers, Suppliers and other concerned parties.

C. Submittals: The Contractor must provide the Submittals indicated in paragraph 1.02.D below, as applicable.

D. Agenda: The following items will be reviewed at the meeting using a format provided by the Engineer.

1. Lines and methods of communication between the Engineer, Consultant and Contractor.
2. Contract Compliance.
3. Coordination of Project.

    a. Engineer's inspections.
    b. Construction Inspection Plan.
    c. Special inspections/testing.
    d. Working hours.
    e. Date, time and location for weekly construction meetings.
    f. Safety.
    g. Traffic control.
    h. Sound restrictions – (SMC) 25.08.
    i. Verification of schedule compliance and remaining construction days.

4. Engineer-provided control surveys.
5. Submittals and information to be provided by Contractor at meeting:

    a. Identification of Contractor's Personnel: Project Manager, Superintendent, other key personnel.
    b. Traffic Control Plan.
    c. Temporary Vegetation, Soil, and Tree Protection Plan.
    d. Subcontractor Applications.
    e. Critical Path Schedule (preliminary).
    f. Schedule of Values.
    g. List of required submittals and Shop Drawings for long-lead items and Work subcomponents, as detailed in Specifications.
    h. List of Subcontractors.
    i. List of Material Suppliers.
    j. Prevailing Wage Reports.
    k. Mark-up Agreement Form.
    l. Preliminary data and information.

6. Procedures and sample Pay Estimate form, including Prevailing Wage Certification and Summary of Waste Generated by Project form.
7. Procedures and examples of Design Clarification, Field Directives, Modification Proposals, and Change Orders.
8. Procedures for submitting submittals/Shop Drawings and requesting substitutions.
9. Responsibility of Contractor to maintain record documents.
10. Emergency Telephone List.
11. Special Items:

a. Safety Data Sheets (SDS) for chemicals and Materials to be used during construction or incorporated into the Work.
b. Work Limits/Security, Safety-First Aid Procedures, and Confined Spaces Procedure.
c. Adjoining Work, if any, in progress.
d. Permits.
e. Staging, deliveries, and Contractor/employee parking.
f. Review process; see Section 00 72 00 – General Conditions, Part 1.03.M.2.

12. Verification of Drawings and Project Manual by Contractor.
13. Notice to Proceed date.
14. Other.

1.03 PROGRESS MEETINGS

A. The Engineer will conduct the weekly progress meetings on a day, time and location determined at the pre-construction conference. The Consultant will take and prepare weekly project minutes using a format provided by the Engineer. Copies of the minutes will be distributed to attendees at least four calendar days prior to the next meeting. A copy of the minutes will be provided to the Engineer.

B. Attendees: Engineer, Consultant, Contractor, Facility Operator, and other concerned parties such as Contractor's Superintendent, Subcontractors, and Material Suppliers.

C. Agenda: The following items will be reviewed and discussed at each progress meeting, using a format provided by the Engineer:

1. Review and approve minutes of the previous meeting.
2. Review status, progress, issues related to compliance with construction schedule, and identify Working Days used and remaining under the Contract and any request for time extensions.
3. Review Critical Path schedule and two-week look-ahead schedule. Determine if schedule needs to be updated to reflect any changes. Develop and maintain a Work Item Schedule Status report using a format provided by the Engineer.
4. Review status/issues/problems of Work in progress and action items. Create new action items as needed.
5. Review new Work that has started prior to the last meeting and/or will be started before the next meeting, and identify any issues, concerns, or problems requiring action.
6. Establish and maintain a submittal/Shop Drawing log showing status for all such items/needs identified in the Specifications, using a format provided by the Engineer. Review the status of long-lead-time items that may require expedited review.
7. Establish and maintain log and status of Design Clarifications, Field Directives, Modification Proposals, and Change Orders, using a format

provided by the Engineer. Review status of pending actions, degree of completion, and the need for processing Change Orders.

8. Review status of special testing if required and implementation of inspection schedule.
9. Review changes to record documents.
10. Review status of Work in progress or completed, and pending pay estimates.
11. Review other issues affecting implementation of project.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION 01 31 19

PART 1 - CRITICAL PATH SCHEDULE AND SCHEDULE CONSTRAINTS

1.01 CRITICAL PATH SCHEDULE

A. General Requirements: The scheduling of the Work is the responsibility of the Contractor. The construction of this project must be planned and tracked by use of a conventional Critical Path Method (CPM) schedule, which must be prepared, maintained, and regularly updated by the Contractor.

The Engineer's review and acceptance of any critical path schedule does not transfer any of the Contractor's responsibilities to the Owner or to the Engineer. Acceptance implies only that the Engineer has determined that the Critical Path Schedule submittal, with any noted exceptions, is within reasonable conformity to the requirements of the Contract. Acceptance of any schedule does not relieve the Contractor of responsibility to complete the Work within the required Contract Time.

All schedules shall meet the requirements outlined in this Section. If the Engineer deems that the CPM Schedule is not within reasonable conformity to these Specifications, it will be returned to the Contractor for correction and re-submittal.

1. Terminology:
   a. Critical Path: The series of sequentially linked activities in a project schedule that will take the longest total amount of time to complete. Therefore, at any point in time, the critical path will be the path with the least amount of total float. The critical path does not have to follow the same logic path from start to finish and need not have zero total float.
   b. Critical Task: A discrete work activity within a critical path.
   c. Float: The number of days that a scheduled activity can be delayed without affecting a given intermediate milestone or Physical Completion Date.
   d. Milestone: A zero-duration task marking the completion of a significant body of work or important date/event associated with the Contract.
   e. Summary Task: A general name/descriptor that encompasses multiple linked, related subtasks. A summary task may be a broad category of work (e.g., electrical, grading, plumbing, etc.), phasing designation, or a locational reference (e.g., north site, playfield area, etc.).
2. Scheduling Guidelines: The baseline CPM Schedule and each Critical Path Schedule update must conform to the following guidelines:
   a. Schedules must be prepared, viewed, and printed utilizing standard Gantt-chart format.
   b. Show all activities necessary to complete the Work.

c. Each task must be named/described in sufficient detail to understand the scope of work encompassed by that task. Overly broad descriptors (e.g., "grading," "electrical," "plumbing," etc.) may be rejected by the Engineer, especially when in conjunction with long durations.

d. Broad descriptions (e.g., "grading," "electrical," "plumbing," etc.) are generally only acceptable when they are used as Summary Tasks.

e. Activities must be assigned durations consistent with the activity's scope of Work, presuming that Work will be done continuously over the entire task duration. Float time must not be represented as a part of the task duration. Excluding the Preliminary CPM Schedule (see 1.02.B.1), the maximum duration for any one task/activity must be ten Working Days unless otherwise accepted by the Engineer.

f. Sequential Work activities must be linked logically by precedent/successor activities.

g. Display the Critical Path as a red-colored sequence within the project schedule. Multiple parallel critical paths will not be allowed unless the Contractor can demonstrate that each of the parallel paths has minimal total float time.

h. Comply with all order of Work requirements included in the Contract.

i. Show durations in Working Days.

j. Show Contract milestones including the following:
   1) Notice to Proceed Date,
   2) Substantial Completion Date,
   3) Physical Completion Date,
   4) Any milestones defined in the Special Provisions of this Contract,
   5) Other milestones at the discretion of the Contractor

k. Show required submittals for significant activities. Establish discrete work activities for provision and review of submittals, ensuring durations conform to the time allowed by the Contract.

l. Identify special labor or equipment needs that may constrain or limit the Contractor's ability to perform project tasks simultaneously. These may be shown as Resources within the CPM schedule or described separately in narrative format.

m. Show procurement, manufacture, and delivery activities for significant Material items of Work that affect the schedule.

n. Show significant Owner activities and/or delivery of Owner-supplied Materials that may impact the schedule.

o. Show significant elements of the Construction Stormwater and Pollution Prevention Plans. These elements may include, but are not limited to, the installation and removal of erosion/sedimentation controls and stormwater control.

p. Include project close-out items such as punch-list items, provision of O&M manuals, and as-built Drawings.

3. Engineer's Time: Unless otherwise specified in the Contract, the Contractor must allow the Engineer sufficient time to perform inspections, reviews, administrative tasks, and other such activities. If not defined elsewhere in the Contract "sufficient time" will be construed as "customary or normal" for the type of Work involved.
4. Float Time: Float available in the CPM Schedule, at any time, shall not be considered for the exclusive use of either the Contractor or the Engineer. However, any float used by the Owner that is later needed by the Contractor and results in delay to the critical path may be considered an excusable non-compensable delay.

B. Schedule Types

1. Preliminary CPM Schedule: The Contractor must prepare and submit a preliminary critical path schedule at the preconstruction conference. The preliminary schedule must show the first 30 Days of Work in reasonable conformity to these Specifications. The remaining schedule may show the critical path schedule using broad Work activities, major milestones and durations for the purpose of review and discussion at the Preconstruction Conference.
2. Baseline CPM Schedule: The Contractor must submit for Engineer's review and acceptance of the baseline CPM Schedule no later than five Working Days after receipt of the Notice to Proceed. The baseline schedule will not be accepted unless it satisfies this Section as well as any additional requirements that may be described in Section 1-08.3(1)A of the City of Seattle Standard Specifications.

   Within five Working Days of the Engineer receiving the submittal, the Engineer and the Contractor must meet for joint review, correction, and adjustment of the initial baseline CPM schedule. Within five Working Days after that, the baseline schedule must be resubmitted to the Engineer showing the agreed upon adjustments. Adjusted baseline CPM schedules submitted by the Contractor will be reviewed by the Engineer and returned to the Contractor within five Working Days of the Engineer's receiving the submittal. If necessary, the joint review and adjusted schedule submittal process may be repeated; however, the Baseline CPM Schedule must be finalized within 25 Working Days after receipt of Notice to Proceed.
3. CPM Schedule Updates: The Contractor must submit CPM Schedule updates:
   - Monthly
   - Whenever changes occur that have the potential to delay substantial or Physical Completion by five or more Working Days
   - Within five Working Days of request by the Engineer
   - Within five Working Days of achieving Substantial Completion

a. Progress Meetings: At the discretion of the Engineer, progress meetings may be held monthly for the purpose of updating the CPM Schedule. Progress will be reviewed to verify actual start and finish dates, remaining duration and percent complete of uncompleted activities, and any proposed revisions to the schedule. The Contractor must provide the Engineer with the status of activities at such meetings and prepare schedule updates based on this information once it has been verified and agreed upon. If the Work is in accordance with the last accepted CPM Schedule, the Engineer may waive the monthly update or the final as-built CPM Schedule.

The updated CPM Schedule must accurately convey Work progress and the schedule for future Work as discussed in the progress meetings or it will be rejected by the Engineer and returned to the Contractor for correction and resubmission.

b. Presentation of Updated Schedules: CPM Schedule updates must conform to the following additional requirements:
   1) Schedule updates must be presented in a Tracking Gantt format, showing two sets of Gantt-style progress bars consisting of 1) the latest approved Baseline CPM versus 2) a combination of the actual start/finish progress of completed tasks and projected start/finish dates of uncompleted tasks.
   2) Include columns showing actual or projected start and finish dates of all activities. Identify changes to activity precedents, successors, and/or constraints that have altered the critical path.
   3) Highlight any new activities or additional activities resulting from the restructuring/splitting of existing baseline activity(ies).
   4) Identify the current critical path, which could vary from the baseline critical path due to actual Work progress, additional Work, or changed conditions.
   5) Unresolved issues or disputes with asserted time effects may be reflected in a schedule update by comparing the Baseline critical path to the revised critical path shown in an updated schedule.
   6) If Work cannot be completed within the Contract Time, the updated schedule must reflect the earliest completion date practicable, and a narrative must be provided by the Contractor addressing the reason(s) behind the delay. Acceptance of late completion schedules will be at the discretion of the Engineer and does not relieve the Contractor from Liquidated Damages.

7) When requested by the Engineer, a written narrative describing the project schedule status, the critical path, and any revisions to the schedule must be included with the updates.

4. Three-Week Look-Ahead Schedule: At each regular (weekly) construction progress meeting, the Contractor must submit a Look-Ahead Schedule via Procore showing the anticipated Contractor Work activities, Subcontractor Work activities, any Owner/Engineer activities impacting the Work, and/or major Material deliveries for the next three weeks. Include the description, duration and sequence of Work, and highlight any deviations between planned and regular hours of Work.

   The three-week look-ahead may be reduced to a two-week look-ahead with the approval of the Engineer.

   Unless otherwise specified in the Contract, the Contractor must notify the Engineer at least two Working Days in advance of changing Work as shown in the Look-Ahead Schedule; an updated Look-Ahead Schedule must be submitted with such notification.

C. Submittals: The Contractor must submit one paper copy of the CPM Schedule (in Gantt chart format, with columns displayed to show predecessors and successors of each activity) and any accompanying narrative; and one full electronic copy in selected CPM software format. Unless approved otherwise by the Engineer, the CPM Schedule must be printed on 24 inch x 36 inch paper or larger. The CPM Schedule and any narrative must also be submitted in PDF format.

   The Gantt chart format is a standard method of presenting schedule information. The following standard requirements apply:

1. The schedule must include a horizontal time scale consistent with the project calendar.
2. Each activity/task/milestone must be listed in order of start date in a tabular grid to the left of the time scale. The tabular grid must include the task number, description, start date, finish date, predecessors, successors, and float time. Baseline schedules must show the baseline-planned start and finish dates. Update schedules must show the actual/projected start and finish dates.
3. Each activity must be provided with a corresponding task bar in the horizontal time scale, with a plotted length conforming to its duration and dates.
4. Linked activities must be indicated by logic arrows in the timescale portion of the Gantt chart, as needed, to clearly show the sequence and interdependence of all activities required for complete performance of all items of Work under the Contract.

5. Activities on the critical path must be highlighted using red task bars.

The electronic copy of the Critical Path Schedule must be compatible with Microsoft Project or other Engineer approved software. The Contractor shall submit a functional and complete CPM Schedule electronically via Procore.

D. Schedule Deviations: The Contractor, or its Subcontractor(s), must not deviate from the projected start and completion times for major phase(s) of the Work shown on the accepted CPM Schedule without providing at least 14 Days advance notice to the Engineer. Failure to notify the Engineer of a deviation from projected start and completion times for a major phase of the Work shown on the schedule may impact costs to the Owner, including the cost of additional community outreach to communicate changes in schedule to the public. Resulting costs due to this "failure to notify" are the responsibility of the Contractor. The Owner will deduct these costs from any payment due or to become due to the Contractor.

E. Early Completion: The Engineer has established the number of Working Days allowed for Substantial Completion and Physical Completion within Section 3 of the Division 00 52 00 Agreement Form submitted with the Bid, and these timeframes may only be amended by subsequent change order(s). The Engineer allocates resources to a Contract based on the Contract Time. The Engineer will review and accept a Critical Path Schedule indicating an early Substantial and/or Physical Completion Date but cannot guarantee the accuracy of the Contractor's accelerated schedule, nor that Owner resources will be available to meet the accelerated schedule. No additional compensation or time will be allowed if the Contractor is not able to meet its accelerated schedule due to the unavailability of Owner resources, for unforeseen conditions, or for other reasons beyond the Engineer's control.

F. Payment: Compensation for the cost necessary to complete the Work described in this Section is considered incidental to and included in all Bid items of Work. No separate payment will be made for the Work required in this Section.

1.02 SCHEDULED WORK ITEMS:

A. (None at this time).

1.03 SCHEDULE CONSTRAINTS

The Contractor's CPM Schedule must reflect constraints imposed by applicable laws and regulations, and those specified in the Contract. Constraints include but are not limited to the following:

A. Submittal Requirements and Review Durations per Section 01 33 10 – Submittals.
B. Holiday Construction Moratorium per Section 01 11 00 – Summary of Work.
C. Safety Restrictions per Section 01 35 29 – Health & Safety.
D. Traffic Control Restrictions per Section 01 55 80 – Public Convenience & Safety-Temporary Traffic Control

E. Environmental Restrictions per Section 01 57 19 – Temporary Environmental Pollution Control.

PART 2 - PRODUCTS: (Not Used)

PART 3 - EXECUTION: (Not Used)

END OF SECTION 01 32 13

PART 1 - GENERAL

1.01 DESCRIPTION

This Section describes administrative and procedural requirements for Submittal of Shop Drawings, Product Data, Samples, the Submittal Schedule, and other miscellaneous administrative and quality control Submittals.

1.02 RELATED SECTIONS

Other Sections containing requirements related to this Section include, but are not limited to:

A. Section 01 32 13 – Progress Schedules
B. Section 01 77 19 – Contract Closeout
C. Section 01 78 39 – Record Documents

1.03 SUMMARY

A. Submittal Schedule: The Submittal Schedule must document the Contractor's plan for the provision of each and every Contract Submittal requirement in advance of incorporation of Submittal material(s) into the physical Work of the Contract, as needed, to provide adequate review, resubmittal, and approval time to execute the Work of the Contract without delay and in accordance with Contract requirements. Refer to Paragraph 1.05 below.
B. Shop Drawings include, but are not limited to, the following: (Note: standard product information prepared without specific reference to the project does not constitute a Shop Drawing).

1. Fabrication Drawings
2. Installation Drawings
3. Setting diagrams
4. Shopwork manufacturing instructions
5. Templates and patterns
6. Schedules

C. Product Data include, but are not limited to, the following:

1. Manufacturer's product data
2. Manufacturer's standard installation instructions
3. Standard color charts
4. Catalog cut sheets
5. Roughing-in diagrams and templates
6. Standard wiring diagrams
7. Printed performance curves
8. Operational range diagrams

9. Mill reports
10. Standard product operating and maintenance manuals

D. Samples include, but are not limited to, the following:

1. Partial sections of manufactured or fabricated components
2. Small cuts or containers of Materials
3. Complete units of repetitively used Materials
4. Swatches showing color, texture, and/or pattern
5. Color range sets
6. Components used for independent inspection and testing

E. Quality control Submittals include, but are not limited to, the following:

1. Design data
2. Certifications
3. Manufacturer's instructions
4. Manufacturer's field reports

F. Administrative Submittals: Refer to other Division 1 Sections and other Contract Documents for requirements for administrative Submittals. Such Submittals include, but are not limited to, the following:

1. Permits
2. Schedule of Values
3. Mark-Up Agreement
4. Applications for Payment
5. Performance and payment bonds
6. Insurance certificates
7. Warranties
8. Listing of Subcontractors

1.04 DEFINITIONS

A. Field Samples: Full-size physical examples erected on-site to illustrate finishes, coatings, or finish Materials. Field samples are used to establish the standard by which the Work will be judged.

B. Intermediate Submittals: Submittals specifically intended to convey a portion of the overall information needed for the related Work. Such Submittals may identify long-lead items/Materials that are acceptable for advance ordering, initial/preliminary information requiring preapproval for subsequent development, and other such intermediate items as may be appropriate or convenient for expediting overall Work progress and/or schedule needs. Intermediate Submittals may be specifically identified in the Contract Documents or identified by mutual agreement between the Contractor and Owner during the course of Work.

C. Mock-ups: Full-size assemblies for review of construction, coordination, testing, or operation; they are not Samples.
D. Submittal Schedule: See Paragraph 1.05 below.

1.05 SUBMITTAL SCHEDULE

A. The Submittal Schedule must be developed by the Contractor and submitted at the Pre-Construction meeting for the Consultant's and Engineer's review.

1. The Submittal Schedule is considered a separate document from the Critical Path Schedule (CPS) and other schedules separately described in Section 01 32 13 – Progress Schedules.
2. The information included in the Submittal Schedule must be limited to activities related to required Contract Submittals.
3. The Submittal Schedule must be coordinated and consistent with the CPS and all other schedules pertaining to the Work.
4. It is acceptable for the Submittal Schedule to consist of a subset of activities included in the CPS, provided the CPS contains detailed information meeting the requirements of this Section.

B. Prepare the schedule in chronological order. Provide the following information:

1. Schedule date for the first Submittal
2. Related Section number
3. Submittal category (Shop Drawings, Product Data, etc.)
4. Name of the Subcontractor
5. Description Work to which the Submittal pertains
6. Scheduled date for resubmittal
7. Scheduled date for the Consultant's final release or approval

C. Distribution: Following the Consultant's response to the initial Submittal schedule, print and distribute copies to the Consultant, Engineer, Subcontractors, and other parties required to comply with Submittal dates indicated. When revisions are made, distribute to the same parties. Delete parties from distribution when they have completed their portion of the Work and are no longer involved in construction activities.
D. Schedule Updating: Revise the schedule after each meeting or other activity where revisions have been recognized or made. Issue the updated schedule prior to the next regular project meeting.

1.06 SUBMITTAL PROCEDURES

A. Coordination: Coordinate preparation and processing of Submittals with performance of construction activities. Transmit each Submittal to the Consultant sufficiently in advance of scheduled performance of related construction activities to avoid delay.

1. Coordinate each Submittal with other Submittals and related activities that require sequential activity including:
   a. Testing
   b. Purchasing
   c. Fabrication
   d. Delivery
   e. Other Submittals and related activities that require sequential activity.
2. Coordinate transmittal of multiple related Submittals to avoid delay in processing because of the Consultant's need to review Submittals concurrently for coordination.
   a. The Consultant reserves the right to withhold action on a Submittal requiring coordination with other Submittals until related Submittals are received.
3. Processing: The Contractor must provide Submittals in advance of related Work activities to ensure the minimum required Working Days are provided for the Submittal review and approval process. Minimum review times are as follows:
   a. 10 Working Days for the Consultant's initial review of each Submittal,
   b. 15 Working Days if both the Engineer's and the Consultant's review is required.
   c. Allow additional time if the Consultant must delay processing to permit coordination with subsequent Submittals. The Consultant will advise the Contractor when a Submittal being processed must be delayed for coordination.
   d. When Intermediate Submittals are required, each Intermediate Submittal must be treated in the same manner as an initial Submittal.
   e. If a Submittal is rejected or otherwise not approved and requires resubmission, five Working Days are required for each resubmittal that may be required until approval is achieved.
   f. No extension of Contract time will be authorized because of the Contractor's failure to transmit Submittals to the Consultant sufficiently in advance of the Work to allow the minimum required review time.
   g. No extension of Contract time will be authorized for Submittal items that are rejected or otherwise require resubmission due to need for revision.

B. Submittal Preparation: The Contracting Forms Workbook (a Microsoft Excel workbook containing many of the forms commonly used by the Seattle Parks and Recreation Department for Public Works is available on request. These forms may also be available in Procore. The Contractor shall use this form for the identification and transmission of Contract Submittals. Whether the Contractor elects to utilize Procore, the Forms Workbook, or their own methods of Submittal processing, the Contractor shall ensure the following information is included with all submittals:

1. Place label or title block on each Submittal for identification.
2. Indicate name of the firm or entity that prepared each Submittal on the label or title block.
3. Provide a space of approximately 4 x 5 inches (100 x 125 mm) on the label or beside the title block to record the review and approval status markings and the action taken by the Consultant.
4. Include the following information on the label for processing and recording action taken:
    a. Project name
    b. Date
    c. Name and address of the Consultant
    d. Name and address of the Contractor
    e. Name and address of the Subcontractor
    f. Name and address of the Supplier
    g. Name of the manufacturer
    h. Number and title of the appropriate Specification Section
    i. Drawing number and detail references, as appropriate
    j. Similar definitive information as necessary

C. Submittal Transmittal: Package each Submittal appropriately for transmittal and handling. Transmit each Submittal from the Contractor to the Consultant and to other destinations by use of the Submittal tool in Procore. The Consultant will return Submittals received from sources other than the Contractor.

1. Record relevant information and requests for data using Procore. On the Submittal Intake form, or an attached separate sheet, record deviations from the requirements of the Contract Documents, including minor variations and limitations.
2. Include the Contractor's certification stating that information submitted complies with requirements of the Contract Documents.

D. Ordering Materials or Components Requiring Submittal Review: Unless specifically authorized by the Engineer, do not order or procure Materials or components before all related Submittals have been reviewed and approved in accordance with the Contract requirements. The Owner will not pay for any unauthorized component or Material incorporated in the Work until, and unless, all related Submittals have been reviewed and approved per Contract requirements. Furthermore, any such Work that does not achieve related Submittal approval will be construed as Defective or Unauthorized Work per Section 00 72 00 – General Conditions, paragraph 1.03.G.

1.07 SHOP DRAWINGS

A. Submit newly prepared information, drawn accurately to scale. Do not reproduce Contract Documents or copy standard printed information as the basis of Shop Drawings.

1. Include the following information on Shop Drawings:
   a. Identification of products and Materials included
   b. Compliance with specified standards
   c. Notation of coordination requirements
   d. Notation of dimensions established by field measurement taken by the Contractor
   e. Correlation of Shop Drawings to Contract Documents by reference to sheet number, details, schedule and/or room number.
2. Specifically note and bring to the Consultant's attention any deviations from the Contract Documents that appear on the Shop Drawings.
3. Shop Drawing copies used for Work must bear the appropriate final stamp or other marking indicating approval for construction by the Consultant. Any Work done based on Shop Drawings that have not been reviewed and approved by the Consultant will be treated as Defective or Unauthorized Work per Section 00 72 00 – General Conditions, paragraph 1.03.G.
4. Sheet Size: Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 x 11 inches (215 x 280 mm) but no larger than 30 x 42 inches (750 x 1050 mm).
5. Copies: Unless the Consultant allows less, submit 5 black-line prints or bond copies for the Consultant's review. The Consultant will return one marked up copy after review. If the Contractor desires more than one copy back, submit additional copies at initial Submittal.

1.08 PRODUCT DATA

A. Collect Product Data into a single Submittal for each element of construction or system. Mark each copy to show which choices and options are applicable to the project.

1. Where Product Data includes information on several similar products, some of which are not required for use on the project, mark copies clearly to indicate which products are applicable.
2. Where Product Data must be specially prepared for required products, Materials, or systems because standard printed data are not suitable for use, submit as Shop Drawings, not Product Data.
3. Include the following information in Product Data:
   a. Manufacturer's printed recommendations
   b. Compliance with recognized trade association standards
   c. Compliance with recognized testing agency standards
   d. Application of testing agency labels and seals
   e. Notation of dimensions verified by field measurement
   f. Notation of coordination requirements
4. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed. Include a signed certificate of compliance with each Product Data Submittal.

B. Submittals: Unless the Engineer allows less, submit 5 copies of each required Product Data Submittal. One copy will be returned to the Contractor. If the Contractor desires more than one copy back, submit additional copies. Unless the Consultant or Engineer observes noncompliance with Contract requirements, the Submittal may serve as the final Submittal.

C. Distribution: Furnish copies of final Product Data Submittal to the manufacturers, Subcontractors, Suppliers, fabricators, installers, governing authorities and others as required for performance of the construction activities. Show distribution on transmittal forms.

1. Do not proceed with installation of Materials, products, and/or systems until a copy of reviewed and accepted Product Data applicable to the installation is in the Installer's possession.
2. Do not permit use of unmarked copies of Product Data in connection with construction.

1.09 SAMPLES

A. Samples must be submitted for all paints, floorings, surfacing materials, paving, and other such Materials/products incorporated in the Work, and as additionally described or required elsewhere in the Contract Documents. Submit full-size, fully fabricated Samples, cured and finished in the manner specified, and physically identical with the Material or product proposed for use.

1. Mount, display, or package Samples in the manner specified to facilitate review of qualities indicated. Prepare Samples to match the Consultant's instructions where so indicated. Include the following information:
   a. Generic description of the Sample
   b. Size limitations
   c. Sample source
   d. Product name or name of manufacturer
   e. Compliance with recognized standards
   f. Compliance with governing regulations
   g. Availability
   h. Delivery time
2. Submit Samples for review of kind, color, pattern, and/or texture for a final check of these characteristics with other elements and for a comparison of these characteristics between the final Submittal and the actual component as delivered and installed.
   a. Where variation in color, pattern, texture, or other characteristic is inherent in the Material or product represented by a Sample, submit at least three multiple units that show approximate limits of the variations.
   b. Refer to other Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, and details of

assembly, connections, operation, and similar construction characteristics.

c. Samples not incorporated into the Work or otherwise designated as the Engineer's property belong to the Contractor and must be removed from the site prior to Substantial Completion.

B. Intermediate Submittals: Where Samples are provided for selection of color, pattern, texture, or similar characteristics from a manufacturer's range of standard choices, submit a single, full set of available choices for the Material or product.

1. Intermediate Submittals will be reviewed and returned with the Consultant's marking indicating selection (if approved) and action taken.

C. Submittals: Except for Samples intended to illustrate assembly details, workmanship, fabrication techniques, connections, operation, and other characteristics, submit three sets of Samples. The Consultant will return one set to the Contractor marked with the action taken, retain one set, and transmit one set to the Engineer.

1. Maintain sets of Samples, as returned by the Consultant, at the Project Site, available for quality-control comparisons throughout the course of construction activity.
2. Unless the Consultant or Engineer observes noncompliance with the Contract requirements, the Submittal may serve as the final Submittal.
3. Samples and sample sets may be used for quality control comparisons related to acceptance of the Work associated with each Sample. If the finished Work does not match the Sample in any respect (including, but not limited to, color, finish, pattern, texture, consistency, material properties, etc.), the Work will be treated as Defective or Unauthorized per Section 00 72 00 – General Conditions, paragraph 1.03.G.

D. Distribution of Samples: Distribute additional sets of Samples to the Subcontractors, Suppliers, fabricators, manufacturers, installers, governing authorities, and others as required for performance of the Work. Show distribution on transmittal forms.

E. Field Samples specified in individual Specification Sections are special types of Samples. Comply with Sample Submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.

1.10 QUALITY ASSURANCE SUBMITTALS

A. Submit quality-control Submittals, including design data, certifications, manufacturer's instructions, manufacturer's field reports, and other quality-control Submittals as additionally described or required elsewhere in the Contract Documents.

B. Certifications: When the Contract requires certification that a product, Material, or installation complies with specified requirements, submit a notarized certification

from the manufacturer certifying compliance with the specified requirements. Such Certification must be signed by an officer of the manufacturer or other individual authorized to sign documents on behalf of the company.

C. Inspection and Test Reports: Requirements for Submittal of inspection and test reports from independent testing agencies are specified in Section 01 45 00 – Quality Control.

1.11 CONSULTANT'S ACTION

A. Unless specifically stated otherwise, every Submittal must be reviewed by the Consultant, and the Consultant will take appropriate action to accept, reject, or return the Submittal for subsequent revision/correction by the Contractor based on that review. The Consultant will respond consistent within the timeframes described in Section 1.06.A.3 above and per the approved Submittal Schedule described in Section 1.05 above.

1. Compliance with Contract requirements is the Contractor's responsibility. Review, acceptance, and any other action related to any Submittal, regardless of whether such action is taken by the Consultant or the Engineer, is intended primarily as a quality control measure, and shall not relieve the Contractor of the responsibility to comply with Contract Requirements.
2. If the Submittal involves changes to the Drawings and/or Specification requirements, or contains information not reviewed and approved by the Engineer as part of the Contract Documents, the Engineer shall also review and approve the Submittal. Additional time is required for such review per Paragraph 1.06.A.3 above.

B. Action Stamp: The Consultant will stamp each Submittal with a uniform action stamp. The Consultant will mark the stamp appropriately to indicate the action taken, as follows:

1. Final Unrestricted Release: Where Submittals are marked "No Exceptions Taken," the Work covered by the Submittal may proceed, provided it complies with the requirements of the Contract Documents. Final acceptance will depend on that compliance.
2. Final-but-Restricted Release: Where Submittals are marked "Make Corrections Noted," the Work covered by the Submittal may proceed provided it complies with both the Consultant's notations and corrections on the Submittal and requirements of the Contract Documents. Final acceptance will depend on that compliance.
3. Returned for Resubmittal: When a Submittal is marked "Revise and Resubmit," do not proceed with the Work covered by the Submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new Submittal according to the Consultant's directions. Resubmit

without delay. Repeat if necessary to obtain an action mark that will allow the Work to Proceed.

a. Do not permit Submittals marked "Revise and Resubmit" or "Rejected" to be used at the Project Site or elsewhere where construction is in progress.

4. Other Actions: When a Submittal is primarily for informational or record purposes or for special processing or other activity, the Submittal will be returned, marked "Action Not Required," or "Not Reviewed."

PART 2 - PRODUCTS: (Not Used)

PART 3 - EXECUTION: (Not Used)

END OF SECTION 01 33 10

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes administrative and procedural requirements for cutting and patching existing structures and paved areas.

1.02 RELATED SECTIONS

A. This Section relates to construction that is incidental to the overall project and/or is not addressed elsewhere in the Contract Documents. Refer to other Sections for specific requirements and limitations applicable to cutting and patching individual elements of the Work.

1. If Work involves cutting, patching, and restoration of areas of the Site outside the boundaries of unlimited Contractor access, such activities must be completed in accordance with applicable City of Seattle standard requirements for use of limited access areas in order to avoid creating safety hazards or inconvenience for the public using such areas of limited Contractor access.
2. Requirements of this Section apply to mechanical and electrical installation (Edit if applicable only) (or) Refer to Division 26 and 33 Sections for other requirements and limitations applicable to cutting and patching mechanical and electrical installations.

1.03 SUBMITTALS

A. Cutting and Patching Proposal: When the Engineer's approval of cutting and patching procedures is required per Section 01 33 10 – Submittals, paragraph 1.11.A.2, submit a proposal for the Engineer's review at least 15 Working Days in advance of when cutting and patching is anticipated. The proposal must be approved by the Engineer prior to proceeding with the Work. Include the following information in the proposal, as applicable:

1. Describe the extent of cutting and patching required. Describe how it will be performed and indicate why it cannot be avoided.
2. Describe anticipated results in terms of changes to existing construction. Include changes to structural elements and operating components as well as changes in the Work's appearance and other significant visual elements.
3. List products to be used and firms or entities that will perform Work.
4. Indicate dates when cutting and patching are planned to be performed.
5. Describe methods that will be used to ensure proper prevention, containment, and/or disposal of dust, debris, sediments, chemicals, slurries, hazardous materials, and other construction byproducts. Such methods must comply with all applicable City, County, State, and Federal health and environmental

codes. Submit Safety Data Sheets (SDSs) for any chemical products used during cutting and patching.

6. Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out of service. Indicate how long service will be disrupted.
7. When cutting and patching involves adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with the original structure.

B. The Cutting and Patching Proposal must be treated as a Submittal requiring the Engineer's review, in full accordance with Section 01 33 10 – Submittals. The Work described by this proposal must not commence until the Submittal has been reviewed and approved in accordance with the Contract requirements. Any such Work that does not achieve related Submittal approval will be construed as Defective or Unauthorized Work per Section 00 72 00 – General Conditions, paragraph 1.03.G.

C. Approval by the Engineer to proceed with cutting and patching does not waive the Contractor from the responsibility to perform the Work in accordance with all applicable local, state, and federal regulations and pertinent Contract requirements.

1.04 RETAIN ORIGINAL DESIGN FUNCTION

A. Identify Structural Elements: All affected structural elements must be specifically identified in, and addressed by, the Cutting and Patching proposal. Structural elements include, but are not limited to, the following:

1. Foundation construction
2. Bearing and retaining walls
3. Structural concrete
4. Structural steel
5. Lintels
6. Timber and primary wood framing
7. Structural decking
8. Stair systems
9. Miscellaneous structural metals
10. Equipment supports
11. Piping, ductwork, vessels, and equipment

B. Requirements for Structural Work: Do not cut and patch structural elements in a manner that would change their load-carrying capacity or load-deflection ratio.

C. Identify Operational Elements/Systems: All affected operational systems or elements must be specifically identified in and addressed by the Cutting and Patching proposal. Such elements include, but are not limited to, the following:

1. Primary operational systems and equipment
2. Air or smoke barriers

3. Water, moisture, or vapor barriers
4. Membranes and flashings
5. Fire protection systems
6. Noise and vibration control elements and systems
7. Control systems
8. Communication systems
9. Conveying systems
10. Electrical wiring systems

D. Requirements for Operational Elements/Systems: Do not cut and patch operating elements, systems, or related components in a manner that would result in reducing their capacity to perform as intended. Do not cut and patch operating elements, systems, or related components in a manner that would result in increased maintenance or decreased operational life or safety.

E. Visual/Aesthetic Requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in the Engineer's opinion, reduce the pre-existing aesthetic qualities. Do not cut and patch construction in a manner that would result in visible evidence of cutting and patching. Remove and replace any construction cut and patched in a visually unsatisfactory manner, as determined by the Engineer.

1.05 WARRANTY

A. Existing Warranties: Replace, patch, and/or repair Materials and surfaces modified or damaged by construction activities in such a manner as to maintain any existing warranties currently in effect. The Contractor must request from the Engineer information about existing warranties in effect before associated Work commences.

PART 2 - PRODUCTS

2.01 MATERIALS - GENERAL

A. Use Materials identical to existing Materials. For exposed surfaces, use Materials that visually match existing adjacent surfaces to the fullest extent possible if identical Materials are unavailable or cannot be used. Use Materials whose installed performance will equal or surpass that of existing Materials.

PART 3 - EXECUTION

3.01 INSPECTION

A. Prior to cutting, examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed. If unsafe or unsatisfactory conditions are encountered, take corrective action before proceeding.
B. Prior to cutting, meet at the Project Site with parties involved in cutting and patching the structures/surfaces being cut, including mechanical and electrical trades and utility representatives if/as applicable. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

3.02 PREPARATION

A. The following preparatory measures must be fully described in the Cutting and Patching Proposal and incorporated in the Work in accordance with the approved Proposal.

1. Temporary Support: Provide temporary support of Work to be cut.
2. Temporary Erosion and Sediment Control: Provide TESC measures in accordance with the Contract and applicable regulations.
3. Safety: Utilize safety equipment, methods, and personnel as required by the Contract and applicable regulations.
4. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Work that might be exposed during cutting and patching operations.
5. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
6. Avoid cutting existing pipe, conduit, or ductwork serving the project unless absolutely necessary. If so, provide temporary or permanent alternative services prior to beginning the Work.

3.03 PERFORMANCE

A. Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
B. Cut existing construction only to the extent necessary to accommodate execution of the related Contract Work, and as may be needed for subsequent fitting and patching required to restore surfaces to their original condition.
C. Cutting Methods: Cut existing construction using methods least likely to damage retained elements or adjoining construction. Where possible, review proposed procedures with the original Installer; comply with the original Installer's recommendations.

1. In general, where cutting, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to required size, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

2. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
3. Cut through concrete and masonry using a cutting machine, such as a Carborundum saw or a diamond-core drill.
4. Comply with requirements of applicable Division 2 Sections when cutting and patching requires excavating and backfilling.
5. When services are required to be removed, relocated, or abandoned, bypass utility services with items such as pipe or conduit, before cutting. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug-and-seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after bypassing and cutting.

D. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.

1. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
2. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
3. Where removal of walls and partitions extends one finished area into another, patch and repair floor, wall, and ceiling surfaces in the new space. Provide an even surface of uniform color and appearance. Remove existing ceiling system or finish, and floor and wall coverings, and replace with new Materials as necessary to achieve uniform color and appearance.
4. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing the patch after the area has received primer and second coat.
5. Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

3.04 CLEANING

A. Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar items. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

END OF SECTION 01 35 00

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section covers the requirements for compliance with health and safety precautions and controls for projects without hazardous waste operations.

1.02 RELATED SECTIONS

A. Section 01 33 10 – Submittals
B. Section 31 00 00 – Earthwork

1.03 HEALTH AND SAFETY PLAN

A. Within five days after receipt of Notice to Proceed, the Contractor must submit via Procore Submittals a site-specific Health and Safety Plan addressing health and safety management methods specific to the project. The Plan must include the following, at minimum:
B. The name of the individual at the jobsite responsible for implementation and compliance with this Plan.

1. The Plan must include a Competent Person Evaluation (see Section 00 60 00 – Forms Directory) if the project involves excavations covered by WAC 296-155.
2. If applicable, the Plan must include the name and qualifications of any electrical safety observer to be provided by the Contractor.
3. Protection of the public.
4. A description of tasks to be undertaken, and equipment mobilized for this project.
5. A list of all known safety or health hazards, problems, and proposed control mechanisms. This includes review of the potential to generate respirable silica-containing dust.
6. Safety Data Sheets (SDS) of and procedures for use, disposal, and storage of all chemicals, products, or Materials regulated by WAC 296-62 to be used by the Contractor.
7. A list of personal protective equipment, monitoring devices, and hazard-specific plans or permits as appropriate and required by State and Federal regulations.
8. A description of emergency response measures and equipment available for emergency response to address accidents and releases of Materials, including but not limited to first aid, eye wash/showers, and fire extinguishing equipment. Include location of this equipment at the jobsite.
9. Emergency phone numbers, contacts, and location of the nearest medical facility.

10. A monitoring and inspection plan and record keeping measures to ensure that equipment and work practices comply with this Plan.
11. Personnel names, training, and notification procedures, as appropriate, to ensure that all jobsite personnel are familiar with the Plan elements. Include copies of training certificates.
12. Procedures for safe storage and handling of flammable liquids, in accordance with WAC 296-24-330.
13. If applicable, the Contractor must include procedures for safe storage and handling of compressed gasses in accordance with WAC 296-24-295, Compressed Gas General Requirement.
14. Other issues which the Contractor determines are appropriate and necessary to protect worker safety and health.

1.04 ACCIDENT REPORTING

A. Serious accidents such as those resulting in treatment of an injury at a medical facility, response to the site by emergency medical personnel, or damage to property other than that of the Contractor must be reported to the Engineer within 24 hours of the occurrence.
B. A copy of each accident report which the Contractor or Subcontractors have submitted to their insurance carriers must be forwarded to the Engineer as soon as possible, but in no event later than seven calendar days after the accident occurred.

1.05 HEALTH AND SAFETY REPRESENTATIVE

A. The Contractor must designate a Health and Safety Representative and must ensure that each Subcontractor designates a Subcontractor's Health and Safety Representative. The Health and Safety Representative must be capable of identifying all hazards and have the authority to stop work and take immediate action to correct the hazard.
B. The Contractor must authorize each such Health and Safety Representative to resolve safety-related issues raised by the Owner or any of its employees, including the Seattle City Light Safety Observer if applicable.
C. The Contractor must ensure that such Health and Safety Representative is present on the Project Site whenever the Owner Safety Observer is present on the Project Site.
D. Each Contractor's or Subcontractor's Health and Safety Representative must identify himself or herself to the Engineer and the Owner Safety Observer at the briefing/tailgate conference.
E. The Health and Safety Representative must verify that all Work is performed in accordance with the Health and Safety Plan.
F. At the daily job briefing and/or tailgate conference, Contractor must provide the Owner's representative in attendance at the meeting all relevant information on the Work to be performed, its location, and the equipment to be used.
G. The Contractor must provide all safety equipment required for the Work.

H. At minimum, Contractor and Subcontractor personnel directly involved in the Work must have training in:

1. First aid, for each Contractor's and Subcontractor's Health and Safety Representative;
2. Confined space work, if the employees will be working in or around confined spaces;
3. Shoring and trenching, if Work will be in excavations; and
4. The Contractor's procedures for confined space rescues.

I. Nothing in this Contract shall be construed as imposing any duty upon the Owner or any of its employees with regard to, or as constituting any express or implied assumption of control or responsibility over, Project Site safety, nor over any other safety conditions relating to employees or agents of Contractor, its Subcontractors, or the public.

1.06 CITY LIGHT SAFETY OBSERVER

A. Specified in Section 00 72 00 – General Conditions, subparagraph 1.03.B.2.

PART 2 - PRODUCTS
(Not Used)

PART 3 - EXECUTION
(Not Used)

END OF SECTION 01 35 29

PART 1 - GENERAL

1.01 PERMITS AND LICENSES

A. The Engineer has obtained the following permits:

1. GRADING PERMIT 6768907-GR

2. STREET USE PERMIT SUSIPX398949

B. A copy of these permits is included after this section.

C. All other licenses and permits (for example, mechanical, electrical, and street use permits) are the responsibility of the Contractor. The Contractor is responsible for obtaining and paying for these permits and licenses, as applicable to the Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 41 26

Permit Number:
6768907-GR

CITY OF SEATTLE
Grading Permit

Seattle Department of
Construction and Inspections
700 Fifth Ave, Suite 2000
PO Box 34019
Seattle, WA 98124-4019
(206) 684-8600

APN #:
DV0083224

Site Address: 4731 40TH AVE SW SEATTLE, WA 98116

Location: Construction will take place on the entire property

Legal Description: LOTS 30-37, BLOCK 3 , SCENIC PARK ADD

OWNER	CONTRACTOR
GGLO 1301 5th Ave Suite 2200 Seattle, WA 98101 Ph: (206) 902-5424	

Application Date:	01/31/2020
Issue Date:	01/07/2025
Expiration Date:	07/07/2026
Fees Paid:	$2,103.16
As of Print Date:	11/26/2025

Description of Work: Site improvements to vacant lot to create park (West Seattle Junction Land Bank Park), per plan.

Permit Remarks:

DPD Valuation: $1,984,500.00

Special Inspections: N

Land Use Conditions: N

Zoning/Overlays:

A/P #	Related Cases/Permits
6768907-GR-002	Update Contacts
6768907-GR-001	Upload Documents
6768907-GR-004	Contractor Disclosure Form
6768907-GR-005	Revision Request - Building
6768907-GR-003	Upload Documents
6734793-CN	Construction Permit

Project Contacts	Name	Phone
Structural Reviewer	NA	NA
LU Planner	NA	NA

Applicant Signature: **Date:**

Records Filed At: 4731 40TH AVE SW

Permitted work must not progress without prior inspection approval. When ready for inspection, make request with the Department of Planning and Development at (206) 684-8900 or on the internet at: www.seattle.gov/dpd/inspectionrequest. Provide the permit number, site address, and contact phone. Permission is given to do the above work at the site address shown, according to the conditions hereon and according to the specification pertaining thereto, subject to compliance with the Ordinances of the City of Seattle. Correct information is the responsibility of the applicant. Permits with incorrect information may be subject to additional fees.

You Must Have a Paper Copy of Your Approved and Stamped Plan Set Available at Your Job Site for the City Inspector to Review. If You Do Not Have Your Plans Printed and Ready for Review, You May Fail Your Inspection.

Seattle Department of Transportation

Issue Date: 4/14/2025
Original Issue Date: 4/14/2025
Application Received Date: 12/28/2018
Permit Expiration Date: 4/14/2025

Street Use Permit
Permit Number: SUSIPX398949

Address: 4731 40TH AVE SW

Project Description: ROW improvements up to the back of curb to include new pervious concrete walk matching the width of the existing condition to the south, planter strip, trees, pet relief area, and street furniture.
Project Name: 4731 40TH AVE SW

Onsite Contact

(206)684-9286

Owner
SEATTLE PARKS & RECREATION
800 MAYNARD AVE S
#300
Seattle, WA 98134

Applicant
PUJA SHAW
1601 5TH AVENUE SUITE 1600
SEATTLE, WA 98101

Financially Responsible Party
SEATTLE PARKS & RECREATION

800 MAYNARD AVE S
#300
Seattle, WA 98134

Curb Ramp Required ? No

Mobility Impacts Legend

C: Closed	**ALC:** All Lanes Closed
N: None	**IC:** Intermittent Closure
R: Rerouted	**RLC:** Reduced Lane Closure
SLC: Some Lanes Closed	**RW:** Reduced Width

Permitted Use(s)

Permitted Use Description: placeholder

Space/Segment Description: A/40TH AVE SW BETWEEN SW ALASKA ST AND SW EDMUNDS ST

Street Category: Non-Arterial

							Mobility Impacts				
Issue Date	**Start Date**	**End Date**	**Days in ROW**	**Work Days**	**Sq Ft**	**Side of Street**	**Side-walk**	**Bike**	**Travel**	**Transit**	**Parking**
4/14/2025	06/23/2021	7/12/2021		ALL	1200	West	N	N	ALC	N	C

Conditions of Use:

C095: The contractor must maintain Red-Line mark-ups at the Project Site per the requirements of the 2023 City of Seattle Standard Specifications 1-05.3(13)A. As-Built Drawings are completed Red-Line Drawings as reviewed and approved by the Engineer of Record per 1-05.3(13)B. Upon completion of final restoration, the applicant shall submit As-Built Drawings to SDOT via the Seattle Services Portal as a Revision Amendment to the permit for the purpose of adding them to The Engineering Records Vault. The SDOT Final Inspection will not be closed out until the As-Built Drawings have been submitted.

C055: CONCRETE POURING, CONCRETE/ASPHALT CUTTING, AND ASPHALT APPLICATION - Sweep or shovel loose aggregate chunks and dust for recycling or proper disposal. Place storm drain covers or similarly effective containment devices over all storm drains located downslope or adjacent to the work area. Shovel or vacuum all slurry and remove from the site. Perform cleaning of concrete application and mixing equipment or concrete-delivery vehicles in a designated area where the rinse water is controlled.

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C006: LANDSCAPING AND LAWN VEGETATION MANAGEMENT - Use proper fertilizer and herbicide application techniques to minimize nutrient pollution of stormwater. Implement proper landscaping and mulching techniques to prevent plant material and excess mulch from entering the separate storm drainage system. Do not dispose of collected vegetation in separate storm drainage systems, waterways, water bodies or greenbelt areas.

C056: OUTDOOR STORAGE OR TRANSFER OF SOLID RAW MATERIALS, BYPRODUCTS OR FINISHED PRODUCTS-Do not hose down the contained stockpile area if the discharge will flow into a storm drain or a drainage conveyance. Sweep paved storage areas daily or more often as necessary to collect and dispose of loose solid materials. For stockpiles containing more than 5 cubic yards of erodible or water-soluble materials: store in a building or a covered, paved area; place temporary plastic sheeting (polyethylene, polypropylene, hypalon, or equivalent material) over the material; or pave the area and install a stormwater drainage system.

C057: OUTDOOR PORTABLE CONTAINER STORAGE-Label and store containers on a paved surface under a roof or inside a building if possible. Place drip pans beneath all taps on mounted containers and at potential drip and spill locations during the filling and unloading of containers. Check containers daily for leaks and spills.

C007: SPILL PREVENTION AND CLEANUP-Keep a spill cleanup kit in a nearby vehicle or next to the work site so that it is easily accessible. Make sure the contents of the spill kit are appropriate for the types and quantities of materials used for this work task. Refill spill kit materials before beginning work.

C060: USE OF CHEMICALS DURING CONSTRUCTION - Use only the recommended amounts of chemical materials and apply them in a proper manner. Neutralize the pH of concrete wash water from concrete mixers, if necessary.

C061: SAWCUTTING AND PAVING POLLUTION PREVENTION - Vacuum slurry and cuttings during the activity to prevent migration offsite and do not leave slurry and cuttings on permanent concrete or asphalt paving overnight. Dispose of collected slurry and cuttings, waste material, and demolition debris in a manner that does not violate groundwater or surface water quality standards. Implement preventative measures such as berms, barriers, secondary containment, and vactor trucks if observations indicate that a violation of water quality standards could occur.

C062: SOLID WASTE HANDLING AND DISPOSAL - Remove and dispose of accumulated solid waste at authorized disposal areas. Label waste containers and place them in a covered area with closed lids. Salvage and recycle any useful materials.

C063: MULCHING AND MATTING - Apply mulch to protect exposed soils and promote plant establishment.

C009: PERMANENT SEEDING AND PLANTING - Install temporary surface runoff control measures prior to seeding or planting to protect the surface from erosion until the vegetation is established. Establish permanent vegetation (e.g., grasses, legumes, trees, and shrubs) as rapidly as possible to prevent soil erosion by wind or water, per City Of Seattle standards.

C010: SODDING - Establish permanent turf for immediate erosion protection or to stabilize drainage pathways where concentrated overland flow will occur, per City Of Seattle standards.

C011: TOPSOILING - Preserve and use topsoil to enhance final site stabilization with vegetation and to provide a suitable growth medium for final site stabilization with vegetation, per City Of Seattle standards.

C065: STORM DRAIN INLET PROTECTION - Install storm drain covers on stormwater structures less than 12 inches deep during construction. Install catch basin filter socks in stormwater structures greater than 12 inches deep. Place the storm drain or catch basin grate on top of the catch basin filter sock to hold it in place.

C066: STREET SWEEPING AND VACUUMING - Do not sweep or vacuum when sediment is wet or when tracked soil is caked (caked soil may need to be scraped loose). Do not sweep up any unknown substance or any object that may be potentially hazardous. Prevent sediment from entering storm drain system. Properly dispose of sweeper wastes at an approved dump site after sweeping is finished.

C068: A pre-construction meeting with the SDOT Street Use is required prior to the start of work.

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C069: The Permittee shall contact the Office of Arts and Culture at 206-684-7171 at least 2 weeks prior to construction if the proposed work may impact a public art piece. If a public art piece is damaged during construction, the Permittee shall contact the Street Use inspector and the Office of Arts and Culture immediately.

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GENERAL REQUIREMENTS

1. ***Nature of permit.*** This permit is issued according to Seattle Municipal Code ("SMC") Chapter 15.04, for the use or occupancy of the public right-of-way in a manner consistent with the terms and conditions in this permit. This permit is temporary, vests no permanent rights, and is revocable according to SMC Section 15.04.070.
2. ***Acceptance of terms, conditions, and requirements***. The Permittee accepts the terms, conditions, and requirements of this permit and agrees to comply with them to the satisfaction of the Seattle Department of Transportation, Street Use Division ("Street Use"), or such other agency as may be designated by the City. The Permittee further agrees to comply with all applicable City ordinances, including but not limited to SMC Title 15, and all applicable City of Seattle ("City"), county, state, and federal laws.
3. ***Copy of permit***. A copy of the issued permit and current approved plans shall be on-site and available at all times (electronic or hardcopy).
4. ***Expiration of permit***. This permit shall remain valid until one of the following occurs: (1) the permit is revoked according to SMC Section 15.04.070; (2) the permit expiration date is reached; or (3) the authorized work does not begin within six months from the date the permit is issued. The Permittee is responsible for keeping the permit up to date including submitting updated plans for approval. The Permittee shall submit requests to update a permit via the Seattle Services Portal in a timely manner; otherwise, the Permittee may lose access to their requested schedule or use footprint for continued work in the right-of-way.
5. ***Superiority of Street Improvement Permits***. When a Street Improvement Permit ("SIP") exists, rights acquired under the SIP supersede those acquired under any other Street Use or Utility Permits. Work not approved under the SIP shall require separate Street Use or Utility Permits and the Permittee shall obtain these permits in advance of work.
6. ***Compliance with technical requirements and standards***. All work within the public right-of-way shall be performed and completed according to the following technical documents published by the City: Streets Illustrated (Right-of-Way Improvements Manual); Street Tree Manual; Standard Specifications for Road, Bridge, and Municipal Construction; Standard Plans for Municipal Construction; Right-of-way Opening and Restoration Rule; Traffic Control Manual for In-Street Work; and Pedestrian Mobility Rule 10-2015; unless otherwise shown on the approved plans.
7. ***Scope of work***. For permits authorizing construction, the Permittee shall stage equipment or materials and construct or install the improvements and infrastructure reflected in and in accordance with this permit and the City-approved construction plans. Any revisions, omissions, or additions to the scope of work shall be reviewed and approved by the City before implementation. The construction site shall remain in good repair, free of refuse and graffiti as defined in SMC Chapter 10.07.
8. ***Traffic Incidents***. If SDOT determines that a transportation incident or other event is likely to impact the part of the transportation network that includes the permitted site, the Permittee may be required to remove or minimize the permitted use footprint until the transportation network impact has ended.
9. ***Street Use notification***. Construction and utility work may be completed in several phases: site preparation (installing traffic control, saw-cutting, etc.); groundbreaking; restoration; and staging of equipment and materials. Before beginning any phase of work in the public right-of-way, the Permittee shall notify the assigned Street Use Inspector of each date as described below.

- The Permittee shall submit a **Job Start Notification** in the **Seattle Services Portal** to notify Street Use when work will begin and to schedule or re-schedule the Initial Inspection.
    - If the **Job Start Notification** is not submitted, the **Initial Inspection** will automatically schedule for 5 business days after the first use start date on the issued permit.
    - If the **Job Start Notification** schedule or re-schedule open period has lapsed in the Seattle Services Portal, the Permittee shall provide the start date notification to the assigned inspector.
    - The Permittee shall pay the cost of any inspection fees resulting in the dispatch of an inspector to the site for a scheduled initial inspection unless that inspection was appropriately rescheduled through the Seattle Services Portal Job Start Notification or through direct contact with the Inspector.
- Subsequent inspection notifications shall be scheduled on the **Seattle Services Portal**. Depending on the permit type, the following inspection notifications may also be available to schedule in the **Seattle Services Portal** after the Initial Inspection has been completed:
    - **Curb Ramp Inspection**: to confirm new curb ramps meet ADA requirements.
    - **Mark Out Inspection**: to establish layout of restoration dimensions.
    - **Restoration Inspection**: to ensure restoration complies with City standards and codes. The Restoration Inspection shall be scheduled a minimum of 2 business days before beginning the restoration work.
    - **Site Inspection**: to request an inspection prior to your next scheduled inspection.
- Notifications not available on the **Seattle Services Portal**:
    - Pre-construction meeting: required for SIPs and Utility Major Permits before starting construction. To schedule a SIP preconstruction meeting, contact your assigned Street Use reviewer or SIP Project Manager. For Utility Major Permit ("UMP") preconstruction meetings contact your assigned Street Use Inspector at least 10 business days prior to mobilization.
    - Off-hours Inspection: for any inspection needed outside of normal working hours (8am-5pm, Monday-Friday) email request to DOT_StUse_OffHours_Inspection@seattle.gov a minimum of 3 business days in advance. The off-hour request SHALL include the following information:
        - § Permit/record number
        - § Address/location
        - § Hours of work
        - § Dates of work
        - § Site Contact Name and phone number
        - § Description of work
        - § And (if applicable) stated confirmation of Hub coordination approval.

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- Please note that off-hours conditions also apply to the observed annual dates of the following holidays in the City of Seattle for inspection response scheduling:
  - New Year's Day, Martin Luther King Jr. Day, President's Day, Memorial Day, Juneteenth, Independence Day, Labor Day, Indigenous People's Day, Veteran's Day, Thanksgiving Day and the Friday following it, and Christmas Day.
- Failure to notify Street Use Job Start may result in a citation according to SMC Section 15.91.002 and the current Street Use Fee Schedule according to SMC Section 15.04.074.

10. ***Underground and overhead utility notification***. The Permittee shall notify the following entities, as applicable, 2 business days in advance:
  - Utility Underground Locate Center (811 or 1-800-424-5555) before ground disturbance; and
  - Seattle City Light (206-684-4911) if working within 10 feet of high-voltage lines.

11. ***Olympic Pipeline Company notification***. When work in the right-of-way occurs within 100 feet of an Olympic Pipeline Company ("OPLC") pipeline, the Permittee shall coordinate the work with OPLC, which may include submitting detailed construction plans to OPLC. The Permittee shall notify OPLC's field coordinator 10 business days in advance of the work (425-235-7736) and an OPLC representative may be required to be onsite during the work.

12. ***King County Metro notification***. The Permittee shall notify King County Metro Transit in advance of any construction or use that may disrupt transit service according to the following schedule:
  - Five business days' notice (minimum) for any work requiring a short-term temporary bus stop or shelter move.
  - Ten business days' notice (minimum) for reroute of bus service.
  - 15 business days' notice (minimum) for deactivation of trolley bus overhead electrical system (overhead catenary system, OCS).
  - If trolley wires are present, call 206-477-1150 or email trolley.impacts@kingcounty.gov.
  - If trolley wires are not present, call 206-477-1140 or email construction.coord@kingcounty.gov.

13. ***Public notification***. Notification requirements shall comply with Client Assistance Memo (CAM) 2117.

14. ***Alley notification***. In addition to the requirements of CAM 2117, where this permit authorizes work in an alley, the Permittee shall notify all potentially impacted property owners and businesses prior to any activity occurring in the alley, including and especially those property owners and businesses with tenants using the alley to access parking or for building ingress/egress or deliveries. The Permittee shall schedule work around waste-management-collection days. If this is not possible, the Permittee shall coordinate with waste management services to either provide intermittent alley access during waste pickup, to actively facilitate waste pickup, or to temporarily establish waste pickup at an alternate location. If an alley is to remain open during permitted work, a minimum 11-foot clear width is required for vehicular access. If an alley is closed to through traffic, the Permittee shall notify Seattle Fire Department at sfd_opsadmin@seattle.gov and the Seattle Police Department at the non-emergency numbers prior to commencing work.

15. ***Coordination of work***. In performing work or occupying the right-of-way as authorized by this permit, the Permittee shall coordinate with other contractors, public agencies, and other permittees working in the public right-of-way to minimize mobility and other impacts to the public. Documented coordination agreements may be required prior to permit issuance and additional notification to the public may be required.

Coordination of work in a designated Construction Hub area:

Locations, dates, and times of work, or occupation in the right-of-way shall be approved by the Construction Hub coordinator through the permit review process. Schedule and time changes after the initial or amendment issuance of a permit shall be approved by the Construction Hub coordinator at least 10 business days prior to impacting the right-of-way. Schedule and time change requests can be emailed to SDOTConstructionHub@seattle.gov.

  - Attendance at geo-based Construction Hub coordination meetings may be required to ensure desired dates are coordinated and scheduled and to minimize delays in the permit review and Construction Hub coordination processes. For meeting information and invitations and other information specific to Construction Hubs, email SDOTConstructionHub@Seattle.gov.
  - The Construction Hub map can be found at this link: https://www.seattle.gov/transportation/projects-and-programs/programs/pedestrian-program/project-and-construction-coordination-office/construction-hub-coordination

16. ***Hours of work***. Work performed in the public right-of-way shall occur only during hours authorized under all applicable codes, regulations, rules, and permits.

17. ***Billing***. All fees and costs billed according to this permit shall be paid to the City of Seattle within 30 calendar days from the invoice date. Past due invoices may be subject to interest charges and may be sent to collections.

18. ***Deposits, charges, and future billings***. The Permittee or, if designated, Financially Responsible Party, is responsible and liable for all permit related charges.

19. ***Corrective work***. The Permittee is responsible for any additional costs incurred by the City resulting from temporary or corrective measures required to bring the work or occupation area into compliance with standards that apply, including but not limited to: temporary traffic control, requirements for temporary structures, temporary stabilization, and temporary restoration when the Permittee is not on site.

20. ***Indemnification***. The Permittee agrees to defend, indemnify, and hold harmless the City of Seattle, its officials, officers, employees, and agents; against any liability, claims, causes of action, judgments, or expenses, including reasonable attorney fees; resulting directly or indirectly from any act or omission of the Permittee, its contractors, subcontractors, anyone directly or indirectly employed by them, and anyone for whose acts or omissions they may be liable; arising out of the Permittee's use or occupancy of the public right-of-way; and all loss by the failure of the Permittee to fully or adequately perform, in any respect, all authorizations or obligations under this Permit and shall comply with SMC Section 15.04.060.

21. ***Insurance***. Except as exempted by SDOT Director's Rule 04-2023, the Permittee shall, at its own expense, obtain and maintain in full force and effect public liability insurance in an amount sufficient to protect the City from all potential claims and risks of loss from perils in connection with any activity that may arise from or be related to the Permittee's activity upon or the use or occupation of the public right-of-way allowed by the permit; and all claims and risks in connection with activities performed by the Permittee by virtue of the permission granted by the permit and shall meet all other insurance requirements in SMC 15.04.045.

22. ***Maintenance of long-term permitted use.*** The Permittee shall ensure long-term permitted uses remain structurally stable, in good repair, clear of refuse, and free from defacement or graffiti as defined in SMC Chapter 10.07.

EXISTING IMPROVEMENTS

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1. ***Costs of damage to City property and improvements***. The Permittee shall be responsible for the costs of repairing any damage to City property or improvements resulting from work performed by or on behalf of the Permittee within the public right-of-way. Damage to street trees is assessed on the value of the tree according to SMC subsection 15.90.018.B.
2. ***Utility protection***. The Permittee shall be responsible for checking locations and providing adequate protection for all utilities in the work area.
3. ***Utility relocation***. The Permittee shall be responsible for notifying affected utilities and requesting any necessary relocation.
4. ***Survey monuments***. Before removing, destroying, disturbing, or covering a survey monument such that the survey point is no longer visible or readily accessible, the Permittee shall obtain a permit from the Department of Natural Resources according to Washington Administrative Code, Chapter 332-120.
5. ***Protecting, removing, and relocating existing improvements***. In addition to General Requirements, the Permittee, at their own cost and expense, shall be responsible for coordinating the removal and relocation of existing improvements within the public right-of-way that their construction or permitted project may interfere with. These existing improvements include, but are not limited to trees, bike racks, newsstands, signs, benches, artwork, and waste receptacles.
   - For existing assets, the Permittee shall contact the improvement owner at least 10 business days before starting work to coordinate the temporary removal of the improvement.
   - The Permittee shall be responsible for reinstalling the improvements or coordinating the reinstallation in their original location or at a reasonable alternative location approved by the existing improvement owner and meeting all applicable City requirements. The Permittee is further responsible for protecting all trees within the construction project area and shall contact Urban Forestry to disclose and describe any construction impacts to trees.
   - Failure to contact the improvement owners or Urban Forestry is cause for Street Use to revoke this permit.
6. ***Monorail system proximity requirements***. The Permittee shall be responsible for coordinating with the Seattle Center when any work, deliveries, or loading/unloading will occur within 14 feet of a Monorail structure or 20 feet of a Monorail foundation or below-ground installation. The Permittee shall contact the Seattle Center at review@seattlemonorail.com at least 10 business days before starting construction. Failure to do so is cause for permit revocation.
7. ***Monorail system proximity guidelines***. Below grade: The restricted digging area includes a 45-degree cone extending outward and downward from the ground level of all monorail piers. Nearby excavations shall be monitored to assure footing stability. At- or above-grade: The piers above ground level cannot be moved, nor can any item like lighting or signage be attached to the piers without prior written consent from the Seattle Center Director. Piers shall not be painted. Landscaping shall not occur adjacent to piers or within 10 feet of a Monorail structure without prior written consent of the Seattle Center Director. Any construction activity in the area of the power rails shall follow OSHA guidelines for working around high voltage. Construction equipment shall be located and operated in awareness of and taking account of beam height and the train's 14-foot-operational envelope from each side of the beam. Contractors shall string warning lines from pier to pier under the beams as a guide. Spotters shall be employed when any construction activity occurs within 25 feet of the beams.

ENVIRONMENTAL PROTECTION

1. ***Best management practices required***. The Permittee shall be responsible for protecting the public place, including but not limited to protecting existing street trees and green stormwater infrastructure, and controlling surface runoff, erosion and sediment at the construction site, as required by: the Stormwater Code and Manual, (SMC Title 22, Subtitle VIII); the Street and Sidewalk Use Code, (SMC Title 15); the Standard Specifications for Road, Bridge, and Municipal Construction; and the Regulations for Environmentally Critical Areas (SMC Chapter 25.09). The site and the surrounding area shall generally be kept clean and free of construction debris or other material, including but not limited to mud, dust, rock, asphalt, and concrete. Waste materials shall be collected and disposed of at an appropriate disposal site. These materials shall be prevented from entering any part of the public sewer and storm drain system, and any surface waters.

TRAFFIC CONTROL REQUIREMENTS

1. ***Compliance with the Traffic Control Manual for In-Street Work***. In order to provide safe and effective work areas and to ward, control, protect, and expedite vehicular and pedestrian traffic; signage for all construction within the public right-of-way shall comply with the City of Seattle Traffic Control Manual for In-Street Work, as amended. When required, the conditions on the traffic control plan shall supersede any conflicting provisions or requirements in the City of Seattle Traffic Control Manual for In-Street Work. A copy of the current City of Seattle Traffic Control Manual for In-Street Work and the approved traffic control plan shall be on site at all times.
2. ***Lanes to remain open during peak hours***. Traffic lanes shall not be closed during the following peak hours: 6:00 AM - 9:00 AM and 3:00 PM - 7:00 PM in the Central Business District and 7:00 AM - 9:00 AM and 4:00 PM - 6:00 PM for arterials elsewhere in the City, unless specifically noted on the approved traffic control plan.
3. ***Maintain access***. Access to adjoining properties and businesses shall be maintained or accommodated during construction. Pedestrian access around construction sites shall be implemented and maintained per SDOT Director's Rule 10-2015, or successor rule.
4. ***Width of temporary traffic lanes***. Temporary traffic lanes created during the permitted work shall be a minimum of 11 feet in width unless otherwise approved on the traffic control plan.
5. ***Working within restricted curb spaces***. When the project impacts a restricted curb space, such as meters, pay stations, and specific use and load zones; the Permittee shall obtain all necessary permits in the Seattle Services Portal.
6. ***Temporary No Parking signs and easels***. In areas without parking pay stations or parking meters, or when Traffic Operations allows reserved parking spaces to be controlled with Temporary No Parking signs, establishing a Temporary No Parking Zone requires placing type R7-T38 (T-38) or R7-T39 (T-39) easels and obtaining all necessary permits in the Seattle Services Portal in conformance with the Traffic Control Manual for In-Street Work. In high impact areas, the Central Business District, and in areas where construction projects are densely clustered (such as in City-designated Construction Hubs), additional requirements for establishing a Temporary No Parking Zone may apply. The Permittee shall clearly and legibly mark signs and easels indicating dates and times of traffic restriction and shall maintain signs and easels in good condition and free of graffiti.
7. ***Nighttime illumination***. For permits authorizing construction, the Permittee shall place and maintain at the points of obstruction or excavation of any right-of-way, four or more Type B warning lights of sufficient brilliance to be seen from 500 feet during the hours of darkness.
8. ***Work in alleys***. For work occurring in alleys that impedes vehicular access, including but not limited to egress, ingress, or through travel; the Permittee shall place "Street Closed" signs at each end of the alley.

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ENFORCEMENT

1. ***Enforcement.*** Violations of any of the requirements set forth herein are subject to enforcement according to SMC Title 15 Section IV.

PART 1 - GENERAL

1.01 SUMMARY OF WORK

A. All workmanship and Materials are subject to inspection by the Engineer, who may select samples of Materials in such number and quantities as he/she may deem necessary to determine their conformance with the Specifications and project intent.
B. All rejected Materials and Work must be promptly removed by the Contractor from the premises and adjacent surroundings.
C. All rejected Work or Materials must be promptly replaced by the Contractor to the satisfaction of the Engineer.
D. The Engineer reserves the right to inspect any component of the Work at any time. Such inspections are intended to verify conformance with the design intent as well as workmanship and quality of Materials. The Contractor must cooperate with the Engineer's inspections.
E. Inspection requirements are generally identified in the Specification Sections pertinent to the Work. The Contractor must provide notification of readiness for inspection to the Engineer a minimum of two full Working Days in advance.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 INSPECTION AND TESTING

A. Upon request by the Engineer, the Contractor must furnish test samples of Materials at no additional cost. Tests by the Engineer will be conducted in accordance with commonly recognized standards of national materials testing organizations and other test methods as deemed necessary by the Engineer.
B. Any and all Materials necessary for the construction of any part of the Work and associated improvements, but not otherwise specified in the Contract, must be of high quality, sourced from reputable Supplier(s) with minimum five years' experience in the applicable industry, specifically identified to the Engineer, and are subject to the Engineer's approval.

3.02 SAMPLES

A. The Contractor must prepare and submit samples required by the Contract sufficiently in advance to allow for retesting or modification of the Work, which may be required at the Engineer's discretion based on the results of the Engineer's evaluation of the samples, as necessary, to avoid delaying the Contract's Critical Path Schedule.

3.03 FINAL INSPECTION

A. The Engineer will conduct a final inspection after all requirements for Substantial Completion have been completed, including all punch list items identified during the Substantial Completion inspection and any other concluding Work elements identified in the Contract. Final inspection of the Work by the Engineer will be made no later than five Working Days after receipt of Contractor's written request for final inspection.

B. Before Final Payment will be made and before the Engineer accepts the Work as complete, defects or omissions noted on the final inspection must be corrected by the Contractor to the satisfaction of the Engineer and without additional cost to the Owner. See Section 01 77 19 – Contract Closeout.

END OF SECTION 01 45 00

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. This Work includes furnishing, installing, operating, maintaining, and removal of temporary construction facilities.

1.02 TEMPORARY FACILITIES

A. All costs associated with utilities and services required by the Contractor to execute the Contract Work must be borne by the Contractor.
B. Meals and Lodging: The Owner will not provide meal or lodging facilities for the Contractor's personnel.
C. Temporary Buildings: The Contractor may construct or provide temporary buildings, at an approved or designated location, as may be necessary for the performance of the Work. At the completion of the Work, the Contractor must remove all temporary buildings. All costs associated with temporary buildings and related facilities must be borne by the Contractor.
D. Toilet Facilities:

1. The Contractor must provide and maintain adequate chemical toilet facilities for all individuals connected with the Work, with separate facilities for men and women.
2. The Contractor must keep the toilet facilities in sanitary condition in accordance with the King County Health Department.
3. The Contractor must remove the toilet facilities at completion of the Contract and must disinfect the premises.

E. The Contractor must make all arrangements for temporary water, electrical, telephone and fire hydrant services. The Contractor must obtain required hydrant use permits from the Seattle Public Utilities, Water Department.
F. The Contractor must maintain the construction area in a neat and orderly condition throughout the Contract. Food and garbage must be stored properly to prevent attracting animals and insects. Remove food and garbage from the Project Site during non-work hours. Use appropriate controls to prevent rodent infestation of temporary facilities and the Project Site.
G. Staging and stockpiling areas must be as shown on the Plan and/or determined during the pre-construction conference.
H. After completion of Work, the Contractor must remove all temporary facilities and must restore the temporary facilities area(s) to original state or as may be required by the Contract.

1.03 MATERIAL DELIVERY AND STORAGE

A. Delivery of Materials must be made only during the Contractor's working hours and at such times as the Contractor has a representative available to accept delivery.
B. The Contractor must store Materials within the Project Site area at location(s) determined during the pre-construction conference or designated by the Engineer

PART 2 - PRODUCTS
Not Used.

PART 3 - EXECUTION
Not Used.

END OF SECTION 01 50 00

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. This Section consolidates certain requirements from the City of Seattle (COS) Standard Specifications Sections 1 07.23 PUBLIC CONVENIENCE AND SAFETY, 1-07.28 NOTIFICATIONS RELATIVE TO CONTRACTOR'S ACTIVITIES, and Section 1 10 TEMPORARY TRAFFIC CONTROL. In the event of conflict between the COS standards and Section 01 55 80 – Public Convenience and Safety – Temporary Traffic Control, the stricter requirement prevails.

1.02 CONSTRUCTION UNDER TRAFFIC

A. The Contractor is responsible for the safety, efficiency, and adequacy of the Contractor's plant, equipment, operation of equipment, and methods of construction; and for any damage or injury resulting from the failure, improper maintenance, use or operation of such plant, equipment, or method. See COS Standard Specifications (2023 edition).

B. Notifications Relative to Contractor's Activities:

1. The Contractor must plan and schedule Work activities to conform to and allow time for notifications, approvals, reviews, and other conditions of the Contract Documents. The Contractor must comply with COS Standard Specification Section 1-07.28 regarding required notifications for any of the following Work activities:
   a. For Work that partially or completely restricts any arterial, street, sidewalk, or alley.
   b. Disruptions to, or service modification requests for, METRO transit service.
   c. Property access restrictions.
   d. Emergency work involving Pavement, Street Right-of-Way, or Sidewalks.

C. The Contractor Must:

1. Conduct all operations with the least possible obstruction and inconvenience to the public.
2. Limit construction access restrictions to areas wherein the Work can be continuously, vigorously, correctly, and safely executed, with due regard to the access rights of the public.
3. To the extent possible, finish each section before beginning Work on the next.
4. Minimize the disruption of public traffic by:

a. Permitting traffic to pass through the Work with the least possible inconvenience or delay except in those areas where safety and lack of space requires detouring the traffic elsewhere.

b. Maintaining existing roads, streets, sidewalks, bikeways, and paths that lie next to or inside the project open and in good, clean, and safe condition at all times. Deficiencies caused by the Contractor's operation must be repaired at the Contractor's expense. Deficiencies not caused by the Contractor's operations will be repaired by Owner forces at the Owner's expense. The Contractor must also maintain roads, streets, sidewalks, bikeways, and paths adjacent to the Project Site when they are affected by the Contractor's operations. Snow and ice-control debris (such as sand) on the Roadway will be cleaned up by Owner forces at no expense to the Contractor.

c. Removing or repairing any condition resulting from the Work or Contractor's operations that might impede traffic or create a hazard, including the removal of deposits and debris that accumulate on the Roadway surface. At minimum, removal of deposits and debris must occur on a daily basis. If daily removal is insufficient to keep the traffic surfaces clean, the Contractor must perform removal operations on a more frequent basis. If the Engineer determines that more frequent cleaning is impractical or if the Contractor fails to keep the streets free from deposits and debris resulting from the Work, the Contractor must, upon order of the Engineer, remove all clay or other deposits from the tires or between wheels before trucks or other Equipment are allowed to travel over paved streets.
    1) If the Contractor fails or refuses to clean the streets, trucks, or equipment as required by the Engineer, the Engineer may order the Work suspended at the Contractor's risk until compliance with the Contractor's obligation is assured. Alternately, the Engineer may order the streets in question cleaned by others and such costs incurred by the Owner in achieving compliance with these Contract requirements, including cleaning of the streets, will be deducted from monies due or to become due the Contractor on progress payments. The Contractor shall have no claim for delay or additional costs if the Engineer chooses to suspend the Contractor's Work until compliance is achieved.

d. Maintaining existing, permanent signs and not relocating or removing traffic control and street name signs that interfere with construction unless and until absolutely necessary.

e. Installing and maintaining temporary pavement markings and striping on the Roadway using temporary pressure sensitive tape when necessary. The Contractor is responsible for scheduling when to renew striping and pavement marking, subject to the Engineer's approval.

f. Providing access at all times to emergency vehicles such as police, fire, and disaster units.

g. Coordinating construction operations with all disposal firms and transit bus service that may be operating within the Project Site.
   1) If METRO operates in the area of Work, the Contractor must maintain the Project Site in such a manner that transit bus service, including access to bus zones, is safe and convenient.
   2) Whenever it is necessary to modify METRO Transit Bus or Trolley Service, the Contractor must provide notification in accordance with COS Standard Specifications (most recent edition).
   3) Provide safe and convenient access to transit bus zones affected by the Work at all times and maintain the Project Site such that transit bus service is uninterrupted.
   4) The Contractor is liable for any damages that may result from failure to provide reasonable access or coordination with affected transit authorities.

h. Keeping existing traffic signal and lighting systems in operation as the Work proceeds (The Owner will continue the routine maintenance on such systems).

5. Protect the rights of abutting property owners by:
   a. Planning and conducting construction operations so as to minimize the inconvenience caused to abutting property owners,
   b. Maintaining ready and convenient access to driveways, houses, buildings, vehicle traffic, and pedestrian traffic along the line of Work, except:
      1) During those urgent stages of construction when it is impractical to carry on the construction and maintain vehicular and pedestrian traffic simultaneously, or
      2) When street closure is required because construction will prohibit safe vehicular traffic.
   c. The Contractor must post signs and barricades advising Street closure at the nearest intersections away from the closed portion of the Street and on all cross Streets. Street closings must not exceed 2 blocks in length at any one time unless approved otherwise by the Engineer.
   d. When Street or alley closure is required in the preparation of the Roadway for placement of asphalt pavement, concrete pavement, sewer excavation, or other construction that prohibits safe vehicular traffic, abutting property owners and tenants must be notified per COS Standard Specifications (most recent edition), of any restrictions that might affect access to their property. Notification must be at least 24 hours in advance for residential property, and at least 48 hours in advance for commercial property.
   e. Providing temporary approaches to crossing or intersecting roads and keeping those approaches in good condition.

f. Providing an alternative access before closing an existing one whenever the Contract calls for removing and replacing an abutting owner's access. The existing access must not be closed until the replacement access facility is available.

6. When traffic must pass through grading areas, the Contractor must:
   a. Make cuts and fills that provide a smooth, even Roadbed.
   b. Place, in advance of other grading work, enough fill at all culverts and bridges to permit traffic to cross.
   c. If ordered by the Engineer, make roadway cuts and fills in partial-width lifts, alternating lifts from side to side to permit traffic to pass on the side opposite the Work.
   d. Install culverts on half the width of the Traveled Way, keeping the other half open to traffic and unobstructed until the first half is ready for use.
7. After rough grading or placing any subsequent layers:
   a. Prepare the final Roadbed to a smooth, even surface (free of humps and dips) suitable for use by public traffic; and
   b. Settle dust with water, or other dust palliative, as the Engineer may order.
8. If grading work is on or next to a Roadway in use, the Contractor must finish the grade immediately after rough grading and place surfacing Materials as the Work proceeds.
9. Conduct all operations to minimize any drop offs ("drop-off" is defined as abrupt changes in Roadway elevation) left exposed to traffic during non-working hours. Unless otherwise directed in the Traffic Control Plan, the Contractor must also protect drop offs left exposed to traffic during non-working hours as follows:
   a. Drop offs up to 0.20 foot may remain exposed with appropriate warning signs alerting motorists of the condition.
   b. Drop offs more than 0.20 foot that are in the Traveled Way or Auxiliary Lane will not be allowed unless motorists are informed about the danger of a drop off immediately ahead of them with appropriate warning signs and protection is provided as indicated in subparagraph 9.c below.
   c. Drop offs with depths more than 0.20 foot, but no more than 0.50 foot, that are not within the Traveled Way are not allowed unless motorists are informed about the danger of a drop off immediately ahead of them with appropriate warning signs and further protected by having one of the following:
      1) Channeling devices (Type I barricades, plastic safety drums, or other devices 36 inches or more in height) placed along the traffic side of the drop off and a new edge of pavement stripes placed a minimum of 3 feet from the drop off on the traffic side. The maximum spacing, in linear feet, between the devices must not exceed the posted speed limit (miles per

hour) at that location. Signs warning of pavement drop off, must be placed in advance of and throughout the drop off treatment.

2) Temporary concrete barrier or other approved barrier installed on the traffic side of the drop off (with 1 foot between the drop off and the drop off side of the barrier) and a new edge of pavement stripe a minimum of 2 feet from the face of the traffic side of the barrier. An approved terminal, flare, or impact attenuator will be required at the beginning of the barrier facing oncoming traffic. For night use, the barrier must have standard delineation such as paint, reflective tape, lane markers, or warning lights.

d. Drop offs more than 0.50 foot not within the Traveled Way or Auxiliary Lane are only allowed if all of the following conditions are met, and must be marked with appropriate warning signs and further protected as indicated in subparagraph 9.c above:

1) The drop off is less than 2 feet.
2) The total length throughout the project is less than 1 mile.
3) The drop off does not remain for more than three Working Days.
4) The drop off is not present on any City of Seattle holiday.
5) The drop off is only on one side of the Roadway.

e. Drop offs more than 0.50 foot that are not within the Traveled Way or Auxiliary Lane and are not otherwise covered by the subparagraph 9.d above must be marked with appropriate warning signs and further protected as indicated in subparagraph 9.c.2.

10. Open trenches within the Traveled Way or Auxiliary Lane must have a steel plate cover placed and anchored over them. A wedge of suitable Material, if required, must be placed for a smooth transition between the Pavement Structure and the steel plate. Warning signs must be used to alert motorists of the presence of the steel plates.

D. The Contractor is responsible for providing adequate safeguards, safety devices, and protective Equipment, for taking any other needed actions to protect the life, health, and safety of the public, and to protect property in connection with the performance of the Work covered by the Contract. The Contractor must perform any measures or actions the Engineer may deem necessary to protect the public and property. The responsibility and expense to provide this protection shall be the Contractor's except that which is to be furnished by the Owner as may be specified elsewhere in these Specifications.

E. Nothing contained in this Contract is intended to create any third-party beneficiary rights in favor of any person utilizing the Highway facilities being constructed or improved under this Contract.

1.03 PEDESTRIAN CONTROL AND PROTECTION

A. 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.

B. Protective barricades, fencing, and bridges, together with warning and guidance devices and signs, must be utilized so that the passageway for pedestrians is safe and well defined. Whenever pedestrian walkways are provided across excavations, they must be provided with suitable handrails. Footbridges must be safe, strong, and free of bounce and sway, have a slip resistant coating, and be free of cracks, holes, and irregularities that could cause tripping. Accessible ramps must be provided at the entrance and exit of all raised footbridges to prevent tripping. Adequate illumination and reflectorization must be provided during hours of darkness. All walkways must be maintained at least 4 feet clear width except in areas of unusually heavy pedestrian traffic such as business districts, where the minimum clear width must be 8 feet.

C. Where walks are closed by construction, an alternate walkway must be provided, preferably within the planting strip. Where it is necessary to divert pedestrians into the roadway, barricading or channeling devices must 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.

D. At locations where adjacent alternate walkways cannot be provided, appropriate signs must 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.

E. Physical barricades must be installed to prevent visually impaired people from inadvertently entering a closed area. Pedestrian walkways must be wheelchair accessible at all times. Pedestrian access must be maintained to all properties adjacent to the construction site.

1.04 TEMPORARY TRAFFIC CONTROL

A. General:

1. Installation and maintenance of temporary traffic control for pedestrian and vehicular traffic within the public Right of Way must be performed in accordance with the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) as supplemented by the current edition of The City of Seattle Traffic Control Manual for In-Street Work (hereinafter referred to as the Seattle Traffic Control Manual) and such additional requirements as may be included in the Contract. The Manual on Uniform Traffic Control Devices for Streets and Highways may be downloaded from https://mutcd.fhwa.dot.gov. The Seattle Traffic Control Manual may be downloaded from https://www.seattle.gov/transportation/document-library/manuals/traffic-control-manual.
2. The Contractor must:

a. Provide flaggers, signs, and other traffic control devices not otherwise specified as being furnished by the Engineer.
b. Not work on or adjacent to any traveled way until all necessary signs and traffic control devices are in place.
c. Unless the section of Street is to be completely closed to vehicular traffic, schedule and plan the Work to permit:
    1) The maximum number of traffic lanes normally available to be opened in the direction of the heaviest flow of traffic during the peak hours.
    2) Maintain 2-way traffic at all times except on "one way" streets. Additional width for facilitating traffic flow may be obtained by requesting on-Street parking to be prohibited adjacent to the Work area.
    3) Maintain traffic on a paved surface whenever possible. In the event that a graveled or dirt surface must be used as a detour, maintain a smooth surface and control dust.
d. Maintain safe conditions adjacent to the Job Site:
    1) Clean up spillage from trucks on the pedestrian or driving surface adjacent to the Work area. See COS Standard Specifications (most recent edition), and Paragraph 1.02 of this Section.
    2) Provide safe and protected pedestrian ways. See Paragraph 1.02 of this Section.
    3) Not park or place construction equipment to create an unnecessary sight distance obstruction or other safety issue for vehicular or pedestrian traffic.
    4) Maintain Work area traffic control devices in a proper condition on an "around the clock" basis regardless of whether Work is actively being done. In addition, the Contractor must assure that tools and equipment are properly stored, and excavation bridging is secure and adequately covering excavation.
e. Erect and maintain all construction signs, warning signs, detour signs, and other traffic control devices necessary to warn and protect the public at all times from injury or damage resulting from the Contractor’s operations.
f. Be liable for injuries and damages to persons and property suffered by reason of the Contractor’s operations or any negligence in connection therewith.
g. Construct, maintain in a safe condition, keep open to traffic, and remove when no longer needed, detours and temporary approaches that will accommodate traffic diverted from the Roadway, walkway, or bridge during construction. On-site or off-site detours required or necessitated by the Work, including side Street crossings, temporary bridges, utilization of one or more lanes of the construction area for

maintenance of through traffic, and related traffic control is the responsibility of the Contractor.

B. Traffic Control Management:

1. General:
   a. All projects in street areas will be inspected with regard to type and placement of pedestrian and vehicular traffic control devices. Traffic control devices not meeting the requirements of the Seattle Traffic Control Manual are considered non-standard. Non-standard traffic control devices must not be used unless specifically approved for use, in writing, by the Engineer.
   b. The Contractor must patrol the traffic control area as often as necessary, but at least daily, and reset all disturbed signs and traffic control devices. Signs and other traffic control devices must be removed or covered during periods when they are not necessary.
   c. Before beginning Work, the Contractor must designate an individual or individuals to perform the duties of Traffic Control Manager (TCM) and Traffic Control Supervisor (TCS). These individuals must be in continuous responsible charge of traffic control. A TCM and TCS are required on all projects that require traffic control. The TCM may also perform the duties of the TCS. The Contractor may identify no more than six alternate employees that can assume the duties of the assigned or primary TCM and TCS in case of the primary person's inability to perform. Such alternates must be adequately trained and certified to the same degree as the primary TCM and TCS.
   d. The Contractor must maintain 24-hour telephone numbers at which the TCM and TCS can be contacted and be available upon the Engineer's request at other than normal working hours. The TCM and TCS must have the appropriate personnel, equipment, and Material available at all times to correct any deficiency in the traffic control system.
2. TCM - The duties of the TCM include:
   a. Discussing proposed traffic control measures and coordinating implementation of the Contractor-adopted traffic control plan(s) with the Engineer.
   b. Coordinating all traffic control operations, including those of Subcontractors, Suppliers, and any adjacent construction or maintenance operations.
   c. Coordinating the project's activities (such as ramp closures, Road closures, and lane closures) with appropriate police, fire control agencies, city or county engineering, medical emergency agencies, school districts, disposal companies, and transit companies.

d. Overseeing all requirements of the Contract that contribute to the convenience, safety, and orderly movement of vehicular and pedestrian traffic.
e. Having the latest adopted edition of the Seattle Traffic Control Manual and applicable standards and Contract available at all times on the Project Site.
f. Attending all project meetings where traffic management is discussed.
g. Review TCS's diaries daily and be responsible for knowing "field" traffic control operations.

3. TCS:
   a. A TCS must be on the project whenever traffic control labor is required or as authorized by the Engineer.
   b. The TCS must personally perform all the duties of the TCS. During non-work periods, the TCS must be able to be on the Job Site within a 45 minute period after notification by the Engineer.
   c. The TCS's duties include:
      1) Inspecting traffic control devices and nighttime lighting for proper location, installation, message, cleanliness, and effect on the traveling public. Traffic control devices must be inspected each work shift except that Class A signs and nighttime lighting need to be checked only once a week. Traffic control devices left in place for 24 hours or more must also be inspected once during the non-working hours when they are initially set up (during daylight or darkness, whichever is opposite of the working hours).
      2) Preparing a daily traffic control diary, which must be submitted to the Engineer no later than the end of the next Working Day to become a part of the project records. The Contractor may use WSDOT Form 421 040A and Form 421 040B or the Contractor's own form if it is approved by the Engineer. The TCS must include in the diary such items as:
         a) When signs and traffic control devices are installed and removed
         b) Location and condition of signs and traffic control devices
         c) Revisions to the traffic control plan
         d) Lighting utilized at night
         e) Observations of traffic conditions
      3) Ensuring that corrections are made if traffic control devices are not functioning as required. The TCS may make minor revisions to the traffic control plan to accommodate site conditions as long as the original intent of the traffic control plan is maintained and the revision has concurrence of the Engineer.

a) Attending traffic control coordinating meetings or coordination activities as authorized by the Engineer.
b) Possession of a current flagging card by the TCS is mandatory.
c) A reflective vest and a hard hat must be worn by the TCS.

4. Contractor's Refusal or Failure to Act:
   a. Upon failure or refusal of the Contractor to comply with the Engineer's Written Notice to:
      1) Provide adequate flaggers,
      2) Provide, erect, maintain, and remove, as applicable, barricades, signs, lights, on site or off site detours or detour bridges, or
      3) Provide any Work required by Paragraph 1.02 or Paragraph 1.03 of this Section.
      4) Follow the Engineer's order to do 1), 2), or 3), the Engineer shall have the option to do one or any combination of the following:
         a) Suspend the Work without further notice to the Contractor or the Contractor's Surety until the Contractor complies with the Engineer's order (see Section 00 72 00 – General Conditions, Paragraph 1.08.G),
         b) Provide an off-duty uniformed police officer at no additional cost to the Owner, or
         c) Provide, erect, maintain and remove barricades, signs and lights at no additional cost to the Owner, by the Owner’s forces or by others, and
         d) Deduct all costs related to the above items from any progress payments due or coming due the Contractor.
   b. The above options shall not bar the Owner from exercising other remedies because of the Contractor's failure or refusal to comply with a contractual obligation.
5. Traffic Control Plans:
   a. Content and Submittal Requirements
      1) Based on the Contractor’s intended method of performing the Work, the Contractor must develop, adopt, and submit to the Engineer a specific Traffic Control Plan (TCP) or plans for protecting and controlling pedestrian and vehicle traffic during construction operations. A separate TCP is required for each Work location within the Street Right of Way. Typical plans may be submitted for areas with identical traffic requirements. Typical plans must be clearly labeled to indicate all locations the plan is to represent. TCPs must address any street or lane

closure or other restrictions that may be specified in the Contract.

2) TCP submittal must be made at least 10 Working Days before planned implementation to allow for Engineer evaluation of the proposed vehicular and pedestrian routing, flagging, and placement of signage and other traffic control devices. The Contractor must not begin Work in the Street Right of Way until an approved TCP for the specific location has been returned by the Engineer. Submittals must be in accordance with Section 01 33 10 - Submittals. A minimum of two copies must be provided for each TCP.

3) TCPs must indicate:
   a) Vehicular and pedestrian traffic routing.
   b) Proposed location of flaggers, barricades, lighting, signing, and other traffic control devices in relation to existing Roadway edges and lane markings.
   c) Proposed number of working hours.
   d) Arrangements for access to buildings within and immediately adjacent to construction site.
   e) Arrangements for emergency exiting from buildings within and immediately adjacent to the Project Site.
   f) Anticipated driveway blockage resulting from construction operations.
   g) Restrictions to on street parking within immediate vicinity of site, including arrangements for hooding parking meters as necessary.
   h) Arrangements for temporary passenger and commercial loading and unloading zones, and temporary bus stop zones.
   i) Identification and description of temporary lateral relocations of trolley overhead wire system if necessary to maintain trolley service.
   j) Routing of construction trucks.
   k) Coordination in sequencing traffic control with scheduling of Work and Work locations.

4) When the signing of a particular area will be provided as detailed on one or more of the figures included in the Seattle Traffic Control Manual without modification, the Contractor may reference the applicable figure number, shown in the manual, at the appropriate location on the Drawings. When this procedure is used, variable distances such as minimum length of taper must be specified by the Contractor. The spacing proposed for barricades and cones must also be specified.

5) If the Contractor's proposed pedestrian or traffic control measures differ from the traffic control requirements in the Seattle Traffic Control Manual, the Contractor's alternate traffic control plan must detail the specific location of each construction sign, flagger, and other traffic control device. The Contractor's alternate method for traffic and pedestrian control must be developed in accordance with the same established standards for plan development demonstrated by the figures in the Seattle Traffic Control Manual. Acceptance of alternative traffic control measures is entirely at the discretion of the Engineer. The Contractor shall have no claim for an equitable adjustment:
   a) For using alternative measures.
   b) If the proposed alternate measures are rejected or modified.
   c) If requests to use non-standard traffic control devices are rejected or modified.

b. Project Specific streets or lanes for closure: None allowed.
   1) "Street name" and time of closure OR project length

6. The Contractor must plan and schedule Contractor Work activities to conform to and allow time for notifications, reviews, approvals, and acceptance of Submittals as specified in the Project Manual and COS Standard Specifications (most recent edition).
   a. Conformance to Established Standards:
      1) The condition of signs and traffic control devices must be new or "acceptable" as defined in the book Quality Guidelines for Temporary Traffic Control Devices and Features, and may be accepted based on a visual inspection by the Engineer. The Engineer's decision on the condition of a sign or traffic control device shall be final. When a sign or traffic control device becomes classified as "unacceptable" it must be removed from the project and replaced with 12 hours.
      2) The handbook, Quality Guidelines for Temporary Traffic Control Devices and Features, is available for purchase on the American Traffic Safety Service Association website at https://www.atssa.com.
      3) Requests to use non-standard traffic control devices must be submitted with the TCP or by submitting a modification to the TCP.
   b. Traffic Control Restrictions
      1) Project-Specific Street and Lane Closure Restrictions, if applicable
      2) In addition to the Project-Specific Street and Lane Closure Restrictions specified in subparagraph 1.04.B.5.b.1 above, the Arterial approaches to the Streets being paved must remain

open to vehicular traffic for their full Roadway widths except when paving across Arterial crossings. During such periods, the cross Streets may be closed for a minimum amount of time as approved by the Engineer. Prior to the closure of any Arterial cross street, the Contractor must submit to the Engineer a TCP for the location detailing the traffic controls to be used to reroute traffic. Traffic must not be rerouted without approval of the TCP by the Engineer.

3) The Contractor shall have no claim due to a TCP being rejected or modified by the Engineer.

c. Time of Work:

1) Except as itemized in subparagraph 1.04.B.5.b of this Section, no Work shall be scheduled in the traveled way on arterial streets during Peak Traffic Hours without written authorization from the Engineer. Unless otherwise specified Peak Traffic Hours are from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM with the following exceptions:
   a) For the Central Business District peak hours are from 6:00 AM to 9:00 AM and 3:00 PM to 6:00 PM.
   b) For Aurora Avenue peak hours are from 6:00 AM to 9:00 AM and 3:00 PM to 7:00 PM.
2) The Contractor must discontinue Work if conflict exists with special events such as parades, sporting events, miscellaneous rallies, and large public meetings or with seasonal conditions, such as Christmas. Information concerning such events can usually be obtained from https://www.seattle.gov/transportation/projects-and-programs/current-projects/upcoming-construction-and-events.
3) No construction activities will be allowed on any portion of a project that lies within the Central Business District or the Pioneer Square area during the Christmas season, Thanksgiving Day through New Year's Day inclusive.
   a) The Central Business District is that area within the boundaries of Interstate 5 on the east, Seneca Street on the south, 1st Avenue on the west, Virginia Street and Denny Way (east of Fairview Avenue) on the north.
   b) The Pioneer Square Area is that area within the boundaries of Alaskan Way on the west, 2nd Avenue and 2nd Avenue South on the east, Columbia Street on the north and King Street on the south.

d. Parking:

1) Where parking restricts traffic flow or is a hazard to through traffic or to the construction Work, parking may be restricted either entirely or during the time when it creates a hazard. Parking restrictions within construction and maintenance areas

may be requested by the Contractor and must be approved by the Engineer. In areas where parking meters are present, the Contractor must apply to SDOT for installation of meter covers restricting such parking. Where no meters are present, the Contractor must contact SDOT so that the Contractor may install "NO PARKING" (T-39) easel signs. Signs must be inspected by a parking enforcement officer or uniformed peace officer 24 hours prior to enforcement. See COS Standard Specifications (most recent edition) for notification requirements.

2) "NO PARKING" signs must conform in message, dimension and color as indicated in Part V of the Seattle Traffic Control Manual. Spacing of signs must be in accordance with pertinent Project Site requirements.

3) "NO PARKING" (T 39) easel signs must be installed at an approximate interval of 50 feet to 75 feet, with a minimum of four units, per each full block. For partial block parking prohibition, R 101's or T 39's should be installed at approximately 50 foot intervals with R 160 signs at the terminus as shown in Figure V 1 of the Seattle Traffic Control Manual.

4) The employees of the Contractor must not park their private vehicles on the Street, at the Job Site, or in commercial areas where general parking has been prohibited for construction or safety purposes.

C. Flagging, Signs, and Other Traffic Control Devices:

1. Flagging:

a. General:

1) Flaggers must have a current certification (flagging card) from the State Department of Labor and Industries (WAC 296 155 305), except where the flagging job requires a uniformed off duty peace officer. The Contractor must furnish all personnel for flagging and for the setup and removal of all temporary traffic control devices and construction signs necessary to control traffic during construction operations. Prior to performing any traffic control Work on the project, these personnel must be trained with the video, Safety in the Work Zone, produced jointly by WSDOT and Laborers' International Union of North America. The video is available from WSDOT's Engineering Publications Office, Transportation Building.

2) Pursuant to WAC 296 155 305, flaggers and spotters must possess a current flagging card issued by the State of

Washington Department of Labor and Industries. Current flagging cards from Oregon and Idaho are also acceptable. The flagging card must be immediately available and shown to the Engineer upon request.

3) Workers engaged in flagging or traffic control must wear reflective vests and hard hats. During hours of darkness, white coveralls or white or yellow rain gear must also be worn. The vests and other apparel must be in conformance with subparagraph 1.04.C.1.b below. During hours of darkness flagger stations must be illuminated to ensure that flaggers can easily be seen without causing glare to the traveling public. The Contractor must furnish the MUTCD standard Stop/Slow paddles (18 inches wide, letters 6 inches high and reflectorized) for the flagging operations.

b. High Visibility Apparel and Equipment:

1) Flaggers must wear reflective vests and hard hats for the flagging and control of traffic. This equipment must be used by the flaggers while flagging traffic. The Contractor must also provide any such equipment that is necessary or desirable to protect personnel engaged in all Work activities.

2) The Contractor must require all personnel at the Project Site under their control (including Subcontractors and lower tier Subcontractors) to comply with the following:
   a) To wear reflective vests, except that during daylight hours, orange clothing equivalent to Ten Mile Cloth or hunter orange may be worn in lieu of reflective vests.
   b) To wear white coveralls at night.
   c) Whenever rain gear is worn during hours of darkness, it must be white or yellow.
   d) The reflective vests must always be the outermost garment.

3) Exceptions to the above requirements are:
   a) When personnel are out of view of or not exposed to traffic.
   b) When personnel are inside a vehicle.
   c) Where it is obvious that such apparel is not needed for the employee's safety from traffic.

4) Reflective vests must have a minimum of 100 square inches of reflective surface distributed 30% on the front and 70% on the back. The retro reflection value at an entrance angle of -4 degrees and an observation angle of 0.2 degrees must be a minimum 500 candle power for the reflective surface of the vest. Reflective vests, hard hats, white coveralls, rain gear, and other apparel must be furnished and maintained in a neat,

clean, and presentable condition at no additional cost to the Owner.

2. Traffic Control Vehicles:
   a. The traffic control vehicle must be equipped with a roof or post mount flashing amber light visible for 360 degrees. Truck and construction equipment that encroaches onto the traveled roadway for any reason must also be equipped with flashing yellow warning lights. Unless one or more flaggers are present to control traffic, supplementary traffic control devices must be placed to warn, slow down, and if necessary, divert traffic around such Equipment.
3. Construction Signs:
   a. General:
      1) The Contractor must furnish, install, and maintain all traffic control signs required by the Contract or a Contractor's approved TCP. These include:
         a) Temporary traffic control signs referenced in the Seattle Traffic Control Manual.
         b) Any permanent signs located in the construction area that are temporarily relocated, damaged, or destroyed by the Contractor or a third party prior to the Physical Completion Date.
      2) When all or some of the necessary signs or traffic control devices are to be furnished by the Engineer, it will be so specified in the Contract.
      3) The Contractor must:
         a) Provide the posts or supports.
         b) Erect and maintain signs in a clean, neat, and presentable condition until the Engineer approves their removal.
         c) Take signs, posts, or supports down when the need for such signs has ceased. All posts and supports must be removed from the project and shall remain the property of the Contractor.
         d) Remove all non-applicable signs, or completely cover with metal or plywood, during periods when they are not needed.
         e) Return to the Engineer, in good condition, any Engineer furnished signs. All such signs lost, stolen, damaged, or destroyed must be replaced by the Contractor in kind at the Contractor's expense or their value will be deducted from the Contractor's payments.
      4) All control signs necessary for nighttime traffic control must be fully reflectorized.

5) Existing traffic control and Street name signs that interfere with construction must be relocated or removed by the Contractor and temporarily stored in a safe place. Any STOP, YIELD, and ONE WAY signs may be removed or relocated only upon specific approval by the Engineer. Existing signs must not be removed until the Contractor has provided temporary measures sufficient to safeguard and direct traffic after the existing signs have been removed. Except as otherwise provided in the Contract, preservation and maintenance of traffic control and street name signs is the sole responsibility of the Contractor.
6) As Work progresses and as conditions permit, temporarily relocated or removed traffic and Street name signs must be reset in their permanent location by the Contractor (see 600 series applicable Standard Plans regarding sign and post installation). Signs and other traffic control devices damaged or lost by the Contractor must be replaced or repaired by the Contractor at no additional cost to the Owner. The decision as to whether a sign must be repaired or replaced shall be the Engineer's, and such decision is final and binding on the Contractor.
7) Traffic control signs, other than parking prohibition signs which are required to be installed ahead of construction activities, must be installed immediately before the construction activity begins. The Contractor may elect, as a matter of convenience in advance of the scheduled construction activity, to install and effectively cover the signs until the construction activity begins.
8) Each construction sign is designated as one of two classes – Class A and Class B. In case of disputes, the Engineer will determine if a construction sign is considered as a Class A or B construction sign.
9) When Class A or B construction signs are required, the Work to provide these signs includes:
    a) Furnishing, removing, and disposing of the posts or supports for the signs.
    b) Initial acquisition from the Engineer and ultimate return to the Engineer of the required Engineer furnished signs.
    c) Initial installation and subsequent removal of both Class A and B construction signs.
    d) All other incidentals necessary for providing Class A or B construction signs must be in accordance with the approved TCPs.

b. Class A Signs:

1) Class A construction signs are those signs that remain in service throughout the construction or during a major phase of the Work. Class A construction signs must be installed as required by the Contract. They are mounted on posts, existing fixed structures, or substantial supports of a semi-permanent nature. Sign and support installation for Class A signs must be in accordance with the Contract Drawings or the applicable standard plans.

c. Class B Signs:

1) Class B construction signs are those signs that are placed and removed daily or are used for short durations that may extend for one or more days. They are mounted on portable or temporary mountings. If it is necessary to add weight to the signs for stability, a bag of sand that will rupture on impact must be used. The bag of sand must:
   a) Be furnished by the Contractor.
   b) Have a maximum weight of 40 pounds.
   c) Be suspended no more than 1 foot from the ground.
2) No separate Bid item will be provided in the Bid Form for Class B construction signs. Signs, posts, or supports that are lost, stolen, damaged, destroyed, or that the Engineer deems to be unacceptable while their use is required on the project, must be replaced by the Contractor at no additional cost to the Owner.
3) Sign materials must conform to the requirements of the COS Standard Specifications for Signing Materials and Fabrication.
4) Signs used during the hours of darkness must be properly reflectorized (see the COS Standard Specifications for Signing Materials and Fabrication) except for parking and pedestrian prohibition signs. Paint impregnated with glass beads is not allowed. Where reflectorization is rendered ineffective due to extraneous light sources, the sign must be illuminated either externally or internally. Where external illumination is used, the source must be properly shielded to reduce glare. Street or highway lighting is not considered adequate for illuminating signs. All reflectorized or illuminated signs must be checked by the Contractor during the hours of darkness to ensure that they are functioning properly.
5) Signs must be constructed from Material that will not deteriorate abnormally under normal weather conditions. Sign blanks must be weatherproof plywood or non-corrosive metal. Roll up signs fabricated from vinyl coated nylon or vinyl coated nylon mesh may also be used. Only reflectorized signs may be used at night.

4. Temporary Traffic Control Devices:

a. General:
   1) Traffic control devices must be installed such that they are readily visible to approaching traffic. Traffic control devices must be placed such that they allow the driver to see from one device to the next and are in the same position on successive days unless changes in construction Work dictate otherwise.
   2) When the Bid Form includes the Bid item, Maintenance and Protection of Traffic Control, this Work must include furnishing, installing, maintaining, relocating, and removing barricades, flashers, cones, traffic safety drums, and other temporary traffic control devices and Work as specified in this subparagraph 1.04.C.4.

b. High-Level Warning Device:
   1) A "High-Level Warning Device" is required for each separate Work area in the Roadway. Device materials and usage must conform to the Seattle Traffic Control Manual. A high level warning device must be installed for all temporary Work in the roadway and as a supplement to warning signs. Depending on the situation, high level flags may be attached to a service vehicle or placed directly on the roadway in advance of the obstruction. The device must be placed in the middle of the closed lane and must always be placed behind appropriate channeling devices. Normally, one unit should be used for each lane closed; however, additional units may be used if appropriate. A high level warning device should always be the first traffic control equipment to be placed, as it will provide a degree of protection during the positioning of other devices.

c. Paint Lines and Legends:
   1) When paint lines are obliterated due to construction activities or pavement restoration, temporary pressure sensitive pavement marking tape, traffic buttons, or delineators must be installed where designated by the Engineer. These temporary features must remain intact and in place until installation of permanent traffic channelization.
   2) Temporary centerline striping must consist of placing strips of pressure sensitive pavement marking tape at 10-15-foot intervals along the centerline. Temporary marking tape must be placed in sets of two 12-inch strips of yellow 4-inch-wide marking tape set 4 inches apart and parallel to the center line with each set of 1-foot double line spaced 10 to 15 feet apart along the center line of the Roadway. Additional temporary striping must be installed wherever designated by the Engineer.
   3) Temporary stop bars must consist of a 12 inch wide stop bar made up of three parallel 4 inch strips of temporary pavement

marking tape placed at locations designated by the Engineer. All other temporary pavement markings utilizing pavement marking tape must be as designated by the Engineer.

4) Pressure sensitive pavement marking tape used on the wearing course prior to installation of permanent lane markers, traffic buttons, or permanent paint striping must be removed from the pavement concurrent with, or immediately subsequent to, the installation of permanent pavement markings.

5) Temporary pavement markings must be maintained in serviceable condition by the Contractor for the duration of time it is in use. Layout and marking in preparation for application and the application and removal of the temporary striping is the Contractor's responsibility. The Engineer will provide the layout for permanent lane markings as specified in the COS Standard Specifications for Preliminary Spotting.

6) Temporary pavement marking tape must meet the requirements of the COS Standard Specifications for Pressure Sensitive Tape.

d. Barricades and Channelization Devices:

1) The Contractor must place and maintain necessary barricades, vertical barricades, drums, cones, or other channeling devices as needed to warn and alert drivers and pedestrians on or near the Traveled Way or construction area, and to guide and direct them safely past the construction area.

e. Lighting Devices:

1) Roadway and pedestrian illumination systems must be maintained in operation for all Traveled Ways open to traffic. See the COS Standard Specifications for Illumination and Lighting Devices, Construction Requirements.

2) Barricades or drums used at night must be equipped with approved yellow warning lights. The Contractor must keep existing traffic signal systems and pedestrian and Street lighting systems in operation for the benefit and safety of the traveling public during progress of the Work, unless otherwise directed by the Engineer. The Owner will continue the routine maintenance of traffic signal, pedestrian and Street lighting systems. The Contractor is responsible for replacing missing or damaged signs and posts.

f. Speed and Parking Control:

1) In those areas where construction operations have changed Road conditions, such additional hazards as reduced lane width, open trenches, temporary Roadway, etc., may be considered as evidence of need for an alteration of the legal (or posted) speed limit. Requests for alteration of the legal speed limits on City Streets must be submitted to the Engineer.

Costs related to speed limit revisions and parking control must be borne by the Contractor and at no additional cost to the Owner.

5. Construction and Maintenance of Detours:
   a. Unless otherwise approved, the Contractor must maintain two way traffic during construction. The Contractor must build, maintain in a safe condition, keep open to traffic, and remove when no longer needed:
      1) Detours and detour bridges that will accommodate traffic diverted from the Roadway or bridge during construction
      2) Detour crossings of intersecting Streets
      3) Temporary approaches
   b. All on site or off site detours required or necessitated by the Work, including side Street crossings, temporary bridges over freshly placed concrete, utilization of one or more lanes of the construction area for maintenance of through traffic, and related traffic control is the responsibility of the Contractor.
   c. Any detour proposed by the Contractor must not be built until the Engineer approves. Surfacing and paving must be consistent with traffic requirements.

D. Measurement:

1. Unless a Bid Item is specifically provided on the Bid Form for the purpose of providing a separate cost, the cost for all labor, equipment, Materials, tools, clothing, and other items necessary to meet the requirements of this Section must be incorporated in the Lump Sum Base Bid price.

E. Payment:

1. Compensation for the costs necessary to complete the Work described in this Section 01 55 80 – Public Convenience and Safety – Temporary Traffic Control may be considered a component of the Mobilization cost, as described in Section 01 29 73 – Schedule of Values and Pay Estimates paragraph 1.01, prorated across other items included in the Schedule of Values, or identified as a separate item within the Schedule of Values, at the discretion of the Contractor. The Schedule of Values and payment for items included in the Schedule of Values must be in accordance with Section 01 29 73 – Schedule of Values and Pay Estimates of the Project Manual.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 55 80

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section describes temporary fencing Work as required by the Contract. Work includes but is not limited to the following:

1. Provision of all Materials required for temporary security fencing.
2. Installation, continuous maintenance, and final removal of each element included in this Section.

1.02 RELATED SECTIONS

A. In addition to the Sections listed below, all Work of the Contract must be performed in compliance with the requirements of this Section.

1. Section 01 56 39 – Temporary Tree & Vegetation and Soil Protection
2. Section 01 57 13 – Construction Stormwater Control
3. Section 02 41 13 – Selective Site Demolition

1.03 REFERENCES

A. City of Seattle Standard Specifications for Road, Bridge, and Municipal Construction (most recent edition).
B. SMC Title 22.800, Stormwater Code, Volume 2 – Construction Stormwater Control (most recent edition).

1.04 SUBMITTALS

A. Submit the following product information for approval prior to delivery or installation:

1. Shop Drawing of portable temporary fencing panels and connection hardware.

PART 2 - PRODUCTS

2.01 TEMPORARY CHAIN LINK FENCING

Prefabricated portable galvanized chain link fence panels including fabric, posts, top and bottom rails, and driven posts with rolled fabric and wire ties for areas of uneven terrain.

A. Prefabricated portable fence panels must be minimum 6 feet high x maximum 10 feet wide. Post bases must be minimum 16 inches x 8 inches x 8 inches high concrete

pier with sleeve for post, or as approved by the Engineer. Prefabricated portable temporary fence panels must be constructed to industry standards for fixed chain link fencing.

1. Posts - minimum 1-1/2 inches Schedule 40 galvanized steel pipe.
2. Fabric - minimum 11 gauge galvanized two-inch diamond mesh steel wire interwoven. Knuckled or twisted selvage is acceptable.

B. Bracing: Provide additional panels or outriggers as necessary to provide a rigid, stable run of fence.

C. Driven Post Fencing:

1. Posts – minimum 1-1/2 inches Schedule 40 galvanized steel pipe.
2. Fabric - minimum 11 gauge galvanized two-inch diamond mesh steel wire interwoven. Knuckled or twisted selvage is acceptable.
3. Wire Ties – minimum 9-gauge aluminum wire.

D. Gates must be 20 feet wide (two prefabricated panels) with double padlocks to allow Contractor and Owner vehicle entry. Hinged sides of each operating panel must include double bracketing. The Owner will provide one lock keyed for City personnel at each entry. The Contractor must provide a lock keyed for Contractor and Subcontractor use at each entry.

E. Signage: Provide warning signage every 50 feet of running fence line. Signage must be a minimum of 18 inches square, brightly colored with contrasting lettering. Text must read as follows, or as otherwise approved by the Engineer:

WARNING
CONSTRUCTION
KEEP OUT

F. Barbed wire is not allowed.

2.02 TEMPORARY PVC FENCING

A. 4-foot-wide rolls of Orange PVC Web Fencing may be utilized for low security and tree protection applications when approved by the Engineer.

B. Supporting posts must be formed of 6-foot lengths of #5 steel reinforcing bar (5/8 inches nominal diameter).

C. Supporting post protruding ends must be fitted with OSHA-approved safety caps for #5 steel reinforcing bar.

PART 3 - EXECUTION

3.01 AUTHORIZATION TO COMMENCE

A. The Engineer will issue a formal Notice to Proceed authorizing commencement of the Work. No Work may begin until the date specified on this notice.
B. Obtain required permits and permission from local governing authorities and Engineer prior to commencing Work.

3.02 TEMPORARY SECURITY FENCE

Secure the Project Site from trespass or unintentional entrance by unauthorized personnel.

A. Temporary chain link fence panels:

1. Panels must be connected mechanically by means of prefabricated, bolted brackets manufactured specifically for the purpose. Fencing must not be wired together.
2. Where long straight runs result in an unstable condition, sufficient out-rigging must be incorporated to maintain fencing upright. Use only pre-manufactured outriggers or additional fence panels. Outriggers must be placed on the interior side of the fence unless approved otherwise by the Engineer. Alternatively, and where appropriate, a "zig-zag" arrangement of panels may be used for stability.

B. Uneven Terrain:

1. Where uneven terrain will not allow the use of pre-manufactured portable fence panels, or where otherwise directed by the Engineer, drive posts directly into the earth plumb and 8 feet on center along the approved alignment.
2. The Contractor is responsible for performing complete locates for underground utilities in any area to receive driven posts.
3. Drive posts to sufficient depth to assure stability and durability for the life of the installation. Maintain a minimum of 6 feet above grade.
4. Reset loose posts at the direction of the Engineer.
5. Secure chain link fabric to posts using approved wire ties within 6 inches of the top and bottom of each post, and a minimum of 18 inches on center between.
6. Provide posts at each end of each driven post installation at a point that is sufficiently level to clamp prefabricated portable fence panels directly to the driven post installation.

C. Where approved for short-term, low security applications, use 4-foot-high orange PVC web fencing wired to #5 reinforcing bar "posts" set 5 foot maximum on center. Cap each bar with an OSHA-approved safety cap manufactured specifically for #5 reinforcing steel.

3.03 REMOVAL

All Materials and debris associated with the Work of this Section must be removed at the appropriate time as follows:

A. When the Engineer has accepted the Work as Substantially Complete, the Contractor must disassemble and remove from the premises all temporary fencing.

B. All removal must include complete site restoration by the Contractor as required by the Contract or directed by the Engineer.

END OF SECTION 01 56 26

PART 1 - GENERAL

1.01 SUMMARY

A. This Section describes administrative and procedural requirements for the temporary protection of trees, shrubs, grass, vegetation, plant materials and soils not designated for removal. Such trees, shrubs, grass, vegetation, plant materials and soils must be left in place and protected from damage or injury by the Contractor during construction, using full and adequate methods of protection as described herein or as directed by the Engineer. This Section also includes provisions for restoration or replacement of trees, vegetation (including grass and turf), and soils that are damaged as a result of construction activities, and establishes related Warranty requirements. Work of this Section may include, but not be limited to:

1. Establish and execute a Temporary Tree, Vegetation & Soil Protection Plan (TVSPP).
2. Execute the Tree, Vegetation & Soil Protection Plan (TVSPP) provided in the Contract Documents.
3. Ensure required protection of all existing trees, vegetation, and soils that may be affected by the Work of the project.
4. Furnish all labor, Materials, equipment, supplies, and operations necessary to install and maintain temporary tree and plant protection as required.
5. Maintain newly installed tree protection elements, including, but not limited to: Fencing, woodchip mulch, landscape fabric, cabling, and signs.
6. Restore areas damaged by construction activities. The Work may include such repairs as turf and landscape renovation or replacement, and soil replacement and preparation, and other activities needed to return construction-damaged areas of the site to “as good as” or “better than” pre-existing conditions.
7. Compliance with Contract Warranty requirements related to trees, vegetation, and soils.

1.02 REFERENCES

A. This Section incorporates by reference the following documents:

1. City of Seattle (COS) Standard Specifications for Road, Bridge and Municipal Construction.
2. City of Seattle (COS) Standard Plans Nos. 132A, 132B, 133 and 142.
3. Council of Tree and Landscape Appraisers: Guide for Establishing Values of Trees and Other Plants.
4. American National Standards Institute Standards (ANSI) A300 - Pruning Standards.

1.03 RELATED SECTIONS

A. Section 01 57 13 – Construction Stormwater Control
B. Section 01 76 00 – Protection of Existing Facilities
C. Section 02 41 13 – Selective Site Demolition
D. Section 31 00 00 – Earthwork
E. Section 31 11 00 – Clearing & Grubbing
F. Section 31 13 13 – Tree & Plant Removal
G. Section 32 96 00 – Transplanting

1.04 DEFINITIONS AND TERMINOLOGY

A. *Consultant:* Individual(s) and firm(s) responsible for preparation of the project design and related Contract documents, as well as design guidance during construction. Used interchangeably with "Designer" and "Design Consultant."
B. *Consulting Arborist:* An ISA Certified Arborist who is on the Design Consultant's team and is responsible for the preparation of the TVSPP.
C. *COS:* City of Seattle.
D. *Critical Root Zone (CRZ):* Defined as an area surrounding the tree trunk as described on the City of Seattle Standard Plan No. 133 and the City of Seattle Standard Specifications Section 1-07.16(2) and Section 8-01.3(2)B for Tree, Vegetation and Soil Protection techniques within COS-owned properties.
E. *DBH:* Diameter of a tree at Breast Height, as measured 4-1/2 feet above root crown.
F. *Dripline:* Defined as the area on the ground beneath the outer edge of the tree's canopy.
G. *Engineer:* Seattle Parks and Recreation (SPR)'s project personnel including, but not limited to; the SPR Engineering Manager, the SPR Construction Manager, the SPR Project Inspector, the SPR Urban Forester, and/or their designees.
H. *Hand Excavation:* Defined as excavation by the use of hand tools only without the use of motorized equipment.
I. *ISA:* International Society of Arboriculture.
J. *Landscape Requiring Protection:* All Trees, vegetation & soils which are identified on the **Tree, Vegetation and Soil Protection Plan (TVSPP)**, including all existing trees, vegetation and soils identified to remain, which may be affected by the Work.
K. *Project Arborist:* An ISA Certified Arborist who is paid by the Contractor and has been approved by the Engineer.
L. *SPR:* Seattle Parks and Recreation.
M. *Tree Protection Area:* All portions of the Project Site within the dripline of existing trees, all areas identified on the plans as a tree protection area, and all areas within or behind tree protection fencing.
N. *TVSPP:* Tree, Vegetation and Soil Protection Plan (See Section 1.05)

1.05 TREE, VEGETATION AND SOIL PROTECTION PLAN

A. Reserved
B. The Contractor must prepare and follow a TVSPP to demonstrate required protection of existing trees, vegetation, and soils as required by the Contract. The TVSPP must

include information and protective measures for existing trees and vegetation which the Contractor must follow as applicable. Such information and measures may include but not be limited to the following:

1. Final landscape protection fencing locations and phasing information.
2. Landscape maintenance activities/practices required during construction.
3. Tree labels and/or identification numbers.
4. Watering instructions and schedule for temporary watering.
5. An inventory of pre-construction existing soil conditions.
6. Work methods for Work within landscape protection areas.
7. Plant pruning measures.
8. Clearing & grubbing, excavation and earthwork techniques.
9. Tree and root avoidance techniques.
10. Radial trenching and/or root re-invigoration/soil amending measures.
11. Identification of Landscape Protection Areas.

C. Documentation of Pre-Construction Conditions: The TVSPP must include photos, tagging, inventory reports, and other documentation as necessary to describe the pre-construction conditions of all trees, vegetation, and landscape elements on or adjacent to the Work site. This documentation must be performed by the <Project Arborist OR Contractor> prior to any construction activities:

1. Photograph all Landscape Requiring Protection prior to commencement of construction and again after plants produce a full canopy of leaves if initial photographs are taken when trees are bare of leaves.
2. Photograph all Landscape Requiring Protection from the cardinal directions (north, south, east, and west). Label all photographs with:
   a. Tree tag number, unique for each tree.
   b. Direction from which the photograph was taken.
   c. Date photograph was taken.
3. Written inventory of all Landscape Requiring Protection, confirming location, type, and size.
4. The Engineer and the SPR Urban Forester must be notified no later than 3 Working Days in advance of the date that photo documentation will be taken, so that they may attend and request additional photo documentation at their discretion. The Contractor must cooperate with such requests.
5. Provide 2 hard copies and 2 electronic copies of pre-construction conditions documentation inventory to the Engineer and SPR Urban Forester within 5 Working Days after Notice to Proceed and prior to construction commencing on site.

1.06 CONTRACTOR SUBMITTALS

A. TVSPP: The Contractor must provide the TVSPP per Section 1.05.B within 10 Working Days after Notice to Proceed.

B. Pre-Construction Conditions Documentation: Provide in accordance with Section 1.05.C.

C. Qualifications of the Project Arborist.

D. The Project Arborist must provide an itemized appraisal for all Landscape Requiring Protection identified in the approved TVSPP. The Project Arborist must provide supplemental appraisal values for any additional landscape, or any additional trees whose critical root zones may be affected by the Work and therefore need to be protected. Base the appraisals upon the current Guide for Establishing Value of Trees and Other Plants. Provide the appraisal within 20 Working Days after Notice to Proceed.

E. Provide Product Data and Safety Data Sheets (PDSs and SDSs), as applicable, for the following:

1. Mycorrhizae fungal inoculants.
2. Slow-release fertilizer.
3. Landscape protection fencing.
4. Mulch (including bark or wood chips), including laboratory test report, when not using SPR-preferred Arborist Mulch.

F. F. Provide Samples, as applicable, for the following:

1. Landscape protection signage: One example
2. Tree appraisal value signage: One example.
3. Cabling material: One-foot length.
4. Mulch (including bark and wood chips): One-pound bag, when not using SPR-preferred Arborist Mulch.
5. Coir mat: One square foot.

G. Laboratory Test Reports for Mulch:

1. Employ an agricultural testing laboratory that is accredited with the Washington Department of Ecology to perform mulch (including bark or wood chips) testing. The testing laboratory must be accepted by the Engineer in advance.
2. Submittal for mulch:
   a. Test sample of mulch for protection areas. Follow testing laboratory instructions for mulch sample collection.
   b. The test must measure and confirm pathogen levels for the following: Phytophthora (1 propagule per gram (ppg) maximum), Pythium (450 ppg maximum), Fusarium (1800 maximum), and Rhizoctonia (10 ppg).
   c. The test must identify and measure heavy metals and other chemicals including: Lead, cadmium, arsenic, and potassium.

d. Wood chips with laboratory test results confirming pathogens at higher than the maximum levels indicated, unacceptable levels of heavy metals, or other chemicals will be rejected.

H. Compliance Reports: Submit observations and recommendations for each site visit conducted by the Project Arborist.

1.07 ADDITIONAL CONDITIONS

A. The Engineer may order the Work stopped if:

1. Landscape protection measures are not completed prior to start of the Work;
2. Unauthorized uses of protected areas are occurring; or
3. Tree protection fencing is not restored within 24 hours of notice to do so.

B. Tree Identification: In all correspondence regarding Landscape Requiring Protection and tree protection systems, refer to the specific tree number on the Contract Documents, or as listed herein.

1.08 REPLACEMENT PLANT WARRANTY

A. The Contractor must replace any trees and plants which, in the opinion of the Engineer, are in unhealthy or unsightly condition or that have lost their natural shape due to dead branches, excessive pruning, excessive defoliation, or other damage caused by the Contractor.

B. The Contractor is responsible for maintenance of all replacement trees, plants, grass, and any other vegetation during the Warranty Period. The Contractor must periodically inspect the plant materials to ensure that they are receiving proper care. The Engineer may conduct periodic reviews and notify the Contractor of any areas needing attention.

C. The Contractor must warrant all replaced Material for a period of one year from date of replacement.

D. The Contractor must replace unacceptable trees/plants/vegetation no later than the next succeeding planting season. Unacceptable trees/plants/vegetation must be replaced in accordance with the original specifications.

E. Any tree or plant that is 25% or more dead or disfigured is considered dead. Plants are considered disfigured when excessive dead wood has been removed or when the symmetry, typical habit of growth, or sculptural form has been impaired by the removal of dead wood.

F. The above Warranty is applicable to any growing conditions through which plants of like kind could be expected to survive and any deformity or cause of death which could be attributed to, or affected by, the physiological conditions of the plant. The Warranty does not apply to plant losses due to abnormal weather conditions such as floods, excessive wind damage, drought, severe freezing, or abnormal rain, as determined by the National Weather Service.

PART 2 - PRODUCTS

2.01 TEMPORARY LANDSCAPE PROTECTION FENCING

A. Landscape protection fencing must be comprised of the following:

1. In accordance with COS Standard Plan No. 132A. Use chain link fencing only.
2. Fencing Type 1 and/or Type 2, per approved TVSPP or as designated by Engineer:
   a. Chain link fence materials including footings, posts, braces, and mesh to be used to form a 6-foot-high enclosure.
   b. Footings:
      1) Type 1: No footings required.
      2) Type 2: Above ground precast concrete block type footings, 100 pounds minimum or minimum 16 inches x 8 inches x 8 inches high concrete piers, with sleeves for posts.
   c. Posts: 1-1/2-inch steel pipe, minimum. Use with approval by the Engineer in areas where fence must cross existing paved surfaces or as indicated on the Contract Documents or accepted TVSPP.
   d. Mesh: 2-inch x 2 inch, 11-gauge chain link fabric, minimum.

B. Landscape Protection Signage: If required by the TVSPP, signage must meet the following requirements:

1. Provide weather resistant, fluorescent green or yellow signs 48 inch x 48 inch, with minimum of 3-inch-high letters indicating the following:
   a. Tree Protection Warning: *"No Trespassing on the Critical Root Zone of this/these tree/trees/plants without direct approval of the Engineer. Unauthorized activities or Work within the Critical Root Zone will result in a fine of $1,500, or the appraised landscape value, whichever is greater."*
   b. Botanical/common names.
   c. Appraised value of plants.

C. Cabling: Meet landscape industry standards for permanent cabling of trees.
D. Tree Tags: Race-track shaped aluminum tags engraved with individual tree numbers as indicated on Contract Documents.
E. Water: Irrigation water must be supplied by the Contractor.
F. Mycorrhizae Fungal Inoculant: MycoGrow Soluble, manufactured by Fungi Perfecti (Olympia, WA) or Endomycorrhizal Landscape Inoculant, manufactured by BioOrganics (Santa Monica, CA), or approved equal.

G. Slow Release Fertilizer: Osmocote 14-14-14 slow release pellets, Osmocote Controlled Release Fertilizer 13-13-13, Sierra Controlled Release Fertilizer Plus Minors 17-6-12, or approved equal.
H. Arborist Wood Chip Mulch : Submit mulch to laboratory to be checked for undesirable pathogens. Submit laboratory report.
I. Coir Mat: Geocoir 400, by Belton Industries or KoirMat 400 by Nedia Enterprises, or approved equal.

PART 3 - EXECUTION

3.01 PREPARATION

A. Prior to any construction activity the Contractor and their Project Arborist must:

1. Review protective measures required by the Contract and the TVSPP.
2. Verify adequacy of the extent of Landscape Requiring Protection, as defined in the TVSPP and Contract Documents.
    a. Review Contract Documents and periphery of the Site for any additional landscape or any additional trees whose CRZ may be affected by the Work and therefore need to be protected.
    b. Tag trees with designated numbers.
    c. Post tree preservation area/restrictions signage and appraised value signage on all Landscape Requiring Protection as specified herein.
    d. Protect Landscape in accordance with Contract Documents and approved TVSPP.
    e. Protect soil and roots within the Dripline of all Landscape Requiring Protection with a 1-inch mesh opening coir mat under four inches deep of wood chips. Provide a minimum of 6 inches radius zone clear of mulch at the base of each tree or shrub.
    f. Coordinate with the Engineer regarding areas requiring special attention as identified and specified on the Contract Documents.
    g. If root pruning in the CRZ is required, it must be done no later than three months prior to commencement of the other construction activities impacting the CRZ.

3.02 FENCING AND SIGNAGE

A. Landscape protection fencing:

1. Type 1 Fencing: Drive posts a minimum of 2 feet below existing grade and deep enough to remain rigid during subsequent excavating and grading.
2. Type 2 Fencing: Install fence on above ground precast concrete block type footings in locations as indicated by Contract Documents.

3. Install fencing and mulch (wood chips) to protect Trees Requiring Protection from construction activities when trees are located inside the construction fence.
4. For Landscape Requiring Protection located outside the construction fence, no additional protection fencing is required if construction activities will not impact the landscape. If construction activities are expected adjacent or near Trees Requiring Protection, install chain link fencing in accordance with COS standard Plan No. 132A, Type 1 and 2 for the duration of any construction activities.
5. Do not compact soil or use heavy equipment in the Landscape Protection Area when installing protective fencing installation.
6. Provide diagonal bracing to vertical posts at corners of enclosures and wherever needed to ensure rigidity of the fencing.
7. Install chain link fabric tight to grade at the bottom edge and stretched uniformly between posts. Install top of fabric 6 feet above grade, minimum.
8. Install fabric to form continuous fencing as indicated on Contract Documents. Attach fabric to posts 12 inches on center with 11-gauge wire ties securely fastened, or with bolted ring clips, and to top rail 3 feet on center maximum.
9. Attach orange flag strips 12 inches long at 3 feet on center along the fence, 5 feet above grade.
10. Provide one locked gate at each fenced area.

B. Landscape Protection Signage:

1. Securely attach at least one landscape protection sign to each landscape protection area fence. Multiple signs may be required for extensive lengths of fencing if so directed by the Engineer.

3.03 TREE, VEGETATION, AND SOIL PROTECTION

A. The Contractor must coordinate with the Engineer and SPR Urban Forester to meet protection requirements specified on the Contract Documents ***and TVSPP*** and must notify the Engineer of any construction Work within the dripline of existing trees at least 48 hours prior to the scheduled activity.

B. Where existing trees or vegetation are within the area of Work, or where existing trees outside the area of Work, have driplines extending into the area of Work, the Contractor must employ all methods necessary to prevent adverse impact to these existing trees including protection against cutting, breaking, or skinning of roots, skinning or bruising of bark, compaction of root zones, and breaking of branches. These methods may include but are not limited to:

1. Tree protection fencing: Do not compact soil or use heavy equipment when installing protective fencing. No Work may commence until the tree protection fence is in place for any given Work zone and no tree protection may be moved until the Work is substantially complete in any given Work

zone. Tree protection fencing is temporary and may be moved from completed areas and re-used as the construction progresses.

2. Temporary tie-up of low limbs: Under the supervision of the Engineer, tie back flexible limbs and overhead branches that could be damaged by the passage or activity of equipment. Anticipate limbs that could be in the way of necessary equipment to avoid limb damage and provide a remedy before Work occurs. Do not remove tree limbs without the prior written acceptance of the Engineer.
3. Surface Protection Measures: Surface protection measures must be provided in all landscape protection areas (including tree driplines) except areas where existing or proposed pavement is present and areas where only hand tools will be utilized. Areas within the dripline of existing trees which are designated for pavement replacement require surface protection measures while pavement is removed. Surface protection methods utilized must be sufficient to prevent root damage and soil compaction:
    a. Protect soil and roots within the landscape protection areas with a 1-inch mesh opening coir mat under 4 inches of wood chips. Provide a 36 inch diameter zone clear of mulch at the base of each tree.
    b. For protection from repetitive foot traffic, light equipment use, and other light construction activities, apply a 6-inch-thick layer of mulch and/or plywood planking within the dripline of trees. Provide a 24 inch radius clear zone at the base of each tree.
    c. For protection from heavy equipment use, truck use and other heavy or repetitive construction activities place steel plates and/or timber planking within the dripline of trees. Provide sand, soil or other approved Material below steel plates and planking to prevent contact with roots.
    d. In areas of Landscape Requiring Protection with understory landscape (such as lawn or shrubs) as indicated by Contract Documents, provide mulch when directed to do so by the Engineer as needed to protect soils and roots from any Work taking place within the fencing.
4. Tree root protection, root pruning and root treatment: Preserve and protect surface roots and perform all Trenching, Excavation and Tunneling within the Dripline as specified in Paragraph 3.05 herein and in the Contract Documents.

C. Maintenance of Tree, Vegetation, and Soil Protection Measures

1. Monitor maintenance of each landscape protection areas to ensure it is in a healthy condition and immediately report any deficiencies or concerns to the Engineer immediately.
2. Implement adjustments to the TVSPP and landscape protection areas as directed by the Engineer or as needed during the course of the Work.
3. Perform on-site review as needed during construction for activities that are adjacent to or affecting any landscape protection areas.

4. Monitor clearing and grubbing in areas requiring special attention as identified on tree and plant protection Contract Documents and as specified in Section 31 11 00 - Clearing and Grubbing, in order to preserve roots.
5. Monitor any Work within landscape protection areas including all excavation, demolition, and resurfacing. See Section 31 11 00 - Clearing and Grubbing, for excavation requirements for select plants.

3.04 ABOVE GRADE WORK

A. For tree removal or tree trimming within 10 feet of any overhead utility lines the Contractor must make the notifications specified in COS Standard Specifications (most recent edition).

B. When the Contractor anticipates construction operations that will unavoidably affect tree limbs, the Contractor must notify the Engineer at least five Working Days in advance of commencing such operations. Call the **SPR Inspection Request Line @ (206) 684-7034, or by email** parksconstruction.inspection@seattle.gov, **or via Procore, to make arrangements for inspection**.

1. Before trimming any trees, the Contractor must notify the Engineer of the proposed method and the amount of trimming anticipated.
2. Trimming must be done by an ISA Certified Arborist working for a professional tree service company whose past and current performance is in accordance with the American National Standards Institute Standards (ANSI) A300 Pruning Standards.

C. Use of the area within protective fences and within the landscape protection area:

1. Do not store Materials potentially harmful to tree roots within 20 feet of outside limit of protected areas. Potentially harmful Materials include, but are not limited to: Petroleum products, cement and concrete materials, cement additives, lime, paint coatings, waterproofing agents, form coatings, detergents, acids, and cleaning agents.
2. No grades may be altered within the required protective fence area.
3. Control soil moisture within the landscape protection area. Prevent flooding of the soil, and protect root areas from leachate, cement, oil, fuel and lubricating oil, and all contaminants.
4. Notify the Engineer at least two Working Days in advance of the need to move a tree protection fence.
5. Upon relocation of fence, continue all other protection efforts and maintenance of landscape protection area in accordance with the Contract and approved TVSPP.

3.05 TRENCHING AND TUNNELING WITHIN THE DRIPLINE

A. Trenching and tunneling within the dripline of existing trees not designated for removal must be in accordance with the COS Standard Plans and Specifications (most recent edition), and defined zone clearance requirements.

B. Excavation or tunneling of any kind within the landscape protection area, as defined by the Standard Plans, will not be allowed unless the Contractor requests permission to do so at least two Working Days in advance and receives approval of the Engineer. **Call the SPR Request Line @ (206) 684-7034, or by email at** parksconstruction.inspection@seattle.gov, or Via Procore **to make arrangements for inspection request**.

C. Treatment of Roots: Excavation around roots 2-inches in diameter and greater requires handwork.

1. Within the CRZ, hand-excavate to prevent tears and breaks in root surfaces. Leave roots larger than 2 inches in diameter intact and undamaged. During the time of exposure, keep roots moist with moist soil, wet mulch, and burlap, or Engineer-approved equal.
2. Use air spade to dig all trenches within CRZ, or as identified on TVSPP.
3. Tree roots smaller than 2-inches in diameter must be cut flush along the edge of the trench or tunnel. Cut off roots cleanly with a sharp blade when roots are exposed or disturbed by Work activities.
4. Ripping or tearing of tree roots will not be allowed.
5. Place utility conduit either under roots by tunneling, or over roots using adequate sand bedding and providing adequate cover. Obtain approval from the Engineer that bedding is adequate.

3.06 REPAIR, REPLACEMENT AND PAYMENT FOR DAMAGE

A. Trees, shrubs, grass, or other plant material not ordered or designated to be removed but that are destroyed or irreparably damaged by Contractor's operations as determined by the Engineer, must be repaired or replaced by the Contractor in accordance with the Engineer's recommendations.

1. Replacement of trees must adhere to the City's Tree Replacement policy (at least two replacement trees for everyone tree removed).
2. Replacements must be of the same species and as nearly as possible of the same size as the trees to be replaced (minimum of 2-inch caliper).
3. Replacement of damaged or destroyed shrubs, grasses, and/or other plant materials must restore such vegetation or areas of vegetation to pre-construction conditions or better, to the satisfaction of the Engineer.
4. The Contractor must allow two Working Days advance notice for inspection of nursery stock replacements by the Engineer.

B. Payment: If for any reason a tree, shrub, grass area, or other plant material/area cannot be fully replaced or restored in accordance with 3.06.A above, in addition to the Contractor's restoration approved by the Engineer, the Contractor will be

assessed damages for the difference in the dollar value of the damaged tree, shrub, or other plant material, and the dollar value of the replacement.

1. The dollar value will be determined by the Engineer from the "Guide for Establishing Values of Trees and Other Plants," prepared by the Council of Tree and Landscape Appraisers, current edition. Damages assessed will be deducted from moneys due or that may become due to the Contractor.

C. Planting of replacement stock must be done in accordance with the requirements of the Contract Documents during the first fall or spring planting period, whichever comes first.

3.07 GENERAL SITE RESTORATION

A. Lawn Area Restoration: The Engineer will determine the level of restoration necessary depending on the amount of damage to the existing turf and soils. Areas that have been driven on extensively and are compacted or bare will require replacement, whereas areas where turf is thinned or dead but still present will require reseeding only. Restoration must be performed in accordance with Section 32 91 13 – Soil Preparation, as applicable.

B. Planting Area Restoration: The Engineer will determine the level of restoration necessary depending on the amount of damage to the existing planting areas and soils. Areas that have been driven on extensively and are compacted or bare will require replacement. Perform landscape planting procedures as specified in Section 32 93 00 – Landscape Plantings, or as otherwise shown on the Contract Documents, or as directed by the Engineer.

C. Watering: If required by the Engineer, water must be provided to condition the soil to lessen compaction or to provide dust control. Water must be furnished and applied by Contractor from an approved on-site supply or by watering truck if necessary.

3.08 FENCE REMOVAL

A. Do not remove temporary protection fencing until the Engineer has given approval to do so. Fence removal is subject to all protective measures for landscape protection areas as stated in this Section and the TVSPP.

END OF SECTION 01 56 39

PART 1 - GENERAL

1.01 REFERENCES

A. This Section describes Work consisting of the furnishing, installing, maintaining, removing, and disposing of Construction Stormwater Controls (CSC, also referred to as TESC "Temporary Erosion and Sedimentation Controls"). The CSC must be designed and implemented to prevent erosion and scour, to treat sediment laden water for acceptable discharge, and to prevent the conveyance of sediment into surface waters, drainage systems, and environmentally critical areas.
B. Guidelines and requirements are provided pertaining to the requirements of Title 22 Subtitle VIII and Chapter 25.09 of the Seattle Municipal Code (SMC).
C. At the end of this Section two sample forms are attached. These are the CSC Monitoring & Maintenance Log and the CSC-BMP Construction Change Tracking Form, and are intended for use by the Contractor during the execution of the Work. These forms are available in the Forms Workbook, which is available by request from the Project Manager.
D. City of Seattle Standard Plans or Standard Specifications sections referenced in this Section may be obtained online at: https://www.seattle.gov/utilities/construction-resources/standards-and-guidelines/standard-specs-and-plans
E. ASTM C127-15 – Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate.
F. ASTM C131/C131M-20 – Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
G. ASTM D2974-20e1 – Standard Test Methods for Determining the Water (Moisture) Content, Ash Content, and Organic Material of Peat and Other Organic Soils.
H. ASTM D2976-22a – Standard Test Method for pH of Peat Materials.
I. ASTM D3776/D3776M-20 – Standard Test Methods for Mass Per Unit Area (Weight) of Fabric.
J. AASHTO T104 – Standard Method of Test for Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate, Single User.
K. US Army Corps of Engineers COE – CW002215
L. CRD-C148-69 – Method of Testing Stone for Expansive Breakdown on Soaking in Ethylene Glycol.
M. WAC 173-350 – Solid Waste Handling Standards.

1.02 GENERAL

A. During construction, the Contractor must incorporate practices that prevent erosion (or control erosion when prevention is unavoidable) and must make every effort to maintain effective erosion and sediment controls throughout the Work, including implementing timely corrective actions as may be necessary. Sediment must be prevented from entering any surface water, drainage facility, or natural drainage system, and must be prevented from transport beyond the Project Site. Work must

comply with Director's Rules based on SMC Chapters 22.800 through 22.808 and other codes addressing grading, stormwater control, ground water control, and other construction controls.

B. The Contractor must provide a Construction Stormwater Control Plan prepared in accordance with the above regulations and as specified in this Section, which is subject to review and approval by the Engineer. The CSC Plan must identify and confirm qualifications for the Contractor's Certified On-Site Construction Erosion Control Lead (see Section 00 72 00 – General Conditions paragraph 1.03.M.3). The plan must be compatible with and coordinated with the Work and its phasing, ensuring continuous protection.

1.03 SUBMITTALS

A. Construction Stormwater Control (CSC):

1. At the preconstruction conference, the Contractor must be prepared to discuss temporary erosion and sedimentation controls. Following the outcome of these discussions, the Construction Stormwater and Pollution Prevention Coordinator (CSPPC) must prepare and submit interim or full CSC Plans as indicated in the table below, unless agreed to otherwise at the preconstruction conference.

Working Days After Notice to Proceed Date	Submittal Description	Comment
≤ 5	CSC Plan for first 15 Working Days	Allow 5 Working Days for Engineer Review
≤ 10	CSC Plan for first 30 Working Days	Allow 10 Working Days for Engineer Review
≤ 30	CSC Plan for all Work (first draft)	Allow 15 Working Days for Engineer Review
≤ 50	See Final CSC Plan Submittal	Allow 15 Working Days for Engineer Review

2. Content of CSC Plan:

a. The CSC Plan must show, as relevant to the Contractor's critical path schedule, the scheduling of installation, maintenance, phasing, and removal of erosion and sedimentation controls as required by the Work and applicable codes. Work areas to be addressed in this plan include as applicable:

1) The Project Site, identifying staging, storage, stockpiling, non-Work boundaries, and other construction-related areas.
2) Areas beyond the Project Site, but potentially impacted by Site Work.
3) Transportation facilities including construction traffic routes and access/exit control areas on and off the Project Site.
4) Environmental Critical Areas (ECA), as defined in Ch 25.09 SMC, within or near the Project Site, such as geologic hazard areas, flood prone areas, riparian corridors, wetlands, fish and wildlife habitat conservation areas, and abandoned landfills.
5) Inlets, catch basins, ditches, and channels whether dry or water-filled, and other surface drainage facilities.
6) Surface waters such as streams, lakes, and other bodies of water; and
7) Identify areas of erodible soil not being worked and in excess of 4,000 square feet that may be exposed, and any areas of erodible soil that may be unprotected/ uncovered for more than two calendar days.

b. The CSC Plan submittal must include the following descriptive information as applicable to the Work:

1) Shop Drawings of sufficient scale and detail to clearly reflect the Project Site and the locations and types of temporary erosion and sediment controls. When applicable, show by a series of time sequence Shop Drawings, how CSC controls are to be installed, maintained, removed, and coordinated with the Work and the schedule.
2) Describe how non-work areas potentially impacted by Work will be identified and protected.
3) Describe the details and continuing maintenance of entrance and exit equipment wash areas.
4) Show locations and describe CSC details of existing and proposed ditch, berm, culvert, pipe, sediment basin, basin outfall, scour control, inlet, catch basin, drain, bypass, subsurface drain, and related features. Include cross-section views if helpful or necessary to describe CSC details.
5) Describe treatment processes for, controls of, and the disposal of waters resulting from dewatering, surfacing groundwater, and rainfall.
6) Describe protections and covering practices for stockpile, muck, and similar accumulated Materials.
7) Describe the controls to prevent sediment, debris, and other pollutants from entering surface waters and drainage features.

8) Provide Manufacturer's Certificate of Compliance, certified laboratory test reports, catalog cuts, samples, and other information providing adequate description of Supplies and Material proposed for CSC applications.
9) The name of the Certified Erosion and Sediment Control Lead (CESCL), qualifications, experience, and certifications directly related to temporary erosion and sediment control, and other information as the Contract and the Work may require, including contact information that will ensure timely response. If the Work is of sufficient magnitude to require backup or additional CESCL coverage, describe the qualifications of additional individuals providing such coverage, any on-site training that may be necessary, and frequency and type of reporting to the CESCL.
10) A schedule of typical inspections, as needed to ensure timely maintenance and repair.
11) Identify and provide timelines for submitting permit required or related documentation.
12) Provide details of seed mix, amendment, mulch, and protections for placing and establishing temporary seeded erosion control areas.
13) In areas where exposed erodible soil exceeds 4000 square feet or that may be unprotected for more than two calendar days, describe the controls, and the proposed monitoring ensuring erosion and sedimentation remains compliant.
14) Provide details of other CSC measures as applicable.

c. The Contractor shall have at a designated location at the Project Site, and the CESCL shall have immediately available, copies of the current CSC Plan.

3. Maintaining CSC Plan Current:

a. The Contractor and CESCL must continuously be prepared to discuss with the Engineer the status of CSC controls in-progress and pending as they relate to the Work, to the progress schedule, to permits, to Change Order, and as may be required in the Contract.
b. When revisions to the current CSC Plan are required by the Engineer, the Contractor and CESCL must update the CSC Plan as discussed and must submit the updated CSC Plan to the Engineer within five Working Days unless the Engineer agrees to other arrangements.

4. Authority of CESCL.

a. See Section 00 72 00 – General Conditions, subparagraph 1.03.M.3.

PART 2 - PRODUCTS

PART 3 - EXECUTION

3.01 GENERAL CONSTRUCTION REQUIREMENTS

A. Guiding Regulations, Codes, and Rules:

1. Work involving erosion and sedimentation control within The City of Seattle must comply with Paragraph 1.02 of this Section.
2. Work involving erosion and sedimentation control within Seattle's Rights-of-Way outside of The City of Seattle limits must also comply with the requirements of the local jurisdiction.

B. General Guidelines and Measures for Doing the Work:

1. As part of Contract Work execution, the Contractor must:

a. Prevent and control erosion and sedimentation processes.
b. Prevent and control scour and scour processes in water bearing channels.
c. Prevent transport of sediment.
d. Protect surface waters and drainage systems from entry of sediment and other construction byproduct.
e. Prevent erosion and sedimentation impacts to areas not designated for Work.
f. Coordinate erosion and sedimentation controls with scheduling of the Work.

2. Methods of accomplishing these goals include, but are not limited to:

a. Installing temporary ditches, berms, culverts, and other measures to control and redirect surface waters.
b. Installing temporary dams, settling basins, energy dissipaters, and other measures to detain water, prevent scour, and allow for sediment drop and controlled removal.
c. Installing measures controlling surfacing groundwater and dewatering discharges.
d. Installing temporary covers or otherwise protecting slopes, stockpiles, and exposed or disturbed soils from erosion and sediment producing processes.
e. Installing temporary Work area perimeter and sediment transport prevention measures, such as silt fences, wattles, filters, and berms.

f. Treating sediment laden waters, and removing and disposing of sediment.
g. Installing sediment and debris removal controls for equipment entering and leaving designated Work areas.
h. Installing temporary fencing, flagging, and other markings at boundaries of areas identified as not part of the Work.

3.02 EROSION CONTROL MULCHING

A. General:

1. When the CSC Plan indicates a separate mulch application for an area in addition to seeding, this mulching must immediately follow the seeding.
2. Areas not accessible by mulching Equipment must be mulched by approved hand methods.

B. Straw Mulch:

1. Straw mulch erosion control application must be done with a forced air mulch spreader. In spreading straw mulch, the spreader must not cut or break the straw stalks into lengths less than 2 inches. Straw mulch coverage must have a minimum thickness of 2 inches. When a forced air Equipment mulch application does not provide acceptable results, the Contractor must employ manual or other application methods such as hand spreading and raking.
2. Should the straw mulch coverage expose at any time bare ground of more than 50% in any 100 square foot area, then the Contractor must promptly remulch the exposed area to provide full coverage at the required thickness.

C. Wood Chip Mulch:

1. Wood chip mulch erosion control application must be done with a forced-air mulch spreader and provide a 2-inch minimum thickness coverage. When a forced-air Equipment mulch application does not provide acceptable results, the Contractor must employ manual or other application methods such as hand spreading and raking.
2. Should the wood chip mulch coverage expose at any time bare ground of more than 50% in any 100 square foot area, then the Contractor must promptly remulch the exposed area to provide full coverage at the required thickness.

D. Compost:

1. Compost erosion control application must be with a forced-air mulch spreader. Coverage applications shall have a minimum thickness of 1-1/2 inches. Where a forced-air mulch spreader application is indicated as

providing unacceptable results, the Contractor shall employ manual or other methods such as hand spreading and raking.

2. Should the Compost coverage expose bare ground of more than 50% in any 100 square foot area, and then the Contractor shall promptly remulch the exposed area to full coverage of the thickness required.

3.03 RESERVED

3.04 RESERVED

3.05 STRUCTURAL AND BIOMECHANICAL EROSION CONTROLS

A. Equipment Wash Area:

1. Where Equipment and vehicular traffic may contribute to the transport of sediment and other debris beyond a Work area within a Project Site or beyond the Project Site, the Contractor must have in place a stabilized construction wash area at a location or locations to remove sediment, mud, and other debris from tires and other areas of the equipment or vehicles where such Materials tend to collect.
2. Stabilized construction wash areas must be in place and ready for operation before the potential for transporting such Material occurs.
3. The wash area must consist of one or more of the following as the Work requires and as the Contract may require:

a. Graded entrance and exit water trough that all Equipment and vehicles must go through. The Contractor may require a water trough for each direction. The depth of water in the trough must be maintained at a level adequate for the size of Equipment and vehicle expected. The length and width of the trough must be sized to ensure all length and width Equipment and vehicle can be acceptably cleaned.
b. Hose, hose brush, long-handled brush, and similar Supplies, and adequate labor to acceptably handle the size and volume of traffic.
c. Adequate source of water and means to contain the water within the designated wash area.
d. Regular removal and disposal of sediment and debris.
e. Removal and disposal of non-debris and non-sediment pollutants and contaminants.
f. A drain as may be necessary with controls in place to discharge water, compliant with applicable regulation, law, permit, and as the Contract may require.
g. An area before and after the wash area of sufficient size with quarry spall or other coarse aggregate to allow for after-wash drip collection.

B. Road Stabilization:

1. Temporary road stabilization measures may be required in areas within and beyond the Project Site, such as access roads, haul roads, subdivision roads, parking areas, staging areas, and other vehicular and Equipment traffic routes. The stabilization required must be adequate for the Equipment and vehicular traffic and for the Project Site local conditions, local climate, and weather typical for the Contract Time.
2. Temporary road stabilization measures may consist of placing and compacting a thickness of quarry spall, a thickness of Mineral Aggregate Type 2 or Type 13 (see Seattle Standard Specifications Section 9-03.14, if applicable), other aggregate, or a combination of these and other Material.
3. Where temporary road construction cannot be aligned to avoid areas within the dripline of trees not identified for removal, the Contractor must comply with the requirements of Paragraph 1.05 of Section 01 76 00 – Protection of Existing Facilities.
4. Temporary road stabilization measures must be maintained by repairing ruts, tracks, settling, and other failing areas. Such repairs may include placing and compacting additional aggregate. Settled, broken, rutted, and otherwise damaged timber, mulch, and other Material within the drip lines of trees must be repaired by increasing the thickness of Material.
5. Upon completion of the Work, or as may be required to accommodate the Work, temporary road stabilization measures must be removed and disposed of. Within the dripline of tree, the removal must be conducted to prevent damage to feeder and surface roots and minimize compaction of soils.

3.06 TEMPORARY SEDIMENT CONTROLS

A. Silt Fence (Sediment Fence or Filter Fence):

1. Silt fences must act as a filter to both allow the passage of water through the fence and also to prevent the passage of sediment through, under, or over the fence. Silt fences must be in place before the area is disturbed and must be coordinated with soil disturbance activity.
2. Silt fence(s) must be constructed at locations downstream or down slope of surface runoff areas and upstream or upslope of surface bodies of waters. Silt fences must be spaced to account for grade of slope, runoff flow rate and velocity, sheeting and rilling, type and relative density of soil(s), rate of sediment loading, expected maintenance type and frequency, and other factors as the site and Work require. Silt fences must not be placed across or in streams, channels and ditches.
3. Silt fences must be located along contours with the ends turned uphill to capture runoff and prevent flow around the end of the fence. Where the installation requires crossing of contours in areas other than at the ends, gravel check dams must be placed perpendicular to the uphill face of the fence to minimize concentrated flow and erosion along the fence. The gravel check dams must be approximately 1 foot deep at the fence and must

continue perpendicular to the fence at the same elevation until the top of the check dam intercepts the ground surface. The gravel check dams must consist of crushed surfacing base course gravel backfill for walls, or shoulder ballast. The gravel check dams must be spaced at 10-feet maximum intervals along the fence where the fence crosses contours. The slope of the fence line where contours are crossed must not be steeper than 3H: 1V.

4. The height of the fence fabric (geo-textile) above ground surface must be between 30 and 36 inches.
5. Posts must be of sufficient length, depth, and spacing to withstand maximum loading for the durations estimated between sediment removals. Unless the Contractor can justify otherwise to the Engineer, posts must be installed to a depth of 30 inches minimum, except within the drip line of a tree (see Item 7 below) and must be spaced no more than 6 feet apart in a fence line. If required post depth penetration cannot be obtained, the posts must be adequately secured on the upslope side by bracing or guying to an adequately installed anchor. Posts must be either wood or steel. Wood posts must have minimum dimensions of 1-1/4 inches x 1-1/4 inches and must be white oak or other hardwood resistant to rot, with no defects. Steel posts must consist of U, T, L, or C shape posts with a minimum weight of 1.33 pounds per foot, or other steel posts having equivalent or greater strength and bending resistance.
6. The fence fabric and support backing systems must be attached on the up-slope side of the posts with staples, wire, hog rings, or other connection device as recommended by the manufacturer, in a manner that does not tear or damage the fabric. At the bottom of the fence, the fabric and support backing system must be buried at least 6 inches below the ground surface, and then backfilled with native soils compacted by tamping or other appropriate compaction methods.
7. Excavation for installation of silt fence within the drip line of trees, and around other vegetation to be retained, must be without damage to roots. Roots that are exposed must not be damaged and must be promptly covered with earth. Where the bottom of fabric and support backing cannot be installed to a 6-inch depth due to interference with roots, the fabric and backing must be placed flat on the upside of fence for a minimum 12-inch width and then covered with a minimum 6-inch depth of large size aggregate ballast. In non-trench fabric bottom installations, post penetrations into the earth must be increased and the height of fence above the top of ballast must not exceed 3 feet.
8. Fence support backing system, in the form of wire or plastic mesh with maximum mesh spacing of 2 inches x 4 inches and of adequate strength to withstand maximum loading, must be attached to posts and fabric as recommended by the Supplier. Plastic mesh must have the same or greater ultraviolet (UV) resistance as the geo-textile fabric. All geo-textile fabric must have backing whether exposed or buried.
9. Fence fabric must be continuous along any single length of filter fence. Continuous fence requirements include:

a. The geotextile fabric must be sewn together during manufacture or by the Supplier to form a single length of geo-textile for a continuous fence application. All sewn seams must be located at a support post.
b. Separate geotextile fabric may be installed across posts with a minimum 10-foot overlap where the overlap is supported by no less than three posts with spacing between any posts not greater than 4 feet. Overlapped fabric must always be secured to support backing.
c. The Contractor may place two posts, one on each side of the overlapped fabric and backing and twist the overlapped fabric at least two complete revolutions before driving the posts into the earth. The overlaps must extend a minimum 1 foot beyond the two posts before twisting.

10. Lapped or twisted fabric and backing that slip is considered defective and must be replaced with sewn geotextile. For pre-staked silt fence, laps may be performed in accordance with the manufacturer's written recommendations.

B. Sediment Removal: Sediment must be removed and disposed of when the sediment build-up reaches a height of 10 inches to 12 inches. Removal is also required if build-up exceeds 1/3 the height of fence.
C. Damaged Fence Repair:

1. Damaged or improperly functioning silt fence must be promptly repaired or replaced.
2. Rips, tears, holes, and other defects in the geo-textile fabric or the backing must be promptly repaired by placing new Material(s) over the damaged Materials the full width and height of fence including buried or covered fabric and backing and must overlap existing fence material(s) a minimum of 5 feet on each side of the defect. The repaired fence must be supported by and securely tied to at least five evenly spaced posts.
3. Broken posts must be replaced with two posts spaced 1 foot on each side of the broken post. New posts must be driven to 30 inches into the soil or braced to upslope anchors. The fabric and backing must be securely tied to each new post.
4. Posts that lean greater than 1H: 4V must be replumbed and must be supported at the top with bracing or guying to an adequately installed upslope anchor.
5. Water or sediment escaping beneath the silt fence must be repaired by installing new fabric and backing over the existing Material extending 3 feet upslope with a minimum 3-foot overlap on both sides. Ballast must be placed over the on-surface repair with a minimum 6-inch depth large aggregate ballast. A new post or posts must be installed along the leak with spacing of 2 feet maximum.
6. Any other conditions that reduce the effectiveness of the silt fence requires immediate repair and/or replacement.

3.07 RESERVED

3.08 DRAINAGE AND SEWER SYSTEM PROTECTION

A. The Contractor must prevent the introduction of pollutants, contaminants, sediment, and other Material from entering Storm Drain, combined Sewer, and other drainage system via any entrance vehicle. Sediment prevention for drainage structures may require such apparatus as sediment sumps, cover filters or outlet pipe cover filters.
B. Filters must allow the passage of water into or from the drainage structure without unreasonable backup or ponding and must prevent the passage of sediment and other debris.
C. Filters must be secured to the opening being protected to withstand all loadings and to resist movement including sediment and debris build-up, flows typical for the drainage structure and the local drainage conditions, and the potential for disturbance from construction and traffic activity.
D. Filters covering large areas not having adequate structural support must be reinforced with and secured to a plastic or wire mesh support backing system.
E. Where filters are expected to be in place for a considerable period of exposure, UV resistance and other climate and environmental strengths must be adequate.
F. Frequency of maintenance must include removal of sediment and other debris when either the sump build-up reaches approximately 1/3 capacity, or when obstructed filtration or the allowance for the passage of water is causing water back up.
G. Sediment and debris removal must be done carefully to prevent the escape of these Materials into the drainage system.

3.09 RESERVED

3.10 CONSTRUCTION STORMWATER CONTROL MAINTENANCE

A. The Contractor must keep a record of the CSC-BMP measures using forms similar to the samples attached to the end of this Section during the entire duration of the Work. These forms are available in the Contracting Forms Workbook, which is available from the Project Manager upon request.
B. Construction Stormwater Control measures must be inspected at regular intervals and immediately following significant runoff producing rainfall events. The individual BMP and other control measures must be verified as performing acceptably and must be maintained until they are no longer needed, or until they are to be converted as part of a permanent erosion and sediment control when specified in the Contract.
C. The various devices must be inspected for damage, bypass, undercutting, and non-performance, and must be promptly repaired. Sediment buildup must be removed as specified or at more frequent intervals when performance becomes questionable. Debris and contaminated sediment must be properly disposed of. Clean sediments may be stabilized on-site as the CSC Plan indicates.
D. When wet weather is forecast, the CESCL must verify that all measures are in-place and are functioning effectively and acceptably.

3.11 REMOVAL AND REUSE OF CONSTRUCTION STORMWATER CONTROLS

A. When a temporary erosion or sediment control feature is no longer required, the Contractor must remove the measure or measures.

B. Reuse of a control measure may be acceptable if:

1. The measure or device has been thoroughly cleaned of all debris.
2. The measure or device is free of tears, holes, or other damage.
3. The measure performs as intended and required.

3.12 SWEEPING AND WASHING

A. The Contractor must ensure that soil, debris, or other Material tracked and deposited is removed by sweeping or washing and properly disposed of.

END OF SECTION 01 57 13

Sample forms follow:

CSC Monitoring & Maintenance Log
CSC-BMP Construction Change Tracking Form

CSC MONITORING & MAINTENANCE LOG

Use this form manually or electronically to track maintenance activities related to BMPs and other CSC measures. Form(s) must be maintained on-site, reflecting most current status. If forms kept manually, make additional copies of form as needed. Keep all completed copies of this form with the on-site CSC Plan.

PW #	PROJECT NAME:	CONTRACTOR

PRIOR TO EARTHWORK:

I hereby certify all required BMPs are in place prior to construction

Printed Name of CESCL | Signature & Date

DURING EARTH WORK:

Date Inspected	Inspected by (Name)	BMP & Location	Repairs/Modifications Needed (Briefly Describe; write "N/A" if none)	Comments/Sampling Results

SAMPLE

CSC - BMP CONSTRUCTION CHANGE TRACKING FORM

Use this form manually or electronically to track revisions/changes to BMPs and other CSC measures as work progresses. Form(s) must be maintained on-site, reflecting most current status. If forms kept manually, make additional copies of form as needed. Keep all completed copies of this form with the on-site CSC Plan. Reflect all CSC BMP changes on the CSC Plan Sheets.

PW #	PROJECT NAME:	CONTRACTOR

Change Number	Change Date	Name of CESCL Making BMP Change	CESCL Certification Expiration Date	Description of CSC Plan Sheet Change With Drawing Number

SAMPLE

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. This Section covers the requirements for compliance with environmental precautions and controls.

1.02 RELATED SECTIONS

A. Section 01 32 13 – Progress Schedules
B. Section 01 33 10 – Submittals
C. Section 01 57 13 – Construction Stormwater Control

1.03 SUBMITTALS

A. Within 10 Working Days of Notice to Proceed, the Contractor must submit an Environmental Pollution Control Plan. The Plan must include:

1. Water quality
2. Air quality, including dust control
3. Noise pollution
4. Temporary water pollution/erosion control
5. Oil, Fuel, and Chemical Storage, Handling, Spill Prevention, and Control.

1.04 NOTIFICATIONS RELATIVE TO CONTRACTOR'S ACTIVITIES

A. The Contractor must plan and schedule Contractor Work activities to conform to and allow time for notifications, approvals, reviews, and other conditions of the Contract Documents as detailed in Section 00 72 00 – General Conditions, Subsection 1.04.BB
B. Required notifications pertaining to spills, discharges, and similar incidents and emergencies are also detailed in Section 00 72 00 – General Conditions, Subsection 1.04.BB. These include, but may not be limited to:

1. Sanitary Sewer Spills (see subparagraph 1.04.BB.3.j)
2. Chemical, Oil, Hazardous Substance, or other Contaminant Spill or Discharge (see subparagraph 1.04.BB.3.k)

1.05 CHANGE ORDERS DUE TO ENVIRONMENTAL PROTECTION REQUIREMENTS

A. General: During the life of the Contract, the Contractor must comply with all provisions of federal, State, and local statutes, ordinances, and regulations pertaining to the prevention of environmental pollution and the preservation of public natural resources. Pursuant to RCW 39.04.120, if the Contractor must undertake extra Work not contemplated by the Contract due to the enactment of new, or the amendment of

existing, statutes, ordinances, rules, or regulations occurring after the submission of the successful Bid, the Engineer will issue a Change Order setting forth the extra Work that must be undertaken, which shall not invalidate the Contract.

1.06 WATER QUALITY

A. The Environmental Pollution Control Plan must identify the onsite individual responsible for water quality, and specific activities and locations and specific means and methods to prevent and/or control impacts to water quality.

B. The Contractor must comply with city ordinances, State, and federal laws and other regulations or rules applicable to water pollution occurring in waters of the State and in interstate waters. The Contractor must:

1. Exercise precautions throughout the life of the Contract to prevent pollution, erosion, siltation, and damage to property.
2. Provide for the flow of all watercourses, including but not limited to streams, ditches, sewers, and drains intercepted during the progress of the Work.
3. Completely restore disturbed watercourses in as good condition as the Contractor found them, or make such final provisions for them as the Engineer may direct.
4. Not obstruct the gutter of any Street.
5. Use all proper measures to provide for the free passage of surface water.
6. Remove and dispose of all surplus water, mud, silt, slicking, or other run-offs pumped from excavations or resulting from sluicing or pavement cleaning or other operations.
7. Make all applicable notifications required by Section 00 72 00 – General Conditions, 1.04.BB.

C. The Contractor must comply with the water quality criteria required by the Department of Ecology and regulations of:

1. The Washington State Department of Fish and Wildlife.
2. Those federal statutes on oil spills enacted under the federal Water Pollution Control Act Amendments of 1972 (a copy of which may be obtained from the U.S. Environmental Protection Agency).
3. The water quality standards of the State of Washington as set forth in Chapter 173-201A WAC.
4. Title 22 Subtitle VIII and Chapter 25.09 of the Seattle Municipal Code (SMC).
5. Any local statutes, regulations, ordinances, or rules, which stipulate the various types of discharge prohibited in public sewer systems or any drainage ditch in the local jurisdiction.

D. State statutes on water pollution covering liability of the Contractor, penalty for violation, liability and damages for injury or death of fish, animals or vegetation are

set forth in Chapter 90.48 RCW. As an aid to the Contractor, some (but not all) of the rules set forth by the various State departments are summarized below. The Contractor is cautioned, however, that each Department of the State may add other restrictions, as they deem necessary, to protect fish and to prevent air or water pollution:

1. State Department of Fish and Wildlife: In doing the Work the Contractor must:

    a. Not degrade water quality in a way that would harm fish. (The Washington State Water Quality Regulations will serve as water quality criteria for the Work).
    b. Release into a flowing stream or open water any fish stranded by the Work.
    c. Replant any stream bank or shoreline areas if the Work has disturbed the vegetative cover (Any trees, brush, and grasses used in replanting must resemble the type and concentration of surrounding vegetation, unless the Contract provides otherwise).
    d. Provide an open water channel at the lowest level of any isolated pothole remaining when the Work is complete.
    e. Protect fish by preventing harmful siltation on the bed or bottom of any body of water.
    f. Not block stream flow or fish passage.
    g. Keep all Equipment out of any flowing stream or other body of water (except as the Contract may permit).
    h. Not remove gravel or other bottom material from within the high-water flow channel bed of any stream nor from the bottom of any other body of water (except as the Contract may permit).
    i. Dispose of any project debris beyond high-water flows.

2. State Department of Ecology: In doing the Work, the Contractor must:

    a. Obtain a waste discharge permit from the Department of Ecology before:

        1) Washing aggregate; or
        2) Discharging water into a ground or surface waterway from pit sites or excavations when the water contains turbidity, silt, or foreign materials.

    b. Provide the Engineer with a copy of each waste discharge permit before starting the Work.
    c. Control drainage and erosion to minimize the pollution of any waterway.

d. Dispose of all toxicants (including creosote, oil, cement, concrete, and water used to wash Equipment) in ways that will prevent them from entering State waters.
e. Dispose of all debris, overburden, and other waste materials in ways that will prevent them from entering State waters.

E. The Contractor must perform such temporary Work as may be necessary to effectively control water pollution, erosion, and related damage within the Project Site or which might be necessary at Work areas located outside the Project Site. These outside areas may include, but are not limited to, equipment, Material and other storage sites. When temporary control facilities or measures are no longer needed, they must be removed and the areas restored or finished as designated by the Engineer.

F. If Work is suspended for an extended period of time, the Contractor is responsible for controlling erosion, pollution, sedimentation, and runoff during the shutdown period.

G. The Contractor must protect water quality using appropriate methods subject to review and approval by the Engineer. In addition to other requirements in the Contract, water quality control measures may include, but are not limited to, the following:

1. Diversion of Storm Water: Storm water may be diverted around the project to prevent pickup of silt. This may be accomplished by pumping; improvising ditches; lining channels or by placing metal, plastic or concrete gravity pipe; constructing ditches, berms, culverts, etc., to control surface water; or constructing dams, settling basins, or energy dissipaters to control downstream flows.
2. Intercepting Ground Water: Surfacing ground water may be intercepted and routed around the construction site to prevent silt erosion by the use of gravel trenches, French drain tiles, well points, or interceptor ditch. The Contractor must provide means of controlling underground water that may be encountered during the Work.
3. Turbid Water Treatment Before Discharge:

    a. The term turbidity means the optical property of sample demonstrating the scattering and absorption of light caused by suspended material as expressed in Nephelometric Turbidity Units and measured with a calibrated turbidimeter. Surface water turbidity must be measured in a manner acceptable to the Engineer and is subject to verification by the Engineer.
    b. Turbid water from the Project Site must be treated before being discharged into stream or other State waters.
    c. Turbulence limitations include:

1) For Lake Class Receiving Waters, turbidity must not exceed 5 NTU (Nephelometric Turbidity Units) over background conditions.
2) For Class AA and Class A Waters, turbidity must not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10% increase in turbidity when the background turbidity is more than 50 NTU.
3) Discharges to a State waterway caused by aggregate washing, drainage from aggregate pit sites, and stockpiles or dewatering of pits and excavations must not increase the existing turbidity of the receiving waters.
4) For other classes of waters, refer to WAC 173-201-045 and WAC 173-201A-030.

d. Turbidity may be removed by the use of lagoons or holding ponds, settling basins, overflow weir, polymer water treatment, discharging to ground surface, by percolation, evaporation or by passing through gravel, sand or fiber filters.

4. Temporary Erosion Control: Temporary erosion control measures are required to minimize exposed areas and slopes until permanent measures are effective. Plastic sheet covering must be placed over exposed ground areas to protect from rain erosion. Other alternative methods for erosion control under certain situations may include netting, mulching with binder, and seeding. Should rutting or erosion occur, the Contractor is responsible for restoring damaged areas and for cleanup of eroded material, including that in ditches, catch basins, manholes, culverts, and other pipes.
5. Chlorine Residual: Water containing chlorine residual must not be discharged directly into Storm Drains, streams, or State waters. Chlorine water may be discharged into sanitary sewers or disposed on land for percolation. Chlorine residual may be reduced chemically with a reducing agent such as sodium thiosulphate or vitamin C. Water must be periodically tested for chlorine residual.
6. Vehicle and Equipment Washing: Water used for washing vehicles and Equipment must not be allowed to enter Storm Drains, streams or other State waters unless separation of petroleum products, fresh concrete products or other deleterious material is accomplished prior to discharge. Detergent solution may be discharged into sanitary sewers or held on the ground for percolation. A recirculation system for detergent washing is recommended. Steam cleaning units must provide a device for oil separation.
7. Oil and Chemical Storage and Handling: Handling and storage of oil and chemicals must not take place adjacent to waterways. The storage must be accomplished via use of dike tanks or barrels with drip pans provided under the dispensing area, or other such method approved by the Engineer.

Shut-off and lock valves must be provided on tanks. Shut-off nozzles must be provided on hoses. Oil and chemicals must be dispensed only during daylight hours unless the dispensing area is properly lighted. Should an oil or chemical spill occur, the Contractor must provide timely notification in accordance with Section 00 72 00 – General Conditions, Paragraph 1.04.BB. Fencing must be provided around oil storage. Locks must be provided on valves, pumps, and tanks.

8. Sewage: If a sanitary Sewer line is encountered and repair or relocation Work is required, the Contractor must provide blocking and sealing of the sanitary Sewer line. Sanitary Sewer flow must be pumped out, collected, and conveyed or pumped directly to a sanitary Sewer system manhole for discharge. The existing Sewers must be maintained by the Contractor, without interruption of service, by the use of temporary Sewer bypasses. In addition, the excavated materials adjacent to and around a rupture of a sanitary or combined Sewer pipeline must be removed to a disposal site. Equipment and tools in contact with the above Materials must be washed by pressure water lines and the attendant wash water discharged into a sanitary Sewer line for transmission to a sewage treatment plant.
9. Sawcutting, Planing, and Grinding By-Products: The Contractor must take special precautions to ensure that no concrete, asphalt, concrete by-products, or asphalt byproducts from, or are used in, the saw-cutting, grinding, or planing of asphalt cement or cement concrete pavements, sidewalks, curbs, etc. are discharged into any Storm Drain or surface water system. Such discharge is prohibited by the Department of Ecology. Inasmuch as saw-cutting by-products increase the pH of the wastewater, filtering prior to discharge is NOT acceptable. Impervious surfaces contaminated with sediment and grit from saw-cutting, planing or pulverizing operations must be cleaned by sweepers to prevent contaminants from entering the Storm Drainage system or surface waters when it rains.
10. Gutters and other Surface Drainage Channels: All Construction, Demolition, and Land clearing Waste and byproduct entering gutters and other pavement surface drainage channels must be prevented from entering any inlet, catch basin, or other drainage structure or feature. Accumulated sediments and Material must be removed from drainage channels on a regular basis. If necessary, temporary filters or filter materials must be placed in drainage channels to prevent the passage of Material.

1.07 AIR QUALITY

A. The Contractor must identify those portions of the Work that have potential to impact air quality. Specific means and methods to prevent and/or control impacts to air must be described for each such portion of Work.

B. The Contractor must not cause or allow the discharge of particulate matter, the emission of any air contaminants, or odor-bearing gases in excess of the limits

specified under Regulation I of the Puget Sound Clean Air Agency, Article 9 - Emission Standards.

C. The Contractor must maintain air quality within the National Emission Standards for Hazardous Air Pollutants. Air pollutants are defined as that part of the atmosphere to which no ambient air quality standard is applicable, and which, in the judgment of the Administrator of the Environmental Protection Agency Clean Air Act, may cause or contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating reversible illness.

D. The Contractor must minimize the potential for air pollution by the use of emission control devices on Contractor-operated equipment and by the shut-down of motorized equipment when not in use.

E. The Contractor must control dust throughout the project.

F. No burning, including trash or vegetation, will be permitted.

G. Refer to Regulation III Puget Sound Clean Air Agency Article 4, Asbestos Control Standard, in the event the Contractor damages an existing duct, asbestos cement pipe, or any other facility that may contain asbestos.

1.08 NOISE POLLUTION

A. The Contractor must take all reasonable measures for the suppression of noise resulting from Work operations. Mobile engine driven cranes, loaders and similar Material-handling Equipment; engines used in stationary service for standby power; air compressors for high and low-pressure service; and other similar Equipment must be equipped with exhaust and air intake silencers designed for the maximum degree of silencing. The type of silencer(s) required must be consistent with those used for high density residential, hotel, and hospital areas.

B. The Contractor must perform the Work consistent with the applicable noise control levels set forth in SMC Chapter 25.08 or, if outside the City limits and in King County, Chapters 12.86 through 12.100, King County Code.

1.09 LIABILITY AND PAYMENT

A. The Contractor must be liable for the payment of all fines and penalties resulting from failure to comply with the Federal, State, and local pollution control regulations, including when the Engineer is on the job at the time of the violation.

B. Except as may be otherwise provided for in the Contract, costs pertaining to the prevention of environmental pollution and the preservation of public natural resources as outlined in the Contract must be considered as incidental to the Work and such costs must be included in the Lump Sum Bid.

1.10 ARCHAEOLOGICAL AND HISTORIC PRESERVATION

A. Should the Contractor discover, during any construction activity or in any other way, any artifacts, skeletal remains, or other archaeological resources (as defined under RCW 27.53.040) at the Project Site, the Contractor must immediately cease

construction activity at the discovery site and surrounding area and promptly notify the Engineer. If ordered by the Engineer, the Contractor must suspend construction activity that, in the opinion of the Engineer, would be in violation of Chapter 27.53 RCW. Suspension of this construction activity must remain in effect until the Engineer has obtained permission to proceed from the State Historic Preservation Officer or from other authority.

1.11 TEMPORARY WATER POLLUTION, EROSION, AND SEDIMENTATION CONTROL

A. Temporary water pollution, erosion, and sedimentation control Work must comply with the Construction Stormwater Control Technical Requirements Manual (based on SMC Chapter 22.800 Stormwater, Grading & Drainage Code) and DCIS Best Management Practices Manual, which describes temporary measures. Such measures may be indicated in the Contract, proposed by the Contractor and approved by the Engineer, or may be ordered by the Engineer during performance of the Work. This temporary Work is intended to provide prevention, control, and abatement of water pollution/erosion/sedimentation within the limits of the project, and to minimize damage to the Work, adjacent property, streams, and other bodies of water.

B. Controlling and preventing pollution, erosion, run-off, sedimentation, and related damage may require the Contractor to perform temporary Work items including but not limited to:

1. Providing ditches, berms, Culverts, and other measures to control surface water.
2. Building dams, settling basins, energy dissipaters, and other measures, to control downstream flows.
3. Controlling underground water found during construction.
4. Covering or otherwise protecting slopes until permanent erosion-control measures are working.

C. If required by the Contract, the Contractor must, before starting the Work, submit to the Engineer for approval a Construction Stormwater Control (CSC) Plan in accordance with Section 01 57 13 – Construction Stormwater Control.

D. The Contractor must comply with the CSC Plan approved per Section 01 57 13, and must not perform clearing, grubbing or any other earthwork on the project, other than that specifically authorized in writing by the Engineer, until the plan has been approved. The Contractor is responsible for the effectiveness of any and all CSC/TESC measures, whether approved within the CSC Plan or not. The Owner shall not be held liable for any failure of any TESC/CSC measure, nor for any delays to the Work due to the Contractor's failure to submit an acceptable plan.

E. The Contractor must coordinate CSC measures with the permanent drainage, sedimentation, and erosion control Work that may be specified in the Contract to ensure continuous water pollution/erosion/sedimentation control is maintained during performance of the Work.

F. If the Engineer orders the Work suspended for an extended time under Section 00 72 00 – General Conditions, Paragraph 1.08.G, the Contractor must make, before the Engineer assumes maintenance responsibility, every effort to control erosion, pollution, sedimentation, and run-off during the suspension, such that no additional TESC/CSC measures are required. Section 00 72 00 – General Conditions, Paragraph 1.08.H describes the Engineer's responsibility in such cases.

G. The extent of excavation, borrow, and embankment operations in progress must be limited commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other permanent pollution/erosion/sedimentation control measures current according to the accepted Critical Path Schedule (CPS). If the Engineer determines that water pollution or erosion or sedimentation could occur due to seasonal limitations, the nature of the Material, or the Contractor's progress, temporary CSC measures must be taken immediately. The Engineer may require the Contractor's operations to be scheduled so those permanent pollution/erosion/sedimentation control features will be installed concurrently with, or immediately following, grading operations.

H. The amount of surface area of erodible earth material exposed at one time by clearing and grubbing, excavation, borrow or fill within the Right of Way must not exceed 18,000 square feet without prior approval by the Engineer.

I. Permanent pollution/erosion/sedimentation control Work ordered by the Engineer and not covered in the Bid will be considered extra Work and paid for as such. Only pollution/erosion/sedimentation control included in the Bid Form or designated by the Engineer and ordered as extra Work will be considered permanent control measures.

J. Temporary erosion control, temporary sedimentation control, and temporary water pollution control is the Contractor's responsibility. Costs for temporary erosion control, for temporary sedimentation control, and for temporary water pollution control Work must be considered incidental to the Work and such costs must be included in the Lump Sum Bid.

K. Records of submitted and actual pollution/erosion/sedimentation controls and plans must be retained for a period of three years after the Completion Date and must be available at reasonable times and places for inspection by the Engineer and, when applicable, other entities that may have interest in the project.

1.12 DEWATERING

A. The Contractor must operate and maintain all pumps, tanks and other equipment necessary for the environmentally safe removal and disposal of water from the various parts of the Work. The method proposed by the Contractor for removal of water from excavations shall be subject to the approval of the Engineer. The Engineer has the right and authority to disapprove any method proposed for discharge of water from excavations.

B. When discharge of water from the site is subject to approval of any Federal, State or local agency, the Contractor is responsible for obtaining such approval before commencing any pumping or de-watering operation.

C. The Contractor must include measures for control and treatment of any wastewater created from dewatering activities in the Environmental Pollution Control Plan.

1.13 DUST CONTROL

A. Use water sprinkling, temporary enclosures, and other methods to limit dust and dirt migration. Comply with all local regulations.

PART 2 - PRODUCTS
Not applicable.

PART 3 - EXECUTION
Not applicable.

END OF SECTION 01 57 19

PART 1 - GENERAL

1.01 GENERAL

The Contract Drawings provide baseline and benchmark references; however, the Contractor is responsible for the layout of individual items of the Work. Such responsibilities are outlined in this Section and pertain to other Work as separately described in individual Drawings and Specifications.

1.02 RELATED SPECIFICATION SECTIONS

Related Sections include, but are not limited to:

A. Section 01 11 00 – Summary of Work
B. Section 01 33 10 – Submittals
C. Section 01 76 00 – Protection of Existing Facilities
D. Section 01 78 39 – Record Documents

1.03 SURVEYING

A. The Contractor must provide such field engineering services as are required for proper execution of the Work including, but not limited to:

1. Establishing and maintaining lines and levels from control points and baselines provided by the Contract Drawings.
2. Construction staking for all construction activities, such as location of features, gridlines, structures (including elevations of inverts), pipe slopes, and rim elevations.
3. Recording of As-built information.

B. Survey base data: Any survey information provided with the Contract Documents is subject to the following caveats:

1. The Site Plan for the construction Project Site was compiled by the designer of record.
2. The Engineer makes no representation that the survey information is complete or that it addresses every site condition which may be significant to the Work.
3. The provision of the survey information by the Contract Documents does not relieve the Contractor of the responsibility to carefully examine the site and account for any conditions/elements that vary from, or are in addition to, the conditions/elements shown on the survey.
4. The existence and location of underground and other utilities and facilities indicated as existing are not guaranteed. Before beginning site Work, the Contractor must investigate and verify the existence and location of

underground utilities and other construction. Refer to Section 01 76 00 - Protection of Existing Facilities.

1.04 QUALITY ASSURANCE

A. Survey Requirements:

1. The Contractor's surveyor must be a licensed professional surveyor in the State of Washington.
2. The Contractor must keep updated survey field notes in a standard field book and in a format set by the Engineer.
3. Survey field notes must include all survey work performed by the Contractor's surveyor in establishing line, grade and slopes for the construction work.
4. Copies of these survey field notes must be provided the Engineer upon request.
5. Upon Physical Completion of the Contract Work, the survey field books must be submitted to the Engineer and become the property of the Engineer.

B. If the survey work provided by the Contractor does not meet the standards of the Engineer, the Contractor must, upon the Engineer's Written Notice, remove the individual or individuals doing the survey work and retain a suitable replacement surveyor. If this fails, the Engineer, at the Contractor's expense, may complete the survey work required and deduct the cost from the Contract amount.

C. The Engineer reserves the right to check all Work laid out by the Contractor during the progress of the Work, as deemed necessary to verify conformance with the Plans and Specifications. The Contractor must allow sufficient time to permit such checks before completing the Work. These checks will be made during the regular working hours.

D. If existing reference and control points are damaged, moved, altered, or destroyed by the Contractor, the SPR Chief Surveyor's cost of re-establishing such points must be borne by the Contractor at the crew rate of $300 per hour.

E. All costs for survey work required to be performed by the Contractor must be included in the Bid.

1.05 SUBMITTALS

A. Comply with pertinent provisions of Section 01 33 10 - Submittals.

B. Upon request of the Engineer or the Consultant, the Contractor must submit:

1. Data demonstrating qualifications of persons proposed to perform survey or other field engineering services.
2. Documentation verifying accuracy of field engineering work.
3. Certification, signed by the Contractor's surveyor, that elevations and locations of improvements are in conformance or non-conformance with the Contract Documents.

1.06 PROCEDURES

A. In addition to procedures directed by the Engineer or the Consultant for proper performance of the Contractor's responsibilities, the Contractor must:

1. Protect construction control points, including grade control.
2. Preserve permanent reference points during progress of the Work as shown on the Contract Drawings or staked in field.
3. Preserve grade control stakes.
4. Not relocate existing reference and control points without approval of the Engineer and SPR Chief Surveyor.
5. Report damaged or destroyed reference or control points to the SPR Chief Surveyor.
6. Be responsible for any increased costs or delays to the Contract relating to reference and/or control points which are damaged, moved, altered or destroyed by the Contractor or its Subcontractors, Suppliers, agents or employees.
7. Discontinue use of reference points alleged to be in error until accuracy of the points can be verified.

PART 2 - PRODUCTS *Not Used*

PART 3 - EXECUTION

3.01 CONSTRUCTION LAYOUT

A. The Contractor must:

1. Employ a surveyor licensed by the State of Washington to lay out the Work of this Contract.
2. Establish working lines for each structure and at reasonable intervals across the site.
3. Lay out the Work described by the Contract Documents using recognized surveying methods and keep an accurate field book of Work completed.
4. Calculate and measure required dimensions within indicated or recognized tolerances. Do not scale Drawings to determine dimensions.
5. Advise the entities engaged in construction activities of marked lines and levels provided for their use.
6. As construction proceeds, check every major element for line, level and plumb.
7. Provide stakes as required by various Sections of these Specifications and as required for accurate construction. Make staking information available to the Consultant for review prior to executing construction based on staking.

8. Record deviations from required lines and levels and advise the Engineer when deviations that exceed indicated or recognized tolerances are detected. Record Drawings deviations that are accepted and not corrected on As-built Drawings.

3.02 AS-BUILT INFORMATION

A. The Contractor must locate and establish grade of completed construction for use in preparing As-built documents of the project. Do not cover Work until survey has been completed. As-built information is necessary for, but not limited to, the following:

1. Locations of utility structures, fittings and changes of direction of underground utilities.
2. Locations of shutoffs, valves and clean-outs for underground utilities, including locations of solenoid valves for irrigation systems.
3. Corners and/or center lines, and benchmark elevations of bridges, buildings, and other major structures.
4. Center lines and grades of roads, paths, vehicle gates.
5. Points at which new utility lines intersect existing.

END OF SECTION 01 71 23

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. All Wastes generated during the project must be managed and disposed of in accordance with all applicable local, State and federal regulations.

B. Unless otherwise specified in the Contract, the Contractor is responsible for arranging and implementing the proper handling, management, segregation, storage, transport, and disposal of all wastes**,** including processing and maintaining required documentation. This may include:

1. Identifying, proposing, and contracting with disposal sites that can legally accept the types of identified or characterized wastes.
2. Identifying, proposing, and contracting with waste transporters qualified and licensed to transport the types of identified or characterized wastes. All wastes must be transported in accordance with federal, state and local transportation requirements, including driver training, placarding and use of shipping papers or waste manifests.
3. Obtaining waste clearances or other waste acceptance approvals through Public Health-Seattle & King County (PHSKC) or other agencies as appropriate and as required.
4. Creating and processing all necessary documentation, such as Certificates of Disposal or Recycling, sampling and analysis reports, waste clearance forms, waste acceptance forms, bills of lading, scale tickets, waste receipts, and others as applicable.
5. Providing the Engineer timely notice for reviewing documentation before transporting waste.
6. Providing the Engineer copies of all documentation pertaining to waste generation, recycling and disposal.

1.02 RELATED SECTIONS

A. RESERVED

1.03 DEFINITIONS

A. The following terms used in this Section are defined in Seattle Municipal Code (SMC) Chapter 21.36.

1. City's Waste – see SMC 21.36.012
2. Construction, Demolition and Land Clearing Waste (CDL Waste) – see SMC 21.36.012
3. Contaminated Soils – see SMC 21.36.012
4. Dangerous Waste – see SMC 21.36.012
5. Special Waste – see SMC 21.36.016

6. Unacceptable Waste – see SMC 21.36.016

1.04 GENERAL WASTE DISPOSAL

A. In accordance with SMC 21.36.089, the following recyclable Materials cannot be disposed as construction and demolition waste.

- Concrete, bricks and asphalt paving
- Metal (both ferrous and non-ferrous)
- Cardboard
- New construction gypsum scrap
- Unpainted and untreated wood
- Tear-off asphalt shingles
- Carpet
- Plastic film wrap

B. The Owner has established that this project must generate the least amount of waste possible. The Contractor must utilize processes and procedures that minimize production of waste caused by error, poor planning, breakage, mishandling, contamination, or other factors.

C. In accordance with SMC 21.36.112, no waste generated within the City of Seattle may be disposed of in a waste disposal facility owned and operated by King County, unless specifically agreed by the City and King County. Union Pacific's Seattle Intermodal Facility (SIF) or successor receiving facility is designated as the receiving facility for disposal of all City's Waste, including waste left over after separating out Special Waste, Construction, Demolition and Landclearing (CDL) Waste, or Materials destined for recycling. If utilizing this service, the Contractor, as a generator of such waste, must ensure correct delivery of such to SIF (or successor receiving facility).

1. PHSKC requires that waste be cleared and acceptable for the City's receiving facilities. Waste that is, appears to be, or is suspected of being contaminated, hazardous, dangerous, or may have operational constraints must be identified to and approved by PHSKC by submitting a completed Waste Characterization Form. A sample of this form is appended to this Section, and the most current form and more information can be found at https://kingcounty.gov/depts/dnrp/solid-waste/facilities/waste-clearance.aspx.

D. Private disposal companies and waste sites outside of King County may require other documentation. Laboratory analysis of waste Material may be required to obtain waste clearance or acceptance. Copies of all waste clearance, acceptance forms, and any accompanying laboratory tests/reports or related supplemental information must be provided to the Engineer.

E. Disposal sites used under the Contract must comply with all applicable rules, ordinances, codes, regulations and laws, and must have all required authorizations for the waste to be disposed. Loads of recyclable construction and demolition waste

of a single material may be transported directly to a recycling facility. Mixed construction and demolition waste containing materials required to be recycled must be transported to a certified construction and demolition waste processor listed on the City's certified facilities website: https://www.seattle.gov/utilities/construction-resources/collection-and- disposal/construction-and-demolition/certified-facilities per SMC21.36.089. Unrecyclable construction and demolition waste must be transported to disposal facilities per SC 21.36.112.

F. Waste sites located within the City limits of Seattle are subject to the rules and regulations set forth in Seattle's Stormwater Code and Grading Code and must at minimum have a grading permit issued to the Property Owner by the Director of the Seattle Department of Construction and Inspections.

G. Waste sites located outside the City limits of Seattle but within unincorporated King County are subject to the rules and regulations set forth by current King County grading requirements. Sites located outside the City limits of Seattle or unincorporated King County may also be subject to rules and regulations of the local governmental authority having jurisdiction.

H. The selection of waste sites and their use is subject to Engineer approval.

1. Sites, operations, or results of operations, which create a definite nuisance problem, or result in damage to public or private properties, are not acceptable.
2. Utilization of a site without submitting a legal grading permit and Consent Agreement from the Property Owner to the Engineer and obtaining approval of the Engineer will be considered unauthorized.
3. Surplus Material must not be wasted within public properties or rights of way without all required permitting and, if located within City of Seattle right of way, a street use permit issued by the Director of the Seattle Department of Transportation. (SDOT).

I. Options for the disposal of woody debris from clearing and grubbing include on-site grinding for use as mulch or delivery to facilities that compost or recycle woody debris into soil amendment or mulch end products. Any action required to comply with any permit and/or any approval requirements at a Contractor-provided disposal site must be performed by the Contractor at no additional cost to the Owner.

1.05 DISPOSAL OF SPECIAL OR UNACCEPTABLE WASTE

A. No asbestos, contaminated soils, hazardous, dangerous, or otherwise unacceptable waste is expected to be encountered for this Work. If encountered, such unacceptable waste must be disposed of in accordance with all applicable local, State, and federal regulations, and the Owner will consider this as a "Changed Condition."

1.06 RECYCLABLE MATERIALS

The City requires specific types of construction and demolition waste to be recycled per SMC 21.36.089 and SPU Director's Rule SW-640 (https://www.seattle.gov/utilities/about/policies). Recyclable materials include but are not limited to asphalt and cement concrete, bricks, ferrous and non-ferrous metal, cardboard, untreated and unpainted wood, and new construction gypsum scrap.

1.07 SUBMITTALS

A. Draft Waste Management Plan: Within 10 Working days after receipt of Notice to Proceed, or prior to any waste removal, whichever occurs sooner, the Contractor must submit to the Engineer a Draft Waste Management Plan. The Draft Plan must contain the following:

1. Analysis of the waste that the project will generate, including a list of types of wastestreams and estimated quantities of each wastestream.
2. For each wastestream, identification of disposal or recycle site(s) with the estimated quantities of the wastestream; and permits for the disposal sites, if necessary.
3. Identification of the proposed transporter to be used for each wastestream and applicable licenses that may be necessary for transporting the wastestream.
4. For each wastestream, descriptions of the storage of each wastestream on the project site before recycling or disposal. Include procedures to ensure that wastes are stored in a safe, secure manner that does not allow for leakage or other releases of waste. Include details regarding controls, signage, and inspections.
5. Copies of all residential Property Owner agreements.

B. Final Waste Management Plan: Within 5 Working Days of the receipt of Engineer's review and comments to the Draft Waste Management Plan, the Contractor must submit a Final Waste Management Plan that incorporates revisions to the draft plan.

1. The Final Waste Management Plan must also include:
    a. Identification of the Manager and all on-site parties responsible for instructing workers and overseeing and documenting results of the Waste Management Plan for the project.
    b. A description of how Contractors will instruct the waste management procedures to staff and Subcontractors and document such trainings. The Contractor must provide on-site instruction of appropriate separation, handling, recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.
    c. A description of the regular meetings to be held to address waste management. Refer to Section 01 32 13 – Progress Schedules.

2. The Contractor must distribute copies of the Waste Management Plan to the Job Site Foreman, each Subcontractor, the Engineer, and the Consultant.

C. Should additional or alternate waste sites become necessary during the life of the Contract, the locations and information for each site must be submitted to the Engineer for approval at least 10 Working Days prior to its use.

1. Furnish copies of permits for waste sites.

D. The Contractor must submit to the Engineer within 10 Working Days of receipt by the disposal site, 2 copies of each shipment list, bill of lading, and/or transmittal document, listing and describing the waste Material shipped from the Project Site and deposited at the waste disposal site. The submitted shipment list must have the waste site operator's confirmation of receipt of the waste, and the name of the waste transporter. The Contractor must also provide the Engineer with the following copies:

1. Documentation of disposal as applicable.
2. Waste sampling and analysis reports as applicable.
3. Waste clearance or acceptance forms (copies of agency-approved forms must be provided to the Engineer).

E. Application for Progress Payments: The Contractor must submit with each Application for Progress Payment a Summary of Waste Generated by the project. Failure to submit this information will render the Application for Payment incomplete and may delay Progress Payment. The Summary must be submitted on a form acceptable to the Engineer. An acceptable form may be found in one of two places: In Procore or in the Contractor Forms Workbook (available upon request). The form can be found on a spreadsheet set generated when the "Pay Estimate" package is created/exported by the Contractor (contact the Engineer if further instruction is needed). The form must contain the following information:

1. The amount (in tons or cubic yards) of Material landfilled from the project, the identity of the landfill, the total amount of tipping fees paid at the landfill, and the total disposal cost. Attach manifests, weight tickets, receipt, and invoices as applicable.
2. For each Material recycled, reused, or salvaged from the project, the amount (in tons or cubic yards), the date removed from the jobsite, the receiving party, the transportation cost, the amount of any money paid or received for the recycled or salvaged Material, and the net total cost or savings from salvage or recycling of each Material. Attach manifests, weight tickets, receipts, and invoices as applicable.

F. RESERVED

G. The Owner may request to review or approve all shipping papers prior to wastes leaving the Project Site.

H. When operations are complete, a release from all damages, duly executed by the waste site Property Owner and stating that the restoration of the property is satisfactory, is required.

1. Retainage withheld from the Contractor's payments will not be released until all such Property Owner releases have been furnished to the Engineer.
2. Should the release be, in the opinion of the Owner, arbitrarily withheld, the Owner may, at its sole discretion, accept that portion of the Work involved and cause final payment to be made.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

3.01 GENERAL

A. Use only approved waste sites.
B. Take the protective measures required for the type of waste being handled. Hazardous waste shall be separated, stored, and disposed of according to applicable regulations.
C. After disposal, perform all operations necessary to put the waste sites in a neat, clean and orderly condition.
D. Final cleanup must be in accordance with the Contract and the requirements of the Stormwater Code, Grading Ordinance, permits, and residential property agreements.

3.02 SITE MAINTENANCE

A. Keep Work area, site, and adjacent properties free from accumulations of waste Materials, rubbish, and windblown debris resulting from Contractor’s operations.
B. The Contractor must lay out and label a specific area to facilitate separation of Materials for potential recycling, salvage, reuse, and return. Recycling and waste bin areas are to be kept neat, clean, and clearly marked in order to avoid contamination of Materials.
C. Provide on-site containers for collection of waste Materials, debris, and rubbish. Periodically remove waste from the site.
D. Do not use the Owner’s waste containers for construction waste.
E. Dispose daily of all flammable, hazardous, and toxic waste Materials. Dispose of trash and debris in compliance with governing codes, ordinances, regulations, and anti-pollution laws.
F. Locate dumpster(s) inside the staging area or at a site designated by the Engineer.

3.03 DISPOSAL OF SURPLUS MATERIAL

A. Material obtained from all excavation within the project boundary must not be wasted unless the excavated Material is designated by the Engineer as unsuitable for use in embankment construction, trench backfill, or for other purposes.

1. All excavated Material not required for backfill must be removed from the site as the Work progresses.
2. For any excavated soil being transferred to another site for reuse, a soil transfer form must be completed and submitted to the Engineer within five Working days. A copy of this form is amended to this Section.

B. Other surplus, excess, or salvaged Materials of value remaining after completion of associated Work must be offered to the Engineer. If declined by the Engineer, the Contractor must dispose of these Materials in accordance with the requirements noted herein.

C. Material determined to be unsuitable by the Engineer must be disposed of in accordance with the requirements noted herein.

END OF SECTION 01 74 19

Public Health
Seattle & King County

SEATTLE/KING COUNTY WASTE CHARACTERIZATION FORM

WC#_____

Please Type or Print in Ink **Initial** _____ **Renewal** _____ **Previous #**_____

A. WASTE GENERATOR

Company:_____ Phone #:_____

Contact:_____ E-mail:_____

WAD/EPA ID #:_____ Fax #:_____

Address of Waste Generation:_____ City:_____

Mailing Address:_____

City:_____ State:_____ ZIP:_____

Preferred Communication: · Phone · E-mail · Fax · Mail

APN _____

B. CONSULTANT (*If Applicable*)

Company:_____ Phone #:_____

Contact: _____ Fax #:_____

E-mail: _____

C. WASTE HAULER

Company:_____ Phone #:_____

Contact: _____ Fax #:_____

Mailing Address:_____

City:_____ State:_____ i ZIP:_____

Waste Packaging: · Drum · Bulk Solid · Other:_____

D. WASTE STREAM INFORMATION

Name of Waste:_____

Process Generating Waste: _____

Annual Amount in pounds or tons:_____ Estimated Amount per Delivery:_____

Frequency of Disposal: · One time only · Weekly · Monthly · Other:_____

Special Handling Instructions/Supplemental Information: _____

_____

SAMPLE

Public Health
Seattle & King County

E. PHYSICAL CHARACTERISTICS OF WASTE (*See Instructions*)

1. Color:_____
2. Does the waste have a strong incidental odor? · No · Yes, if so, describe:_____
3. Physical State: · Solid · Liquid · Semi-Solid · Powder · Other: _____
4. Free Liquids: · No · Yes - Volume:_____%
5. pH: · ≤2 · > 2-4 · 4-7 · 7 · 7-10 · 10- <12.5 · ≥12.5 · NA
6. Flash Point: · NA · <140°F/60°C · 140-199°F/60-93°C · ≥200°F/93°C

F. CHEMICAL COMPOSITION RANGE (MIN-MAX)

1. _____ _____-_____%
_____ _____-_____%
_____ _____-_____%
_____ _____-_____%
_____ _____-_____%
_____ _____-_____%
_____ _____-_____%
_____ _____-_____%
Total: _____%

2. Does the waste contain any of following? (provide concentration if known):

	NO	LESS THAN	ACTUAL
PCBs	·	· <50 ppm	____ppm
Cyanides	·	· <30 ppm	____ppm
Sulfides	·	· <500 ppm	____ppm

3. Method used to determine composition: · Analytical Data · · MSDS · Other:_____

G. SAMPLING INFORMATION (*If Applicable*)

1. Source of Sample (eg. drum, stockpile, sump/catch basin; tank)_____
2. Sampling Method: · Composite · Discrete/grab · Other:_____
3. Number of samples:_____

H. GENERATOR CERTIFICATION

By signing this Waste Characterization Form, the Generator certifies:

1. This waste is not a "Hazardous Waste" as defined by USEPA and/or the state.
2. This waste does not contain regulated radioactive materials or regulated concentrations of PCBs (Polychlorinated Biphenyls).
3. All information provided is a true and accurate description of the waste material. All relevant information regarding known or suspected hazards in the possession of the Generator has been disclosed.
4. This waste complies with the regulations of the Seattle-King County Department of Public Health and the local solid waste division.
5. The analytical data presented herein, attached hereto, or otherwise submitted for the purpose of completing or supplementing any or all of the information on this form were derived from testing a representative sample taken in accordance with 40 CFR 261.20(c) or equivalent rules.
6. If any changes occur in the character of the waste (e.g., physical characteristics, chemical composition, process of generation, etc.), the Generator shall notify the Seattle-King County Department of Public Health.

7. Signature:_____ 8. Title:_____
(not required if submitted electronically)

9. Name: _____ 10. Date:_____
Type or Print

SAMPLE

Public Health
Seattle & King County

WASTE CHARACTERIZATION FORM INSTRUCTIONS

Information on this form, is used to determine if questionable wastes may be disposed as solid waste in a legal, safe, and environmentally sound manner. Answers must be provided for all sections of this form, and must be printed in ink or typed. A response of "NONE", or "NA" (not applicable) can be made if appropriate. If additional space is needed, indicate on the Waste Characterization Form and attach. If you have questions concerning this form, please contact the Waste Characterization Program at (206) 263-8528.

PARTS A. – C. Enter appropriate contact information. If you have waste generator ID number issued by the USEPA or Washington Department of Ecology, enter it in section A.

SAMPLE

PART D. WASTE STREAM INFORMATION

Name of Waste - Enter the name generally descriptive of this waste (e.g., paint sludge, contaminated soil, sharps)

Process Generating Waste - List the specific process/operation or source that generates the waste (e.g., spray painting, spill clean up, process wastewater treatment, building maintenance).

Annual Amount - Enter the amount of waste that will be generated and transported annually (expressed in pounds, or tons). If this waste is going directly to a transfer station or landfill enter an estimate of the amount to be delivered per trip.

Frequency of Disposal - Enter how often this waste will be removed from the site.

Special Handling Instructions/Supplemental Information - For all wastes, describe any special handling requirements and any additional information that you feel would assist in determining the proper method(s) for transportation, treatment, storage, and disposal of the waste.

In addition, for the following wastes include the information specified:

Biomedical Waste (as defined by local ordinance): Describe the type of biomedical waste and the treatment method used.

Empty drums or other containers: List the number, size of containers, materials they contained.

Food Products/Containerized Liquids: Describe the products or containerized liquids (e. g., beef jerky, beer, shampoo). List the number and size of containers for any containerized liquids.

For the wastes listed above, skip Parts E, F and G. However, Part H must be completed.

PART E. PHYSICAL CHARACTERISTICS OF WASTE

1. Color - Describe the color of the waste (e.g., blue, transparent, varies).
2. Odor - DO NOT SMELL THE WASTE. If the waste has a known incidental odor check "Yes" and describe it (e.g., acrid, pungent, solvent, sweet).
3. Physical State - Check the appropriate box for the physical state of the waste. Include a description if "other" is chosen (e.g., gas).
4. Free Liquids - Check "Yes" if liquid is usually present when packaging for shipment and estimate the percentage of liquid. Check "No" if there are no free liquids as determined by the Paint Filter Test (Method 9095 of SW-846) or direct observation.
5. pH - Check the appropriate box for the pH of the liquid portion of the waste. For solid or organic liquid wastes, indicate the pH of 10% aqueous solution of the waste, if applicable. Check "NA" for non-water soluble materials (e.g., foundry sand).
6. Flash Point - Check the appropriate box for the flash point of the waste and the method used to obtain the flash point, if applicable.

Public Health
Seattle & King County

PART F. CHEMICAL COMPOSITION

1. If known, list all organic and/or inorganic components of the waste using specific chemical names. If trade names are used, attach Material Safety Data Sheets or other documents which adequately describe the composition of the waste. For each component, estimate the range (in percents) in which the component is present. The total of the maximum values of the components must be greater than or equal to 100% including water, earth, etc.
2. If this waste contains PCBs, cyanides, or sulfides, indicate the concentration(s). If this waste does not contain these constituents, indicate by checking the "NO" box(es) which apply. If the concentration of these constituents is unknown, please indicate "UNK" under "ACTUAL".
3. Indicate the method(s) used to determine composition and attach supporting documents.

PART G. SAMPLING INFORMATION

1. Indicate where the sample of the waste was obtained.
2. Check the appropriate box indicating the method of sampling.
3. Indicate the number of samples taken.

If the sample was handled using Chain of Custody, attach the completed form.

PART H. GENERATOR CERTIFICATION

By signing this Waste Characterization Form, the Generator certifies that the statements in numbers 1, 2, 3, 4, 5 and 6 are true and accurate with respect to the waste streams listed.

7. Signature - An authorized employee of the Generator must sign this form.
8. Title - Enter employee's title.
9. Name - Enter employee's name.
10. Date - Enter the date signed.

Send the completed application to -

Public Health – Seattle & King County
Waste Characterization Program
Chinook Building
401 5th Ave, Suite 1100
Seattle, WA. 98104

You may also fax the form to - (206) 296-0189

Questions? Contact Waste Characterization at –

Telephone: (206) 477-0184
E-mail: wc@kingcounty.gov

http://www.kingcounty.gov/healthservices/health/ehs/toxic/SolidWaste.aspx

Public Health
Seattle & King County

SEATTLE/KING COUNTY WASTE CHARACTERIZATION FORM

WC#_____

Please Type or Print in Ink **Initial** _____ **Renewal** _____ **Previous #**_____

A. WASTE GENERATOR

Company:_____ Phone #:_____

Contact:_____ E-mail:_____

WAD/EPA ID #:_____ Fax #:_____

Address of Waste Generation:_____ City:_____

Mailing Address:_____

City:_____ State:_____ ZIP:_____

Preferred Communication: · Phone · E-mail · Fax · Mail

APN _____

B. CONSULTANT (*If Applicable*)

Company:_____ Phone #:_____

Contact: _____ Fax #:_____

E-mail: _____

C. WASTE HAULER

Company:_____ Phone #:_____

Contact: _____ Fax #:_____

Mailing Address:_____

City:_____ State:_____ i ZIP:_____

Waste Packaging: · Drum · Bulk Solid · Other:_____

D. WASTE STREAM INFORMATION

Name of Waste:_____

Process Generating Waste: _____

Annual Amount in pounds or tons:_____ Estimated Amount per Delivery:_____

Frequency of Disposal: · One time only · Weekly · Monthly · Other:_____

Special Handling Instructions/Supplemental Information: _____

_____

SAMPLE

Public Health
Seattle & King County

E. PHYSICAL CHARACTERISTICS OF WASTE (*See Instructions*)

1. Color:_____
2. Does the waste have a strong incidental odor? · No · Yes, if so, describe:_____
3. Physical State: · Solid · Liquid · Semi-Solid · Powder · Other: _____
4. Free Liquids: · No · Yes - Volume:_____%
5. pH: · ≤2 · > 2-4 · 4-7 · 7 · 7-10 · 10- <12.5 · ≥12.5 · NA
6. Flash Point: · NA · <140°F/60°C · 140-199°F/60-93°C · ≥200°F/93°C

F. CHEMICAL COMPOSITION RANGE (MIN-MAX)

1. _____ _____-_____%
   _____ _____-_____%
   _____ _____-_____%
   _____ _____-_____%
   _____ _____-_____%
   _____ _____-_____%
   _____ _____-_____%
   _____ _____-_____%
   Total: _____%

2. Does the waste contain any of following? (provide concentration if known):

	NO	LESS THAN	ACTUAL
PCBs	·	· <50 ppm	____ppm
Cyanides	·	· <30 ppm	____ppm
Sulfides	·	· <500 ppm	____ppm

3. Method used to determine composition: · Analytical Data · · MSDS · Other:_____

G. SAMPLING INFORMATION (*If Applicable*)

1. Source of Sample (eg. drum, stockpile, sump/catch basin; tank)_____
2. Sampling Method: · Composite · Discrete/grab · Other:_____
3. Number of samples:_____

H. GENERATOR CERTIFICATION

By signing this Waste Characterization Form, the Generator certifies:

1. This waste is not a "Hazardous Waste" as defined by USEPA and/or the state.
2. This waste does not contain regulated radioactive materials or regulated concentrations of PCBs (Polychlorinated Biphenyls).
3. All information provided is a true and accurate description of the waste material. All relevant information regarding known or suspected hazards in the possession of the Generator has been disclosed.
4. This waste complies with the regulations of the Seattle-King County Department of Public Health and the local solid waste division.
5. The analytical data presented herein, attached hereto, or otherwise submitted for the purpose of completing or supplementing any or all of the information on this form were derived from testing a representative sample taken in accordance with 40 CFR 261.20(c) or equivalent rules.
6. If any changes occur in the character of the waste (e.g., physical characteristics, chemical composition, process of generation, etc.), the Generator shall notify the Seattle-King County Department of Public Health.

7. Signature:_____ 8. Title:_____
   (not required if submitted electronically)

9. Name: _____ 10. Date:_____
   Type or Print

SAMPLE

Public Health
Seattle & King County

WASTE CHARACTERIZATION FORM INSTRUCTIONS

Information on this form, is used to determine if questionable wastes may be disposed as solid waste in a legal, safe, and environmentally sound manner. Answers must be provided for all sections of this form, and must be printed in ink or typed. A response of "NONE", or "NA" (not applicable) can be made if appropriate. If additional space is needed, indicate on the Waste Characterization Form and attach. If you have questions concerning this form, please contact the Waste Characterization Program at (206) 263-8528.

PARTS A. – C. Enter appropriate contact information. If you have waste generator ID number issued by the USEPA or Washington Department of Ecology, enter it in section A.

SAMPLE

PART D. WASTE STREAM INFORMATION

Name of Waste - Enter the name generally descriptive of this waste (e.g., paint sludge, contaminated soil, sharps)

Process Generating Waste - List the specific process/operation or source that generates the waste (e.g., spray painting, spill clean up, process wastewater treatment, building maintenance).

Annual Amount - Enter the amount of waste that will be generated and transported annually (expressed in pounds, or tons). If this waste is going directly to a transfer station or landfill enter an estimate of the amount to be delivered per trip.

Frequency of Disposal - Enter how often this waste will be removed from the site.

Special Handling Instructions/Supplemental Information - For all wastes, describe any special handling requirements and any additional information that you feel would assist in determining the proper method(s) for transportation, treatment, storage, and disposal of the waste.

In addition, for the following wastes include the information specified:

Biomedical Waste (as defined by local ordinance): Describe the type of biomedical waste and the treatment method used.

Empty drums or other containers: List the number, size of containers, materials they contained.

Food Products/Containerized Liquids: Describe the products or containerized liquids (e. g., beef jerky, beer, shampoo). List the number and size of containers for any containerized liquids.

For the wastes listed above, skip Parts E, F and G. However, Part H must be completed.

PART E. PHYSICAL CHARACTERISTICS OF WASTE

1. Color - Describe the color of the waste (e.g., blue, transparent, varies).
2. Odor - DO NOT SMELL THE WASTE. If the waste has a known incidental odor check "Yes" and describe it (e.g., acrid, pungent, solvent, sweet).
3. Physical State - Check the appropriate box for the physical state of the waste. Include a description if "other" is chosen (e.g., gas).
4. Free Liquids - Check "Yes" if liquid is usually present when packaging for shipment and estimate the percentage of liquid. Check "No" if there are no free liquids as determined by the Paint Filter Test (Method 9095 of SW-846) or direct observation.
5. pH - Check the appropriate box for the pH of the liquid portion of the waste. For solid or organic liquid wastes, indicate the pH of 10% aqueous solution of the waste, if applicable. Check "NA" for non-water soluble materials (e.g., foundry sand).
6. Flash Point - Check the appropriate box for the flash point of the waste and the method used to obtain the flash point, if applicable.

Public Health
Seattle & King County

PART F. CHEMICAL COMPOSITION

1. If known, list all organic and/or inorganic components of the waste using specific chemical names. If trade names are used, attach Material Safety Data Sheets or other documents which adequately describe the composition of the waste. For each component, estimate the range (in percents) in which the component is present. The total of the maximum values of the components must be greater than or equal to 100% including water, earth, etc.
2. If this waste contains PCBs, cyanides, or sulfides, indicate the concentration(s). If this waste does not contain these constituents, indicate by checking the "NO" box(es) which apply. If the concentration of these constituents is unknown, please indicate "UNK" under "ACTUAL".
3. Indicate the method(s) used to determine composition and attach supporting documents.

PART G. SAMPLING INFORMATION

1. Indicate where the sample of the waste was obtained.
2. Check the appropriate box indicating the method of sampling.
3. Indicate the number of samples taken.

If the sample was handled using Chain of Custody, attach the completed form.

PART H. GENERATOR CERTIFICATION

By signing this Waste Characterization Form, the Generator certifies that the statements in numbers 1, 2, 3, 4, 5 and 6 are true and accurate with respect to the waste streams listed.

7. Signature - An authorized employee of the Generator must sign this form.
8. Title - Enter employee's title.
9. Name - Enter employee's name.
10. Date - Enter the date signed.

Send the completed application to -

Public Health – Seattle & King County
Waste Characterization Program
Chinook Building
401 5th Ave, Suite 1100
Seattle, WA. 98104

You may also fax the form to - (206) 296-0189

Questions? Contact Waste Characterization at –

Telephone: (206) 477-0184
E-mail: wc@kingcounty.gov

http://www.kingcounty.gov/healthservices/health/ehs/toxic/SolidWaste.aspx

Public Health
Seattle & King County

SEATTLE/KING COUNTY WASTE CHARACTERIZATION FORM

WC#_____

Please Type or Print in Ink **Initial _____** **Renewal _____** **Previous #_____**

A. WASTE GENERATOR

Company:_____ Phone #:_____

Contact:_____ E-mail:_____

WAD/EPA ID #:_____ Fax #:_____

Address of Waste Generation:_____ City:_____

Mailing Address:_____

City:_____ State:_____ ZIP:_____

Preferred Communication: · Phone · E-mail · Fax · Mail

APN _____

B. CONSULTANT (*If Applicable*)

Company:_____ Phone #:_____

Contact: _____ Fax #:_____

E-mail: _____

C. WASTE HAULER

Company:_____ Phone #:_____

Contact: _____ Fax #:_____

Mailing Address:_____

City:_____ State:_____ i ZIP:_____

Waste Packaging: · Drum · Bulk Solid · Other:_____

D. WASTE STREAM INFORMATION

Name of Waste:_____

Process Generating Waste:_____

Annual Amount in pounds or tons:_____ Estimated Amount per Delivery:_____

Frequency of Disposal: · One time only · Weekly · Monthly · Other:_____

Special Handling Instructions/Supplemental Information: _____

_____

E. PHYSICAL CHARACTERISTICS OF WASTE (*See Instructions*)

1. Color:_____
2. Does the waste have a strong incidental odor? · No · Yes, if so, describe:_____
3. Physical State: · Solid · Liquid · Semi-Solid · Powder · Other:
   _____
4. Free Liquids: · No · Yes - Volume:_____%
5. pH: · ≤2 · > 2-4 · 4-7 · 7 · 7-10 · 10- <12.5 · ≥12.5 · NA
6. Flash Point: · NA · <140°F/60°C · 140-199°F/60-93°C · ≥200°F/93°C

F. CHEMICAL COMPOSITION RANGE (MIN-MAX)

1. _____ _____-_____%
   _____ _____-_____%
   _____ _____-_____%
   _____ _____-_____%
   _____ _____-_____%
   _____ _____-_____%
   _____ _____-_____%
   _____ _____-_____%
   Total: _____%

2. Does the waste contain any of following? (provide concentration if known):

	NO	LESS THAN	ACTUAL
PCBs	·	· <50 ppm	____ppm
Cyanides	·	· <30 ppm	____ppm
Sulfides	·	· <500 ppm	____ppm

3. Method used to determine composition: · Analytical Data · · · MSDS · Other:_____

G. SAMPLING INFORMATION (*If Applicable*)

1. Source of Sample (eg. drum, stockpile, sump/catch basin; tank)_____
2. Sampling Method: · Composite · Discrete/grab · Other:_____
3. Number of samples:_____

H. GENERATOR CERTIFICATION

By signing this Waste Characterization Form, the Generator certifies:

1. This waste is not a "Hazardous Waste" as defined by USEPA and/or the state.
2. This waste does not contain regulated radioactive materials or regulated concentrations of PCBs (Polychlorinated Biphenyls).
3. All information provided is a true and accurate description of the waste material. All relevant information regarding known or suspected hazards in the possession of the Generator has been disclosed.
4. This waste complies with the regulations of the Seattle-King County Department of Public Health and the local solid waste division.
5. The analytical data presented herein, attached hereto, or otherwise submitted for the purpose of completing or supplementing any or all of the information on this form were derived from testing a representative sample taken in accordance with 40 CFR 261.20(c) or equivalent rules.
6. If any changes occur in the character of the waste (e.g., physical characteristics, chemical composition, process of generation, etc.), the Generator shall notify the Seattle-King County Department of Public Health.

7. Signature:_____ 8. Title:_____
   (not required if submitted electronically)

9. Name: _____ 10. Date:_____
   Type or Print

WASTE CHARACTERIZATION FORM INSTRUCTIONS

Information on this form, is used to determine if questionable wastes may be disposed as solid waste in a legal, safe, and environmentally sound manner. Answers must be provided for all sections of this form, and must be printed in ink or typed. A response of "NONE", or "NA" (not applicable) can be made if appropriate. If additional space is needed, indicate on the Waste Characterization Form and attach. If you have questions concerning this form, please contact the Waste Characterization Program at (206) 263-8528.

PARTS A. – C. Enter appropriate contact information. If you have waste generator ID number issued by the USEPA or Washington Department of Ecology, enter it in section A.

PART D. WASTE STREAM INFORMATION

Name of Waste - Enter the name generally descriptive of this waste (e.g., paint sludge, contaminated soil, sharps)

Process Generating Waste - List the specific process/operation or source that generates the waste (e.g., spray painting, spill clean up, process wastewater treatment, building maintenance).

Annual Amount - Enter the amount of waste that will be generated and transported annually (expressed in pounds, or tons). If this waste is going directly to a transfer station or landfill enter an estimate of the amount to be delivered per trip.

Frequency of Disposal - Enter how often this waste will be removed from the site.

Special Handling Instructions/Supplemental Information - For all wastes, describe any special handling requirements and any additional information that you feel would assist in determining the proper method(s) for transportation, treatment, storage, and disposal of the waste.

In addition, for the following wastes include the information specified:

Biomedical Waste (as defined by local ordinance): Describe the type of biomedical waste and the treatment method used.

Empty drums or other containers: List the number, size of containers, materials they contained.

Food Products/Containerized Liquids: Describe the products or containerized liquids (e. g., beef jerky, beer, shampoo). List the number and size of containers for any containerized liquids.

For the wastes listed above, skip Parts E, F and G. However, Part H must be completed.

PART E. PHYSICAL CHARACTERISTICS OF WASTE

1. Color - Describe the color of the waste (e.g., blue, transparent, varies).
2. Odor - DO NOT SMELL THE WASTE. If the waste has a known incidental odor check "Yes" and describe it (e.g., acrid, pungent, solvent, sweet).
3. Physical State - Check the appropriate box for the physical state of the waste. Include a description if "other" is chosen (e.g., gas).
4. Free Liquids - Check "Yes" if liquid is usually present when packaging for shipment and estimate the percentage of liquid. Check "No" if there are no free liquids as determined by the Paint Filter Test (Method 9095 of SW-846) or direct observation.
5. pH - Check the appropriate box for the pH of the liquid portion of the waste. For solid or organic liquid wastes, indicate the pH of 10% aqueous solution of the waste, if applicable. Check "NA" for non-water soluble materials (e.g., foundry sand).
6. Flash Point - Check the appropriate box for the flash point of the waste and the method used to obtain the flash point, if applicable.

PART F. CHEMICAL COMPOSITION

1. If known, list all organic and/or inorganic components of the waste using specific chemical names. If trade names are used, attach Material Safety Data Sheets or other documents which adequately describe the composition of the waste. For each component, estimate the range (in percents) in which the component is present. The total of the maximum values of the components must be greater than or equal to 100% including water, earth, etc.
2. If this waste contains PCBs, cyanides, or sulfides, indicate the concentration(s). If this waste does not contain these constituents, indicate by checking the "NO" box(es) which apply. If the concentration of these constituents is unknown, please indicate "UNK" under "ACTUAL".
3. Indicate the method(s) used to determine composition and attach supporting documents.

PART G. SAMPLING INFORMATION

1. Indicate where the sample of the waste was obtained.
2. Check the appropriate box indicating the method of sampling.
3. Indicate the number of samples taken.

If the sample was handled using Chain of Custody, attach the completed form.

PART H. GENERATOR CERTIFICATION

By signing this Waste Characterization Form, the Generator certifies that the statements in numbers 1, 2, 3, 4, 5 and 6 are true and accurate with respect to the waste streams listed.

7. Signature - An authorized employee of the Generator must sign this form.
8. Title - Enter employee's title.
9. Name - Enter employee's name.
10. Date - Enter the date signed.

Send the completed application to -

Public Health – Seattle & King County
Waste Characterization Program
Chinook Building
401 5th Ave, Suite 1100
Seattle, WA. 98104

You may also fax the form to - (206) 296-0189

Questions? Contact Waste Characterization at –

Telephone: (206) 477-0184
E-mail: wc@kingcounty.gov

http://www.kingcounty.gov/healthservices/health/ehs/toxic/SolidWaste.aspx

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes administrative and procedural requirements for final cleaning of the Work prior to Substantial Completion, including but not limited to:

1. Cleaning procedures
2. Inspection

PART 2 - PRODUCTS

A. Do not use cleaning materials that may damage finished surfaces.
B. Do not use cleaning materials hazardous to health or property.
C. Use only cleaning materials and methods recommended by manufacturer of item or Material to be cleaned.
D. Submittals: Provide for the Engineer's review and approval manufacturer's Safety Data Sheets (SDS) for any and all chemical cleaning products utilized.

PART 3 - EXECUTION

3.01 FINAL CLEANING

A. Cleaning: The Contractor must employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a typical commercial building/site cleaning and maintenance program. Comply with manufacturer's instructions. Final cleaning includes but is not limited to the following procedures:

1. Remove dust and dirt in corners.
2. Remove grease, mastic, adhesives, paint splatter, glazing compounds, dust, dirt, stains, fingerprints, non-permanent labels, and other foreign materials from interior and exterior surfaces exposed to view.
    a. Clean hard-surface finishes to dirt-free condition, free of dust, stains, adhesives, films and any other discernible substances or contaminants.
    b. Except as otherwise indicated, avoid disturbance of natural weathering of exterior surfaces.
    c. Restore reflective surfaces to original reflective conditions.
    d. Replace chipped, cracked, broken, or otherwise damaged Materials, including but not limited to glass and transparent materials.

e. Remove excess lubrication and other substances from mechanical and electrical equipment.
f. Clean plumbing fixtures to a sanitary condition.
g. Clean light fixtures and lamps.

3. Remove debris and surface dust from limited-access spaces including trenches, equipment vaults, manholes, catch basins, crawl spaces, and similar spaces.
4. Clean Project Site (yard and grounds), including landscape development areas, of litter and foreign substances. Rake grounds which are neither planted nor paved to a smooth, even-textured surface.
5. Sweep paved areas to a broom-clean condition. Remove stains, petrol-chemical spills, paint splatter, and other foreign deposits.
6. Leave concrete floors broom-clean. Remove stains, spills, and other foreign deposits.
7. Vacuum carpeted surfaces. Remove coverings, stains, spills, and other substances. Any areas that in the opinion of the Engineer show noticeable wear, staining, or other damage are subject to rejection and replacement.

B. Pest Control: Engage an experienced, licensed exterminator to conduct a final inspection and rid the Work of rodents, insects, and other pests that may be identified as a result of such inspection.
C. Removal of Protection: Except as otherwise indicated or requested by the Consultant or the Engineer, remove temporary protection devices and facilities installed to protect pre-existing features and/or previously completed Work.
D. Extra Materials: Excess Materials of value remaining after completion of associated Work must be offered to the Engineer. If declined by the Engineer, the Contractor must dispose of these Materials as directed by the Engineer.

3.02 INSPECTION

A. Prior to requesting inspection for certification of Substantial Completion, the Contractor must inspect the Work site and verify it has been cleaned and debris removed in accordance with Contract requirements.
B. Prior to certifying Substantial Completion, the Engineer will conduct a detailed inspection of the Work and Work site. If any Work items are identified as insufficiently cleaned per Contract requirements, such items will be included on the inspection Punch List. If any such item is, in the sole opinion of the Engineer, sufficiently deficient as to render the Work unsuitable for full and beneficial use by the Owner or otherwise does not meet Substantial Completion requirements, Substantial Completion will be denied.
C. No additional time will be allowed in the Contract for correction of deficiencies identified per paragraph 3.02.B above. The Contractor must correct all such deficiencies to the satisfaction of the Engineer before certification of Substantial Completion. In order to achieve Substantial Completion, the entire project must be clean and ready for occupancy by staff and public.

END OF SECTION 01 74 23

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. This Section covers the requirements for the Contractor's protection of existing facilities.

1.02 NOTIFICATIONS AND COMPLIANCE

A. Notifications Relative to the Contractor's Activities:

1. The Contractor must plan and schedule Contractor Work activities to conform to and allow time for notifications, approvals, reviews, and other conditions of the Contract Documents.
2. Notifications related to protection of existing facilities are specified in Section 00 72 00 – General Conditions, Subsection 1.04.BB.

B. The Contractor shall be liable for all damages arising from noncompliance with this Section.

1.03 LOAD LIMITS

A. General:

1. When moving Equipment and Materials on any public Highway, the Contractor must comply with any law that controls traffic or limits loads. The Contract does not exempt the Contractor from such laws, nor does it license overloads. At the Engineer's request, the Contractor must provide any information needed to determine the weight of Equipment on the roadway.
2. When the Contractor moves Equipment or Materials for the project, legal load limits apply on any:

a. Road open to or in use by public traffic.
b. Existing Road not designated for reconstruction under the current Contract.
c. Newly paved Road (with its final lift in place) built under this Contract. The Contractor may haul overloads (not exceeding 25%) on such roads not open to public traffic if this does not damage completed Work. Should damage occur, the Contractor must pay all repair costs.

3. On all other parts of the project, the Contractor may operate Equipment without load-limit restrictions except as restricted by Subsection 1.03.B below.

a. In doing so, however, the Contractor remains responsible for any damage that may result.
b. All vehicles subject to licensing on a tonnage basis are required to obtain licenses to cover the maximum legal capacity before being eligible to operate under the load-limit restrictions described in the Subsection 1.03.B below.

4. The Engineer may approve higher load limits than those allowed by Subsection 1.03.B below (Load Limit Restrictions) if it is necessary and safe to do so.

a. To obtain such approval, the Contractor must make this request in writing to the Engineer at least 5 Working Days in advance of the need.
b. The request must describe in detail the loading, configuration, and movement or position of the Equipment on the structure or over the culverts and pipes.
c. The request must state that the Contractor assumes all risk for damages.
d. The Contractor must include in the Bid item prices any and all costs associated with operating over bridges or culverts.
e. Nothing in this Section shall serve to eliminate, reduce, or otherwise alter the Contractor's other responsibilities under the Contract or under public Highway laws.

B. Load-Limit Restrictions:

1. The following load limits apply:

a. Structures Designed for Direct Bearing of Live Loads: On these structures, the gross or maximum load on each individual vehicle axle must not exceed the legal load limit by more than 35 percent. No more than one vehicle may operate over any structure at one time.
b. Underpasses and Reinforced Concrete Box Culverts Under Embankments: Over these structures, maximum loads are 24,000 pounds on a single axle and 16,000 pounds each on tandem axles spaced less than 10 feet apart, provided that:

1) The embankment has been built in accordance with the paragraphs a), b) and c) below.

a) The Contractor must place earth embankments in horizontal layers of uniform thickness. These layers must run full width from the top to the bottom of the embankment. Slopes must be compacted to the required density as part of embankment compaction.

b) During grading operations, the Contractor must shape the surfaces of embankments and excavations to uniform cross-sections and eliminate all ruts and low places that could hold water.

c) On a tangent, the Contractor must raise the center of the embankment above the sides. On a sidehill, the high point of any layer must intersect the original ground and must slope uniformly toward the lower side. This slope must not exceed 1 foot in 20 feet.

2. The embankment has reached at least 3 feet above the top of the underpass or Culvert.

   a. When the embankment has reached 5 feet above the top of the Culvert or underpass, the Contractor may increase axle loads up to 100,000 pounds each if outside wheel spacing is at least 7 feet on centers on the axle.

C. Pipe Culverts and Sewer Pipes: Loads over pipe Culverts and sewer pipes may not exceed 24,000 pounds on a single axle and 16,000 pounds each on tandem axles spaced less than 10 feet apart. These limits are permitted only if:

1. The Culvert or pipe has been installed and backfilled to specifications, and
2. The embankment has reached at least 2 feet above the top limit of pipe compaction.
3. When the embankment has reached 5 feet above the top limit of pipe compaction, the Contractor may increase per-axle loads up to 100,000 pounds if outside wheel spacing is at least 7 feet on centers on the axle centers, except that:

   a. For Class III reinforced concrete pipes, the embankment must be risen above the top limit of compaction at least 6 feet.
   b. For Class II reinforced concrete pipes, the maximum load for each axle is 80,000 pounds if outside wheel spacing is at least 7 feet on axle centers. In this case, the embankment must be risen above the top limit of compaction at least 6 feet.

1.04 PROTECTION AND RESTORATION OF PRIVATE AND PUBLIC PROPERTY

A. The Contractor must protect from damage or destruction private and public property located on or near the Work that is not designated for repair, replacement or removal. The Contractor must ensure that interference with the use of such property is minimized.

B. Property includes land; improvements lawfully occupying the Right of Way; trees, shrubbery and landscaping; electrical distribution and transmission systems; water distribution and transmission systems; survey markers and monuments; buildings and

structures; conduits and pipes; fences; highway facilities such as signal systems (including loop detection systems in pavement structures both approaching and at signalized intersections), roadway lighting systems, signs, guardrails, pavements, curbs, driveways, sidewalks, traffic buttons, paint striping and other channelization; and other property of all descriptions whether shown on the Drawings or not.

C. The Contractor is alerted to the existence of cast iron Water Mains within the Right of Way having pipe joints very sensitive to disturbance.

1. These pipe joints have been known to develop leakage when disturbed by shifting earth, or excessive vibrations, or adverse impacts of any other construction excavation work.
2. The Contractor must take additional precautions to eliminate adverse impact to cast iron Water Main.

D. The Contractor must, at no additional cost to the Owner, provide and install safeguards acceptable to the Engineer to protect public and private property.

1. If the use of public or private property is interfered with by the Contractor, the Contractor's agents or the Contractor's employees, such interference must be terminated immediately.
2. If public or private property is damaged or destroyed by the Contractor, the Contractor's agents or the Contractor's employees, such damaged or destroyed property shall be considered defective or unauthorized per Section 00 72 00 – General Conditions, Subsection 1.03.G, and repaired and restored immediately to its former condition by the Contractor at the Contractor's expense.
3. Should the Contractor refuse or not respond promptly to a written request to restore damaged or destroyed property to its original condition, the Engineer may have such property restored by other means at the Contractor's expense as permitted by Section 00 72 00, General Conditions - Subsection 1.03.H.

E. Per WAC 332-120, no survey monument may be damaged or removed without proper permit. Seattle Public Utilities (SPU) is responsible for maintaining all Right of Way survey monumentation. If any survey monument is in danger of being dislodged or lost because of nearby construction, or in danger of being disturbed during removal of pavement where monumentation, whether cased or not, exists within the pavement, the Contractor must secure a permit and provide advance notification as required by Section 00 72 00 – General Conditions, Subsection 1.04.BB.3.q.

1. The cost to replace survey monumentation damaged or lost because of the Contractor's failure to follow the requirements of Section 00 72 00 – General Conditions, Subsection 1.04.BB.3.q will be at the sole expense of the Contractor. Costs include, but may not be limited to, the cost of replacement

survey monuments and the survey labor and supervision needed to set monuments as closely as possible to their original locations.

1.05 PROTECTION AND RESTORATION OF TREES, SHRUBS, AND PLANT MATERIAL

A. See Section 01 56 39 – Temporary Tree, Vegetation, and Soil Protection.

1.06 PROTECTION AND RESTORATION OF FENCES, MAILBOXES, AND MISCELLANEOUS ITEMS

A. The Contractor must enclose the Work area by installing and maintaining temporary fencing when Work is within easements or abuts private property.
B. For U.S. Postal Service collection boxes and similar items, refer to Section 00 72 00 – General Conditions, Subsection 1.04.BB.3.o.
C. Reserved.
D. When trenching is required within a planting strip the Contractor must protect the existing curb, gutter and sidewalk from damage, utilizing timber pads or other surface protection if/as necessary.

1. The Contractor must demonstrate to the Engineer's satisfaction that the measures proposed to protect existing improvements are adequate prior to proceeding with trenching in the planting strip.

E. Where sprinkler systems are encountered in a planting strip, the Contractor must carefully remove the existing sprinkler system for reinstallation by the Contractor after the Work in the planting strip is complete.
F. When, due to the Contractor's operations, plastic traffic buttons, lane markers or pavement markings are damaged, destroyed or obliterated outside the neat lines of a trench or area of pavement restoration, the Contractor must restore them in kind at no expense to the Owner.

1.07 UTILITIES AND SIMILAR FACILITIES

A. Locations and dimensions shown in the Drawings for existing facilities are based on available information obtained without uncovering, measuring or other verification.
B. The Contractor must protect from damage private and public utilities encountered during the Work. Utilities include, but are not limited to, Sewer and Storm Drain systems; water supply and distribution systems; electrical transmission and distribution systems; natural gas distribution systems; telephone, telegraph, and CATV systems; fiber optic systems; fire alarm systems; petroleum pipe lines; steam distribution systems; traffic control systems; power lines and appurtenances; METRO trolley lines and feeders; railroad tracks and appurtenances; and similar facilities and systems.
C. Public and private utilities, or their Contractors, will furnish all Work necessary to adjust, relocate, repair, or construct their facilities unless otherwise provided for in the Contract.

1. Where it is necessary to remove or relocate private utilities in order to accommodate the Work, the removal or relocation will normally be accomplished in advance of construction.
2. Under some circumstances, however, this removal or relocation may have to be performed concurrent with the Work. In this case, the Contractor must coordinate the Contract Work with that of the utility company as needed to minimize interference with both kinds of Work.
3. Where a private utility should have been removed or relocated prior to the Contractor beginning the Work at the point affected, and such Work by the utility was not accomplished, the Contractor must document the location, type, size, and other relevant information regarding the utility and immediately notify the Engineer in writing.

D. The Contractor may encounter underground facilities that are not reflected or accurately shown in the Contract Documents. When the relocation of these facilities is necessary to accommodate the Work, the Engineer will provide for the relocation of these facilities by other forces, or the relocation may be performed by the Contractor as extra Work pursuant to a Change Order.

E. The Contractor may encounter private water-service utilities that are not reflected or accurately shown in the Contract Documents. Such private water-service utilities may be either a single water-service utility from the water meter or a multiple water-service utility(ies) from the water meter.

1. Records of such utilities are not maintained by the Engineer and therefore may not appear on the Drawings and may not be field located by SPU.
2. The locations of these private utilities can usually be ascertained by relative meter location, residence location, or through discussion with various private property owners.
3. The Contractor must locate and protect these private water services from damage.

F. The Contractor is also alerted to the existence of RCW Chapter 19.122, an act relating to underground utilities and prescribing penalties, and Section 00 72 00 – General Conditions, Subsection 1.04.BB, herein prescribing certain notification to be made by the Contractor.

1. Any cost or scheduling impact incurred by the Contractor by reason of Contractor's required compliance with these statutory and contractual provisions shall be borne by the Contractor.
2. No excavation may begin until all known facilities near the excavation area have been located and marked.

G. The Engineer and the owners of utilities, or their authorized agents, reserve the right to enter upon the Right of Way for the purpose of making changes, connections, or repairs to their facilities.

1. The Contractor must cooperate with forces engaged in such Work and must avoid any unnecessary delay or hindrance to Work being performed by other forces.
2. The Contractor must provide all notifications and applications needed to effectively coordinate utility and Contractor Work (See Section 00 72 00 – General Conditions, Subsection 1.04.BB).

H. Should the Contractor desire to have an adjustment in line or grade made on a utility or other improvement for the Contractor's convenience and the rearrangement is in addition to, or different from, that indicated in the Contract, the Contractor must make all necessary notifications and applications with the owner of the utility for such rearrangement and bear all expenses in connection with that Work.

I. If it is necessary to provide temporary water supply connections due to conflict with private water-service pipes during construction, the Contractor must do so at no additional cost to the Owner.

J. In all cases, private water-service lines damaged by the Contractor must be repaired by the Contractor at the Contractor's expense.

1. The Contractor must notify the Engineer immediately of any such damage and must begin repairs immediately and work continuously until water service is restored.
2. Repair of damaged private water-service lines must be inspected by SPU or applicable water utility prior to backfilling.

K. Except as otherwise provided herein, all costs incurred by the Contractor in complying with requirements of this Section must be included in the Lump Sum Bid. When others delay the Work through late removal or relocation of any utility or similar facility, the Contractor's loss of time will be adjusted by extending the Contract Time per Section 00 72 00, Subsection 1.08.I.3

L. The Contractor must, before an excavation begins, submit a locate request via the Utilities Underground Location Center 1-800-424-5555 or 811 or http://www.callbeforeyoudig.org/washington/, in accordance with Section 00 72 00 – General Conditions, Subsection 1.04.BB.3.m.

1. The Contractor must also notify the Engineer prior to excavation and provide the results of the utility locate.

1.08 UTILITY CLEARANCES

A. Clearances Between Water Mains and Other Utilities:

1. Where possible, sewers must be laid at a lower invert elevation than Water Mains.
2. Water mains and sewers must be spaced apart horizontally a minimum of 10 feet, measured center to center, except the spacing may be reduced to the following "nearest point" measurements:

a. Five feet horizontal when the Water Main is a ductile iron Water Main.
b. Less than 5 feet to a minimum of 18 inches when the Water Main is ductile iron, and:

1) The sewer is constructed of Materials and with joints that are equivalent to Water Main standards, including pressure-testing requirements.
2) The bottom of the Water Main is at least 18 inches above the top of the sewer.

3. Water mains crossing over sewers must be constructed of ductile iron and must be spaced to provide a minimum separation of 18 inches between the bottom of the Water Main and the top of the sewer.
4. Water Mains passing under sewers must be protected by providing:

a. A minimum vertical spacing of 18 inches between the bottom of the sewer and the top of the Water Main.
b. Adequate support for the sewer to prevent excessive deflection of joints or any possibility of the sewer line bearing weight on the Water Main.
c. The point of crossing centered between two successive joints of the Water Main pipe.

5. When the Water Main is existing and new side sewers are being installed or reconnected the following requirements pursuant to SMC Chapter 21.16 apply:

a. Ductile iron pipe must be used for all side sewers crossing over Water Mains, for a perpendicular distance of at least 5 feet from the center of the Water Main.
b. Side sewers laid below Water Mains must be laid at least 6 inches below and 12 inches horizontal, from all Water Mains and water-service lines as measured from the "nearest points," unless ductile or cast-iron pipe is used for the side Sewer.

6. All utilities, both public and private, passing over, under, or very close to existing Water Mains within distances specified in this Section must be coordinated with SPU Water Operations at least 15 Working Days in advance of construction, as well as coordinated with and approved by the Engineer. See Section 00 72 00 - General Conditions, Subsection 1.04.BB.3.g.

a. Provide minimum 5-foot horizontal separation from the existing Water Main.
b. Provide minimum 18-inch separation vertically under the existing Water Main.

c. No new utility may be installed over an existing Water Main.

7. Notifications regarding shutdowns of Water Mains or obstructions of hydrants and valves shall be in accordance with Section 00 72 00 – General Conditions, Subsection 1.04.BB.3.g
8. Exceptions to the requirements in this Section must be approved by the Engineer.

B. Clearances Between Gas Mains and Other Utilities:

1. Minimum clearances of 1 foot vertical and 6 inches horizontal are required to separate an existing gas main, or a gas service line, from a new ductile iron water line to be installed above or below the gas line.

   a. If these minimum clearances cannot be maintained, a protective wrap must be provided for the entire distance where clearances are less than required.
   b. Wrapping material must consist of either a split PVC pipe or PVC wrapping of at least 0.04-inch thickness and may be applied to either one of the pipes.

2. Horizontal and vertical clearances of 6 inches or more are preferred between Water Mains and all other utilities except gas and sewer lines If a smaller separation is unavoidable, the space between the Water Main and the other utilities must be filled with polyethylene plastic foam material before backfilling.

C. Clearances Between Sewers:

1. Whenever a new Sewer /drainpipe clears an existing or new utility by 6 inches or less, polyethylene plastic foam in accordance with City of Seattle Standard Plans and Specifications (most recent edition), must be placed between the utilities as a cushion prior to backfilling.

D. Clearances with Electrical Distribution and Transmission Systems:

1. When an underground electrical facility is identified or "marked for locate" as specified in Subsection 1.07.L above and is within the vicinity of a proposed excavation, the Contractor must provide advance notification as per Section 00 72 00 – General Conditions, Subsection 1.04.BB.3.h, and an Electrical Safety Observer may be required. Clearances must be maintained per Seattle Standard Specification Section 1-07.17(2)C. A SCL Electrical Safety Observer may be required per Section 1-05.2(2).
2. If Work involves tree removal, tree trimming, or trees proposed for planting within 10 feet of an overhead electrical distribution or transmission wire, the

Contractor must provide advance notification as specified in Section 00 72 00, Subsection 1.04.BB.3.l – Overhead Electrical Power Lines and Trees.

3. The Contractor must comply with Section 00 72 00 – General Conditions, Subsection 1.03.B.2 when construction is proposed near any Seattle City Light electrical facility.

E. Tree Clearances: Planting of new trees must meet the tree clearance requirements as specified on City of Seattle Standard Plan No. 030 for any tree plantings in street rights of way. Tree plantings within Seattle Parks and Recreation (SPR) properties (not located within utility easements or directly over SPR utilities) must be located per SPR standards and as shown on the Contract Documents. Trees must be located no closer than 5 feet on either side of the utility lines.

PART 2 - PRODUCTS

2.01 POLYETHYLENE PLASTIC FOAM

A. Polyethylene plastic foam used in sanitary Sewer and Storm Drain construction must meet Federal Specification PPP-C-1752C Type 1, Class 2, (ETHAFOAM™).

PART 3 - EXECUTION

(Not Used)

END OF SECTION 01 76 00

PART 1 - GENERAL

1.01 DESCRIPTION

A. The requirements described in this Section are supplemental to related requirements described by Section 00 72 00 – General Conditions, paragraphs 1.03.K and 1.08.F and expand on the conditions that must be met to achieve Substantial and Physical Completion. This Section also provides further description of administrative procedures required to close out the Contract in accordance with Specification requirements.

B. Related Sections include, but are not limited to:

1. Section 00 72 00 – General Conditions
2. Section 01 78 23 – Operations and Maintenance Manual
3. Section 01 78 36 – Warranties and Bonds
4. Section 01 78 39 – Record Documents

1.02 REQUIREMENTS FOR ACHIEVING SUBSTANTIAL COMPLETION

A. Prior to requesting Engineer's inspection for certification of Substantial Completion, the Contractor must meet the following requirements, as applicable to the Contract scope requirements:

1. The Work required for the site/facility must be sufficiently complete and cleaned, with all construction Material removed, to allow the unrestricted use of the site/facility, excluding any temporary protection measures that may have been approved by the Engineer.
2. When required by the Contract, permanent cores must be installed in all locks, and keys transmitted to the Engineer.
3. Submit a payment request (Pay Estimate) including all Work completed in satisfaction of the Work progress required for achieving Substantial Completion.
4. Complete and submit a release, granting the Engineer's staff and facility users full and unrestricted use of the Work and access to services, utilities, and amenities provided by the Contract.
5. If applicable, provide final building permit inspection and occupancy or temporary occupancy permits as required.
6. Complete start-up of HVAC and other mechanical systems and provide copies of initial balancing reports.
7. Submit two copies of draft As-built Records and Red-Line Drawings in accordance with Section 01 78 39 – Record Documents, for review and approval by the Consultant and Engineer.

8. Submit two copies of the draft Operations and Maintenance Manual in accordance with Section 01 78 23 – Operations and Maintenance Manual to the Consultant and Engineer.
9. Submit two copies of the draft Warranties and Bonds Manual in accordance with Section 01 78 36 – Warranties and Bonds to the Consultant and Engineer.
10. Request confirmation of Substantial Completion by writing a letter to the Engineer on Contractor's letterhead. This letter must conform to the attached example letter, requesting that a Substantial Completion inspection be scheduled as needed to establish the actual Substantial Completion date. A form letter for this purpose is also provided in Procore or the Contractors Forms Workbook.

B. Process to Achieve Substantial Completion:

1. Upon receipt of Contractor's request per Item 1.02.A.10 above, the Engineer will confirm that the Consultant agrees the project meets the requirements for Substantial Completion.
   a. If the Consultant so agrees, the Engineer will schedule a Substantial Completion inspection within ten (10) Working Days of receipt of the inspection request.
   b. If the Consultant does not agree the project is Substantially Complete, the Engineer will notify the Contractor of the general Work items that must be complete before a Substantial Completion inspection can be scheduled.
   c. If Item B.1.b. above applies, the Contractor must complete the Work items identified and submit another inspection request per Paragraph A.10 above. Step B.1 must be repeated until the Consultant agrees the Work is ready for Substantial Completion inspection by the Engineer.
2. The Engineer has sole discretion to designate and invite inspectors/participants that should be present for the Substantial Completion inspection. Each participant in the inspection is responsible for providing a list of any Work deficiencies observed to the Consultant. The Consultant is responsible for preparing the Punch List of outstanding Work items based upon the results of the inspection. All individual lists will be compiled into a single Punch List by the Consultant and issued to the Contractor.
   a. If the inspection reveals that the Work is not Substantially Complete, the process in 1.02.B.1 and B.2 shall be repeated.
3. Once inspection confirms that the Work is Substantially Complete, the Engineer shall prepare a letter confirming Substantial Completion achievement and the date thereof. The letter will be appended with a Punch List describing any remaining Work items required to achieve Physical Completion.
4. The confirmed date of Substantial Completion will be used to determine any Liquidated Damages that may be due to the Owner. Unless specifically set

forth elsewhere in the Specifications, no further Liquidated Damages will accrue after this date.

5. The acknowledged date of Substantial Completion will be used to determine the start of the one-year and extended warranties period.
6. Re-inspection Fees: When inspection shows that the Work has not attained the completion status claimed, the Contractor must compensate the Engineer for additional labor and expenses that may be required at the Engineer's sole discretion for subsequent inspections. Labor will be charged at $250.00 per hour per Re-inspection. The calculated time for Re-inspections will be a 2-hour minimum and 0.5 hour increments beyond the minimum. Re-inspections will include travel time. Re-inspection fees will be enacted to the Contract through the Modification Proposal and Change Order function as a deduct to the Contract.

1.03 REQUIREMENTS FOR ACHIEVING PHYSICAL COMPLETION

A. Prior to requesting Engineer's inspection for certification of Physical Completion, the Contractor must meet the following requirements, as applicable to the Contract scope requirements:

1. All applicable conditions of permits required by regulatory agencies must be met.
2. Discontinue (or change over) and remove from Project Site temporary facilities and services, along with construction tools and facilities, mock-ups, and similar elements.
3. Testing of the operations of all systems must be complete and copies of the final balancing report submitted to the Engineer.
4. All deficiencies identified on the punch list must be corrected.
5. Final versions of the As-built Records and Red-Line Drawings must be provided in accordance with Section 01 78 39 – Record Documents and approved by the Owner.
6. Final version of the Operations and Maintenance Manual must be provided in accordance with Section 01 78 23 – Operations and Maintenance Manual and approved by the Owner.
7. Final version of the Warranties and Bonds Manual must be provided in accordance with Section 01 78 36 – Warranties and Bonds and approved by the Owner.
8. Upon completion of all the above items, the Contractor must request confirmation of Physical Completion by writing a letter on the Contractor's letterhead to the Engineer. This letter must conform to the attached example letter form, requesting that a Physical Completion inspection be scheduled as needed to establish the actual Physical Completion date. A form letter for this purpose is also provided in Procore or in the Contractors Forms Workbook.

B. Process To Achieve Physical Completion:

1. Upon receipt of Contractor's request per Item 1.03.A.8 above, the Engineer will confirm that the Consultant agrees the project meets the requirements for Physical Completion.
   a. If the Consultant so agrees, the Engineer will schedule a Physical Completion inspection within ten Working Days of receipt of the inspection request.
   b. If the Consultant does not agree the project is Physically Complete, the Engineer will notify the Contractor of the general Work items that must be complete before a Physical Completion inspection can be scheduled.
   c. If Item B.1.b. above applies, the Contractor must complete the Work items identified and submit another inspection request. Step B.1 must be repeated until the Consultant agrees the Work is ready for Physical Completion inspection by the Engineer.
2. The Engineer has sole discretion to designate and invite inspectors/participants that should be present for the Physical Completion inspection. Each participant in the inspection is responsible for providing a list of any Work deficiencies observed to the Consultant. The Consultant is responsible for preparing the Punch List of outstanding Work items based upon the results of the inspection. All individual lists will be compiled into a single Punch List by the Consultant and issued to the Contractor.
3. If the inspection reveals that the Work is not Physically Complete, the process in 1.03.B.1 and B.2 shall be repeated.
4. Once inspection confirms that the Work is Physically Complete, the Engineer shall prepare a letter acknowledging Physical Completion achievement and the date thereof.
5. The acknowledged date of Physical Completion will be used to determine the start of the one-year and extended warranties period.
6. Re-inspection Fees: When inspection shows that the Work has not attained the completion status claimed, the Contractor must compensate the Engineer for additional labor and expenses that may be required at the Engineer's sole discretion for subsequent inspections. Labor will be charged at $250.00 per hour per Re-inspection. The calculated time for Re-inspections will be a 2-hour minimum and 0.5 hour increments beyond the minimum. Re-inspections will include travel time. Re-inspection fees will be enacted to the Contract through the Modification Proposal and Change Order function as a deduct to the Contract.

1.04 ENGINEER'S RECOMMENDATION FOR CONTRACT COMPLETION DATE

A. The Engineer's written recommendation for Contract Completion Date initiates the Contract completion approval process. The Engineer will issue the written

recommendation for Contract Completion Date to the Owner upon the Engineer's determination that the following requirements have been fulfilled:

1. Terms and requirements of all permits issued by regulatory agencies have been satisfied.
2. All required special testing has been completed and approved.
3. All changes to the Work have been completed and approved by Change Order, with associated changes to Contract price, time, and bonding requirements incorporated in the final pay request.
4. Dates for Substantial and Physical Completion have been established in writing by the Engineer.
5. Contractor's Performance Evaluation by the Engineer's Project Manager has been filed.
6. Requirements for training of the Engineer's personnel and final testing of operating systems have been satisfied.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 77 19

(Example form letters for requesting confirmation of Substantial and Physical Completion follow.)

(NOTE: Print letter on Contractor's letterhead. This form is also provided in and Procore.)

SUBSTANTIAL COMPLETION

(Date)

Scott Stevens, PE
Engineering Manager
Seattle Department of Parks and Recreation
300 Elliott Avenue West
1st Floor, Box 17
Seattle, WA 98119

SUBJECT: (*Project PW# and Name)*
Request for Confirmation of Substantial Completion

The Work performed under this Contract has been substantially completed. The Contractor, *(Name)*, hereby requests a Punch List Inspection of Substantial Completion and establishment of the actual date of Substantial Completion.

The Contractor agrees that if Substantial Completion is confirmed as a result of the inspection, the Owner will have full and unrestricted use and benefit of all facilities and worksites included in the Work of the Contract.

The Contractor also agrees to complete or correct any and all items described on the Substantial Completion Punch List in accordance with the Contract requirements and in compliance with the Physical Completion due date established by the Contract and any Change Orders.

By:

SIGNATURE **DATE**
(Contractor Name)

(NOTE: Print letter on Contractor's letterhead. This form is also provided in and Procore.)

PHYSICAL COMPLETION

(Date)

Scott Stevens, PE
Engineering Manager
Seattle Department of Parks and Recreation
300 Elliott Avenue West, 1st Floor
Seattle, Washington 98119

SUBJECT: *Project PW# and Name*
Request for Confirmation of Physical Completion

The Work items identified in the Substantial Completion inspection Punch List have been completed. The Contractor, *(Name)*, hereby requests certification of Physical Completion and establishment of the date of Physical Completion and the beginning of the Contract warranty period(s).

The Contractor understands that the Seattle Department of Parks and Recreation will assume all maintenance of the facility upon establishment of the Physical Completion date.

By:

SIGNATURE **DATE**

(Contractor Name)

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of the Contract apply to Work in this Section.

A. Specific related Sections include, but are not limited to:

1. Section 00 72 00 – General Conditions
2. Section 01 77 19 – Contract Closeout
3. Section 01 78 36 – Warranties and Bonds
4. Section 01 78 39 – Record Documents

1.02 WORK IN OTHER SECTIONS

Coordinate related Work specified in other parts of the Project Manual.

1.03 DESCRIPTION OF WORK

The Operations and Maintenance (O&M) Manual must contain all operating and maintenance instructions, information, and/or data relevant to all:

A. Landscape and irrigation components.
B. Architectural products.
C. Finishes and furnishings.
D. Mechanical equipment and components.
E. Electrical equipment and components.
F. Any other special equipment and components required for the project.

An itemized indexed list of all warranted items and products and their warranty term must be placed at the beginning of the O&M Manual for easy reference. The O&M Manuals must be prepared in both physical form (paper) and electronic form (.pdf).

1.04 O&M MANUAL FORM AND MATERIALS

A. Organization – The O&M Manual must be organized in accordance with the 48 Division CSI (Construction Specifications Institute) numbering system. Divisions must be flagged with tabs.
B. Size – Must be 8-1/2 inch x 11 inch
C. Paper – Provide 20-pound (74 g/m2) minimum; white for text pages.
D. Digital – Provide .pdf copies of original product documentation that conforms with the below formatting conditions:

1. The .pdf must be saved as a standard .pdf file (not PDF-A or other formats).

2. The .pdf must be a 'flat' document—integrating all layers, incorporating all document comments and markups, with removal of all form and signature fields, removal of all embedded hyperlinks and hidden content.
3. The .pdf must contain absolutely no encrypted, password-protected, or other restricted-access content.
4. The .pdf must be identical in contents and organization as its corresponding physical (paper) O&M Manual version.

E. Text – Provide Manufacturer's printed data, or neatly typewritten information.

F. Drawings – Accordion fold all oversize drawings to 8-1/2 inch x 11 inch size for binding.

G. Separation of Information – Separate each CSI Division with heavy-weight, durable paper or plastic tabbed index dividers, 110-lb index (210 g/m2) or equivalent, resistant to folding and tearing. Separate each product and or component parts of equipment within a CSI Division with standard tabbed dividers, 90-lb index (165 g/m2) or equivalent, followed by typewritten page describing the contents of the section.

H. Index Tabs – Each index tab must be neatly and legibly printed (using typewriter or laser printer) to describe the contents of the section. Index tabs must be durable, plastic coated, reinforced, and indexed to match the names and order listed in the Table of Contents. Inserted index tabs are not allowed.

I. Binders – Provide:

1. Commercial quality three-ring hard cover binders with durable and cleanable plastic covers for inserting required cover and spine information.
2. Ring size: As suitable to content; 3 inch-maximum, 1-inch minimum.
3. When multiple binders are used, correlate data into related groupings.

J. Manual Cover - the Cover of the O&M Manual must include the following information in the order shown:

1. Title of Project
2. CIP Project Number
3. Public Works Contract Number
4. The words "Operations and Maintenance Manual"
5. If applicable, the volume number (label volumes as 1 of 4, 2 of 4, 3 of 4, etc.)
6. Company Name of primary Consultant/Designer
7. Company Name of Prime Contractor
8. If applicable, Company Name(s) of primary Subcontractor(s) (e.g., Mechanical, Electrical, etc.)
9. Physical Completion Date (this may be provided as a placeholder for the Owner to fill in after acknowledgement of Physical Completion).

K. Manual Spine – The spine of the O&M Manual must show the name of the project followed by "Operations and Maintenance Manual" and the year completed. If there

are multiple volumes, identify the volume number and the general subject matter covered in that volume.

1.05 CONTENTS

A. Title Page – Provide the title of the Project; name of the Project Manager; names, addresses, telephone numbers of the Consultant, major Subconsultants, General Contractor, and major Subcontractors; and date of Physical Completion.
B. Table of Contents – Provide a complete table of contents listing major sections of the Manual and clearly identifying categories of information in each section.
C. Owner's Acknowledgment of Physical Completion – Since the O&M Manual is due in advance of Physical Completion, this may be provided as a placeholder page, with the actual acknowledgment to be inserted by the Owner after receipt of the approved O&M Manual.
D. Warranty List noted in 1.03 listed above.
E. The Contractor must provide a table summarizing recommended and required maintenance activities and schedules for all equipment/components, i.e., scheduled maintenance spreadsheet. The Consultant will utilize this information in part for developing a Preventive Maintenance Schedule.
F. Body of Manual – Must be in the Construction Specification Institute (CSI) Format.

1. Divisions 02 through 48: Bind all product data, product maintenance data, and warranty information together for each product listed. All products and systems that could reasonably be expected to require repair or replacement within 40 years after Project Physical Completion must be covered in this manual. Include:
    a. Product Data – Submit original product literature only. Mark each sheet to clearly identify specific products and component parts and data applicable to installation. Modify product data as required to accurately represent completed installation. Delete inapplicable information.
    b. Products, Applied Materials and Finishes – Include all product data with catalog number, size, composition, and color and texture designations. Provide all necessary information for re-ordering custom manufactured items.
    c. Paintings and Coatings – For all painting work, provide a complete finish schedule of products, color names and numbers, formulas, and gloss used. Provide a drawing showing all paint and color locations.
    d. Moisture Protection and Weather Exposed Products – Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
    e. For each product or finish, list names, addresses and telephone numbers of suppliers, including local source of supplies and replacement parts.

f. Drawings – Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Document as maintenance drawings.
g. Additional Requirements – As specified in individual specification sections and such data or information that may be identified as useful or important during instruction of Seattle Parks and Recreation (SPR) personnel.
h. Preventive Maintenance Instructions – Include for each piece of equipment or system furnished requiring periodic inspections, lubrication, adjustment and/or other periodic tasks, as appropriate to ensure optimum and continued performance as specified.
i. Instructions for Care and Maintenance – Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommend schedule for cleaning and maintenance.

G. Warranties and Bonds

1. Product Warranties – Include copies of all Extended Warranties with products that have them. See individual Project Manual sections for requirements. Identify such warranties in the table of contents at the beginning of the O&M Manual.
2. Bind in a copy of each warranty with each product or system. The original of each warranty must be bound in a separate labeled hard cover binder and submitted with the Approved O&M Manuals. See section 01 78 36 – Warranties and Bonds.

1.06 SUBMITTAL SCHEDULE

A. At least 10 days prior to scheduled Substantial Completion, submit two copies of preliminary draft of proposed formats and outlines of contents to the Project Manager for review and approval by the Consultant and the Engineer. After the review, the copy will be returned to the contractor with accompanying comments. Incorporate comments in the draft O&M manual submitted per Paragraph 1.06.B.
B. Prior to requesting acknowledgement of Substantial Completion, or prior to Contractor training of SPR personnel (whichever is earlier), submit two copies of completed draft O&M Manual in approved final form to the Project Manager for review and approval by the Consultant and Engineer. One or both copies may be physical (paper), or digital (.pdf), and both must be identical in content, and conform to formatting requirements stipulated in Paragraph 1.04.D, above, if digital.
C. If the draft O&M Manual is not approved by both the Consultant and Engineer per Paragraph 1.06.B above, during the period between Substantial and Physical Completion, revise the O&M Manual to incorporate any comments, corrections, revisions, or requests for additional information received by the Consultant or

Engineer. All such changes will be reviewed by the Consultant and Engineer to verify adherence to Contract requirements. The Contractor shall not request confirmation of Physical Completion until the As-Built Documents have been approved by both the Consultant and Engineer.

D. Submit three paper copies of approved O&M Manual(s) in final form to the Project Manager prior to Physical Completion. If the original two draft paper copies submitted per Paragraph 1.06.B were approved by both the Consultant and Engineer without any changes needed, only one final O&M Manual need be submitted at this time.

E. Submit one copy of approved final O&M Manual(s) in electronic format (.pdf) conforming with Paragraph 1.04.D, above, to the Project Manager prior to Physical Completion.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 78 23

PART 1 - GENERAL

1.01 GENERAL

A. This Section addresses the need, if required, to either extend the bonded warranty for the Contractor and/or obtain extended warranties from Subcontractors, Suppliers and or Manufacturers for Materials, equipment, and installation as identified in the Technical Specifications of the Project Manual, and warranty inspections.

B. Unless otherwise extended per paragraph 1.02.A below, the general guaranty and warranty for the entire project must be as provided per Section 00 72 00 – General Conditions, paragraph 1.03.J.

C. Related Sections include, but are not limited to:

1. Section 00 72 00 – General Conditions
2. Section 01 77 19 – Contract Closeout
3. Section 01 78 23 – Operations and Maintenance Manual
4. Section 01 78 39 – Record Documents

1.02 EXTENSION OF STANDARD CONTRACTOR-BONDED WARRANTY

A. Reserved.

1.03 EXTENDED WARRANTY FOR MATERIALS, EQUIPMENT, AND INSTALLATION

A. Individual technical Sections may require specific warranties beyond the standard one-year bonded warranty.

B. Subcontractors, Manufactures and Suppliers must provide limited or full warranties for products that they provide as specified elsewhere in the Project Manual.

C. Extended warranties must start on the Substantial or Physical Completion date established by the Engineer and cover the warranty period specified in the Technical Specifications or the time period provided by the Subcontractor, Supplier and/or manufacturer, whichever is longer. Warranties must cover Material and or equipment replacement, costs of installation, and costs associated with repair of damages caused by the removal and replacement of the defective product.

D. Form of Extended Warranty: The Contractor must provide a separate written Warranty for each element of Work wherein a separate extended warranty period is required under the Contract. Each Warranty must be printed on the Contractor's letterhead, and any information or printed materials pertaining to that warranty must be attached thereto. The Warranty must be stated, at minimum, to include all aspects of the model statement appended to this Section and must not include any conditions or qualifications that would reduce the coverage provided by this model statement. The Contractor also has the option to utilize the model warranty language as generated by the Warranty sheet contained within the Contracting Forms Workbook, or Procore, provided that the form letter has been fully and accurately populated with the necessary information.

1.04 SUBMITTAL REQUIREMENTS

A. See Section 01 78 23 – Operations and Maintenance Manual.

1.05 WARRANTY PROVISIONS

A. Unless extended per Paragraph 1.02.A above, the bonded warranty period for the general Contractor must be as specified in Section 00 72 00 – General Conditions, Paragraph 1.03.J.2.

B. In the event of failure of any part of the Work during the warranty period, the Contractor must repair or remove and replace the defective components, including repair/replacement of any overlying or dependent construction, at no additional charge to the Engineer.

C. Repairs and replacements must be completed in accordance with all the requirements of the Contract Documents. Repaired or replaced Work must be equivalent to the original Work unless otherwise approved in writing by the Engineer.

D. In the event of repeated failure of any repaired component, or if the Engineer is not satisfied that the quality of repairs meets the requirements of the Contract Documents, the Engineer may order defective Work completely removed and replaced with new.

E. The Engineer will schedule a warranty inspection of all Work completed under the Contract prior to expiration of the General Warranty period. The Engineer will establish the date, time and place for the warranty inspection and notify the Contractor and Consultant to send representatives. Working with the Engineer and the Contractor, the Consultant will identify warranty defects and prepare a warranty inspection list of items to be corrected. The Consultant will provide a copy of the warranty inspection list to the Engineer and the Contractor. The Contractor must correct and/or replace defective items or defective workmanship in a reasonable time, not to exceed two months. Failure of the Contractor to correct identified warranty deficiencies may result in the Engineer referring the matter for corrective action in accordance with Section 00 72 00 – General Condition.

F. If any replacement or repair is made under the Warranty provisions of this Contract, the Warranty period for all Work involved in such replacement or repair must be renewed for an additional one-year period, provided, however, that the revised Warranty expiration date for such Work shall not extend more than two years past the original Warranty expiration date established upon Substantial Completion.

PART 2 - PRODUCTS *(Not Used)*

PART 3 - EXECUTION *(Not Used)*

END OF SECTION 01 78 36

(Model Warranty Statement follows)

(NOTE: Print letter on Contractor's letterhead. This form is also provided in Contractor Forms Workbook and Procore.)

CERTIFICATE OF WARRANTY

<Date>

Scott Stevens, PE
Engineering Manager
Seattle Parks and Recreation Department
300 Elliott Avenue West
1st Floor, Box 17
Seattle, WA 98119

SUBJECT: *<PW# and Project Name>*
<Subcontractor Name if applicable>, <Description of Warranted Work>

<Contractor Name> certifies that the <description of warranted work>, installed by <"our company" or Subcontractor name, as applicable> as part of <PW# & Project Title> located at *<Park Name>* (*<Park Address>*), is performed in strict accordance with the Contract Documents.

Furthermore, *<Contractor Name>* guarantees this Work to be free of defects in Materials and workmanship until *<last day of warranty period>*, which is *<number, spelled>* (*<#, numeric>*) years from the established Substantial Completion date of *<Engineer-confirmed Substantial Completion date>*, as required by the Contract.

During this warranty period, at no cost to the Owner, *<Contractor Name>* will repair or replace, without delay, any defects in Materials, equipment, installation, and/or workmanship, as well as correct any associated damage to the Owner's property caused as a result of such defect occurring and/or repair of such defect, in full accordance with Contract requirements.

Sincerely,

<Contact name & title>,
<Company name>
<Company street address>
<Company City, State, & Zip Code>
<Contact telephone number>

PART 1 - GENERAL

1.01 RELATED SECTIONS

A. Related Sections include, but are not limited to:

1. Section 00 72 00 – General Conditions
2. Section 01 77 19 – Contract Closeout
3. Section 01 78 23 – Operations and Maintenance Manual
4. Section 01 78 36 – Warranties and Bonds

1.02 AS-BUILT DOCUMENTS

A. As-Built Records: These consist of Redline Drawings, Engineer-approved Shop Drawings, and any other Drawings or documents that accurately describe the Work actually done under the Contract, including any and all deviations from the Work as originally bid. As-Built documentation must therefore include, but not be limited to, design changes, fabrications, assembly diagrams, and other As-built records as specified in the Contract or as required by the Engineer.

B. Redline Drawings: The Contractor must maintain a clean, undamaged set of bond copies of the Contract Drawings. This Drawing set must be clearly labeled: "REDLINE DRAWINGS." This Redline Drawing set (which is sometimes referred to as “As-Built Drawings”) must be neatly annotated to show the actual installation of Materials and systems wherever the installation varies substantially from the Work as originally shown in the Contract Documents. The Contractor must annotate all Drawings where variation between the design depicted in the Contract Documents and the As-Built conditions can be reasonably discerned. When Shop Drawings apply, record a cross-reference at the corresponding location on the Contract Drawings and affix the Shop Drawings to the prints. Clearly identify As-built modifications resulting from Change Orders with the appropriate Modification Proposal number. Give particular attention to underground or concealed elements that would be difficult to measure and record at a later date.

1.03 USE AND PROTECTION

A. Do not use Redline Drawings or other As-Built Records for construction purposes. Protect from deterioration and loss in a secure, fire-resistive location at the Project Site. Provide access to all As-Built Records for the Consultant’s reference during normal working hours.

1.04 QUALITY ASSURANCE

A. Delegate the responsibility for maintenance of As-Built Documentation to one person on the Contractor's staff, as approved by the Engineer. Identify this person at the pre-construction meeting and place on the Contractor’s Personnel submittal.

B. Make entries on the Redline Drawings clearly showing As-built conditions within 24 hours after completing any element of Work.
C. Accuracy of records:

1. If changes or additions pertain to the Specifications contained in the Contract Project Manual, coordinate such changes and additions within both the Redline Drawings and the pertinent Project Manual pages, making adequate and proper entries on each page of Specifications and each sheet of Drawings and other documents where such entry is required or relevant to show the change(s) fully and accurately.
2. Accuracy of records must be such that future search for items shown in the final project Record Documents may rely reasonably on information obtained from the approved project As-Built Documentation,

1.05 MAINTENANCE OF RECORD DOCUMENTS

A. Maintain and store in field office apart from documents used for construction, the following documents:

1. Permit Drawings, bearing building permit approval from SDCI and/or other regulatory agency having jurisdiction, if any.
2. Project Manual, bearing building permit approval from SDCI and/or other regulatory agency having jurisdiction, if any.
3. The Signed Contract, Bonds, Insurance, Addenda, Design Clarifications, Field Directives, Modification Proposals, Change Orders, and approved Substitutions.
4. Approved Shop Drawings and all other submittals.
5. Field test records.
6. A 3-ring binder containing clearly identified pages from the Project Manual that have been annotated to reflect As-Built conditions as described in Section 1.04.C.1 above.

B. Provide files and racks for storage of documents.
C. File documents in accordance with Project Manual table of contents.
D. Make documents available for weekly progress meeting and at all times for inspection by Consultant.
E. In the event of loss of recorded data, the Contractor must use all means necessary to again secure the data to the Engineer's satisfaction.
F. Payment may be withheld or pay requests modified for incomplete or inaccurate recording of As-built information.
G. The Engineer may request confirmation of recorded Work by independent survey or inspection. If inaccuracies are found, Engineer may order hidden elements to be exposed for recording. All costs associated with this Work may be deducted from the Contractor's Contract amount if the information has either not been recorded or has been recorded incorrectly.

1.06 SUBMITTALS

A. Before requesting confirmation of Substantial Completion, the Contractor must deliver two complete color copy sets of draft As-Built Documents to the Owner for review and approval. The As-Built Documents must include the full Redline Drawing set; annotated Project Manual; Change Orders; and approved Shop Drawings, product data, and samples which clearly and legibly show all deviations from the Contract Documents with red-colored pencil. The As-Built Documents must be approved by both the Engineer and the Consultant.

B. If the draft As-Built Documents are not approved by both the Consultant and Engineer per Paragraph 1.06.A above, during the period between Substantial and Physical Completion, revise the As-Built Documents to incorporate any comments, corrections, revisions, or requests for additional information received by the Consultant or Engineer. All such changes will be reviewed by the Consultant and Engineer to verify adherence to Contract requirements. The Contractor shall not request confirmation of Physical Completion until the As-Built Documents have been approved by both the Consultant and Engineer.

C. Once approved by both the Consultant and the Engineer, the Contractor must submit scanned color copies (PDF format) and the final, approved originals of the approved As-Built Documents to the Engineer. These must be provided prior to the Contractor requesting establishment of the actual Physical Completion date from the Engineer.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 RECORDING

A. Mark As-Built Documents with red erasable pencil; other colors may be used when appropriate to distinguish between elements of the Work on the same Drawing, such as different systems or Work resulting from different Modification Proposals.

B. Mark new information that was not shown on Contract Drawings or Shop Drawings, and as directed by the Engineer.

C. Indicate changes to the Work and/or the Project Site that were not known prior to beginning the Work but became visible as part of the project implementation and did not result in a change order.

D. Note all changes resulting from Modification Proposals by MP number.

E. Note all changes resulting from Field Directives.

F. Note all product or Material substitutions.

G. Record information concurrently with construction progress. Do not conceal any Work until all relevant As-built information is recorded.

H. The Contractor and its Subcontractors must coordinate recording of As-built information as follows:

1. The Contractor must ensure each Subcontractor makes record notations for his/her own Work and forwards these at least weekly to the general Contractor while such Work is in progress. The general Contractor must transfer each Subcontractor's notations as well as record their own notations of the general Work to a single set of As-Built Documents.
2. Legibly mark record As-Built documents to show the following:
   a. Accurate measurements and locations of underground services and utilities referenced to the building or other permanent construction as directed by the Engineer.
   b. Note changes of direction and locations, by horizontal dimension and vertical elevations, as utilities are actually installed.
   c. Note deviations from the Contract documents, and reference reason for change (e.g., construction meeting minutes, telephone call report, field order, etc.).
   d. Show details and locations not on original Contract Drawings.
   e. Indicate field changes of dimensions and details.

I. Project Manual Specifications (including relevant Addenda): Legibly mark each Section to record:

1. Manufacturer, trade name, catalog number, and Supplier of each equipment item and Material actually installed; and
2. Changes made by field directive or by change order.

J. Shop Drawings, product data sheets and samples: Maintain one complete set as Record Documents and legibly annotate to record all approved changes.

3.02 ORGANIZATION OF RECORD DOCUMENTS

A. Organize all Record Documents into a manageable set, and print suitable titles, dates and other identification on the cover sheet(s).

END OF SECTION 01 78 39

DIVISION 02

Existing Conditions

PART 1 - GENERAL

1.01 Description: Work includes, but is not limited to the following:

Selective Demolition of Asphalt Paving, Concrete Paving, Chainlink Fencing, and Cast-in-Place Concrete.

1.02 Related Sections: Related requirements may be found in, but not limited to, the following sections.

Section 01 56 26 – Temporary Fencing
Section 01 56 39 – Temporary Tree, Vegetation, and Soil Protection
Section 01 57 13 – Construction Stormwater Control
Section 01 57 19 – Temporary Environmental Pollution Control
Section 01 71 23 – Field Engineering
Section 01 74 19 – Construction Waste Material & Disposal
Section 01 76 00 – Protection of Existing Facilities
Section 02 41 13.23 – Site Utility Removal

1.03 References: This section references the latest revisions of the following documents. They are a part of this section as specified and modified. In case of conflict between the requirements of this section and those of the listed documents, the requirements of this section prevail.

A. City of Seattle Standard Specifications for Road, Bridge, and Municipal Construction (most recent edition).

B. SMC Title 22.800, Stormwater, Grading, & Drainage Control Code, Volume 2 "Construction Stormwater Control Technical Requirements Manual" (most recent edition).

1.04 Handling of Hazardous Waste: Per Section 01 74 19 Part 1.05A, discovery of Unacceptable or Hazardous or Dangerous Waste will be considered a Changed Condition. Upon discovery of Hazardous Waste, the Contractor must stop work and notify the Owner. If the Owner determines that Contractor shall handle and dispose of Hazardous Waste, Contractor must provide required certifications and insurance.

For the handling and disposal of Hazardous and/or Dangerous Waste materials the following requirements apply:

A. The Contractor's disposal company and transporter must have their TSD State and Federal Waste Generation ID's and must be currently certified to handle the specified waste substances.

B. The Contractor or disposal sub-contractor must be capable of both recycling of usable materials and recovery/disposal of Hazardous/Dangerous Waste substances.

C. The Contractor must use the Property Waste Generation ID number supplied by the Seattle Parks & Recreation (SPR) Environmental Services Section on all waste disposal paperwork.

D. SPR Environmental Services Section must receive readable copies of the bills of lading and manifests within a week of transport.

E. SPR Environmental Services Section must receive a copy of the Certificate of Disposal within 3 months of disposal/recycle.

1.05 Payment and Measurement:

A. The City of Seattle standard requirement for Hazardous Materials transactions is one-third of the payment will be withheld until all required paperwork is received.

1.06 Existing Conditions:

A. Underground utilities and elements: Locate all underground utilities and elements prior to digging and/or driving stakes. Take care, to neither disturb nor damage any existing above ground or underground utilities or elements. The Contractor must call Utility Notification Center @ (811) or (800) 424-5555 or click www.callbeforeyoudig.org for utility location at or near the Public Rights-of-Way / Property Lines, and can also call Locating, Inc. @ (425) 392-6412, CNI @ (206) 255-8650 or Applied Professional Services @ (425) 313-1034 for location of utilities within the site. (Note: these firms will charge for services rendered). The Contractor must pay for all fees and costs associated with utility disconnect, capping of lines and meter removals required within the Public Rights-of-Way.

B. The Contractor must meet with the Engineer to verify location of utilities with the Contractor's location services. To make arrangements the Contractor must contact the SPR Inspection Request Line @ (206) 684-7034 or by email at parksconstruction.inspection@seattle.govto request the meeting and also arrange for underground utility location services by SPR Plumbing, Electrical, Sewer/Wastewater Shops and Environmental services staff for locates, site information and to request shut-off of pressurized or powered utilities. Verify that all appropriate services have been disconnected.

C. Utility Shutoffs: Coordinate all work with other Division 01 requirements. Do not shut off or cap utilities without prior notice. Keep streets, sidewalks and site clean and free from debris at all times. Keep both street and site drainage systems open for free passage of runoff at all times. Provide siltation control and catch basin protection as required by

Best Managements Practices and Drainage Codes as required and/or directed by the Engineer.

D. Objectionable Noises: Limit use of air hammers, back-up alarms and other noisy equipment as much as possible. Conform to local governing requirements and Section 01 57 19 of these Specifications.

PART 2 – PRODUCTS *(Not Used)*

PART 3 - EXECUTION

3.01 Protection of Facilities: Follow all procedures in Section 01 76 00, for protection of drainage structures, utilities, trees, and other facilities during demolition work.

3.02 Demolish Asphalt Paving:

Identify areas of existing AC paving to be removed for approval of the Engineer prior to commencing this work. When markings are approved, provide a clean, sawn edge through a minimum of 2/3 of the thickness of the material to be removed to protect adjacent paving to remain. Use care to protect edge to remain as saw-cut edge will remain as a finished edge against new Asphalt Paving work (Section 32 12 16.13). Water, debris, and slurry generated during saw-cutting will be contained for appropriate disposal – no materials from saw-cutting (including water) shall enter nearby storm drains. Completely remove AC paving, including base rock, to a total depth of 6".

3.03 Demolish Concrete Paving:

Identify areas of existing Concrete Paving to be removed for approval of the Engineer prior to commencing this work. When markings are approved, provide a clean, sawn edge through a minimum of 2/3 of the thickness of the material to be removed to protect adjacent paving to remain. Use care to protect edge to remain as saw-cut edge will remain as a finished edge against new Concrete work (Section 32 13 13). Water, debris, and slurry generated during saw-cutting will be contained for appropriate disposal – no materials from saw-cutting (including water) shall enter nearby storm drains. Completely remove Concrete paving, including base rock, to a total depth of 6".

3.04 Demolish Chain Link Fencing:

Where indicated on the drawings, remove chain link fencing only to the limits defined, or the nearest approved post. Identify the last post to remain and replace with new terminal post. Remove all necessary hardware, railings, posts, and footings. Backfill footing excavations with approved fill as required.

3.05 Demolish Cast-in-Place Concrete:

Identify areas of existing Cast-in-Place Concrete to be removed by marking and offsetting as appropriate with grease pencil or paint for approval of the Engineer prior to commencing this work. When markings are approved, provide a clean, saw-cut edge through a minimum of 2/3 of the thickness of the material to be removed to protect adjacent concrete to remain. Use care to protect edge to remain as saw-cut edge will remain as a finished edge against new Concrete work (Section 03 30 00). Water, debris, and slurry generated during saw-cutting will be contained for appropriate disposal – no materials from saw-cutting (including water) shall enter nearby storm drains. Completely remove Concrete including base rock, to a total depth of 6".

3.06 Disposal of Materials: The Contractor must, in a manner consistent with all government regulations, dispose of the refuse resulting from demolition. In no case shall refuse material be left on the project site, or be buried in embankments or trenches on the project site. All effort must be made to recycle materials whenever possible. Maintain hauling routes clean and free of any debris resulting from work of this Section.

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION

A. Capping and plugging of drainage pipes and structures, water lines, electrical equipment, and other utility connections. Disposal of Materials from the Project Site.

1.02 RELATED SECTIONS

A. All Work of the Contract shall be performed in compliance with the requirements of this Section and with the Sections listed below.

1. Section 32 80 00 – Irrigation Systems
2. Section 33 30 00 – Sanitary Sewerage Utilities
3. Section 33 34 00 – Storm Drainage Utilities

1.03 EXISTING CONDITIONS

A. All existing utilities that are not scheduled for removal shall be protected, per the requirements of the Division 01 Specification Sections that apply.
B. The Contractor shall verify all Project Site conditions before beginning Work. Seattle Parks and Recreation (SPR) assumes no responsibility for actual conditions of existing utilities. Drawings of existing facilities are available for information only and do not necessarily reflect the actual conditions. The Contractor shall verify locations of existing utilities prior to proceeding with any Work.

PART 2 - PRODUCTS

2.01 SALVAGEABLE MATERIALS

A. All items of salvageable value shall be salvaged and/or disposed of by the Contractor and shall become the Contractor's property, with the exception of items including but not limited to: **Maintenance holes, cleanouts, catch basins, irrigation heads, valves, valve boxes, wiring, light fixtures, etc.** Those items shall be determined as salvageable after inspection by the Engineer. Those items identified for salvage shall be returned to SPR. Call the **SPR Inspection Request Line at (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov** to make arrangements for inspection, delivery or pick up. The Contractor shall then legally dispose of all items not deemed of salvageable value by the Engineer.

PART 3 - EXECUTION

3.01 DISCONNECTION OF UTILITIES

A. Underground utilities and elements: Locate all underground utilities and elements prior to digging and/or driving stakes. Take care, to neither disturb nor damage any existing above-ground or underground utilities or elements. The Contractor shall call **Utility Notification Center at (811) or (800) 424-5555 or visit the www.callbeforeyoudig.org** website for utility location at or near the Public Rights-of-Way / Property Lines, and can also call **Locating, Inc. at (425) 392-6412, CNI at (206) 255-8650 or Applied Professional Services at (425) 313-1034** for location of utilities within the site. (Note: These firms will charge for services rendered). The Contractor shall pay for all fees and costs associated with utility disconnect, capping of lines and meter removals required within the Public Rights-of-Way.

B. The Contractor shall meet with the Engineer to verify location of utilities with the Contractor's location services. To make arrangements, the Contractor shall contact the **SPR Inspection Request Line at (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov** to request the meeting and also arrange for underground utility location services by SPR Plumbing, Electrical, Sewer/Wastewater Shops and Environmental services staff for locates, Project Site information and to request shut-off of pressurized or powered utilities. Verify that all appropriate services have been disconnected.

C. Utility Shutoffs: Coordinate all Work with other Division 01 requirements. Do not shut off or cap utilities without prior notice. Keep streets, sidewalks, and Project Site clean and free from debris at all times. Keep both street and Project Site drainage systems open for free passage of runoff at all times. Provide siltation control and catch basin protection as required by Best Management Practices and Drainage Codes as required and/or directed by the Engineer.

D. The disconnection of electrical equipment shall be done by a licensed electrician, prior to beginning electrical demolition.

E. Existing Project Site storm drains and catch basins, as indicated on the plans or as directed in the field, shall be kept open and operable at all times. Catch basins shall be protected from silt by filter fabric insert 'sock' during construction, per Section 01 57 13 – Construction Stormwater Control. Catch basins or pipes that become blocked shall be cleaned immediately by the Contractor.

F. Dispose of all waste Material at an approved disposal facility. All efforts should be made to recycle concrete and asphalt Materials.

3.02 REMOVAL OF EXISTING IRRIGATION HEADS

A. Locate all existing irrigation heads within the limits of grading or as otherwise indicated on the Contract Drawings by the following means:

1. Call the **SPR Inspection Request Line at (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov** to request a preconstruction

Irrigation Coverage Test for the facility under construction. Note the location of all operable irrigation heads and their respective Control Zones directly on the Record Drawings.

2. At the time of the above-mentioned coverage test, and in consultation with the Engineer, refer to the Drawings for locations of irrigation heads that may not be operating and hence may not have been visible during the test. Locate by hand digging as necessary.

B. Carefully record the head locations and the remaining risers and swing joints by surveying their actual locations onto the Record Drawings. In addition, stake these locations in the field until such time as the replacement of the irrigation heads has been accomplished.

C. Remove the irrigation heads carefully.

D. Cap the remaining risers or swing joints tightly to prevent contamination of the remaining irrigation system.

E. Upon completion and approval of the Earthwork, coordinate the re-installation or replacement of the irrigation heads as described in Section 32 80 00 – Irrigation Systems.

3.03 IRRIGATION PIPE

A. Existing irrigation pipe shall be abandoned in the ground in locations where the pipe does not conflict with the proposed drainage and irrigation piping Work. In areas where existing irrigation pipe conflicts with proposed piping, the irrigation pipe shall be cut and removed completely from the Project Site and disposed of properly. Capping of existing irrigation pipes to remain shall be done according to Section 32 80 00 – Irrigation Systems.

3.04 WASTE DISPOSAL

A. Dispose of all non-salvageable waste Material at an approved disposal facility. All efforts should be made to recycle concrete and asphalt Materials.

3.05 PROTECTION OF FACILITIES

A. Follow all procedures in Section 01 56 39 – Temporary Tree Vegetation and Soil Protection for protection of trees and other facilities during demolition Work.

END OF SECTION 02 41 13.23

DIVISION 03

Concrete

PART 1 - GENERAL

1.01 Description: Construct all formwork systems to provide only those lines and delineations indicated, unless otherwise approved by the Engineer, construct formwork to allow erection in proper sequence and to permit removal without damage to the finished concrete surfaces. Construct all formwork to the shapes, lines and dimensions of concrete members with specified tolerances.

1.02 Regulations: Conform to requirements of the IBC and the Seattle Building Code as it pertains to structural cast-in-place concrete, except as supplemented and modified herein.

1.03 Reference Standards: Conform to requirements of the following Reference Standards as the Engineer judges them applicable and as modified and supplemented herein.

A. ACI Specifications for Structural Concrete for Buildings, ACI 301.

B. ACI Recommended Practice for Concrete Formwork, ACI 347.

1.04 Related Sections:

Section 03 20 00 - Concrete Reinforcement
Section 03 30 00 - Cast in Place Concrete
Section 03 35 00 - Concrete Finishing
Section 32 13 13 - Concrete Paving

1.05 Quality Assurance:

A. Special Inspection: Notify the Engineer at least 48 hours before inspection of forms will be required.

B. Inspection by Other Trades: Where items, such as anchors, fastenings, conduit, piping and other items are supplied by other trades and specified elsewhere in these specifications, in the forms, obtain approval of their placement prior to placing any concrete.

1.06 Handling:

A. Protection of Forms: Design, construct, and erect all forms for reuse; withdraw projecting nails or other objects from contact surfaces before reusing; clean and completely recondition all forms prior to reuse; repair any damage to forming surfacing cause during previous usage. Obtain approval for each reuse; formwork with patches or repairs affecting appearance of the concrete surfaces will not be permitted.

B. In order that reused forms will not contain patches resulting from alterations, reuse forms on identical sections only; reuse no forms showing excessive surface wear or other imperfections impairing quality of finish of concrete surface.

C. Precautions: Contractor is responsible for the strength and suitability of the formwork.

PART 2 - PRODUCTS

2.01 Forms: For Footings and Concrete Slabs: Fabricate forms of MDO (Medium Density Overlay) plywood, metal or plastic as judged best suited for shapes. Construct with a minimum of joints, sufficiently tight to prevent leakage.

2.02 Inserts/Sleeves: As required by Manufacturer's specifications.

2.03 Form Release Agents: Release agent with non-staining and non-interference characteristic with bonding capabilities of paints, plasters, adhesives, other surface coatings or materials. Contractor shall guarantee proper bonding of such subsequent coatings or materials applied over concrete.

PART 3 - EXECUTION

3.01 Design and Construction:

A. Erect forms to conform accurately to the shapes, dimensions, locations and profiles indicated; fit joints between adjacent assembled panels and components tightly and seal with gasket material. Inspect all contact surfaces prior to concrete placement; verify that surfaces are clean, smooth, and free from foreign matter or imperfections affecting appearance of finished concrete.

B. Camber: Design and erect formwork for anticipated deflection due to weight and pressure of fresh concrete. Provide positive means for adjustment of shores and struts to take up settlement during placement.

3.02 Form Treatments: Before erection of forming, plug and seal all cracks, holes, slits, gaps and other "telegraphing" imperfections in contact surfaces. Apply bond-breaking coating in amounts that will leave surfaces in proper condition to receive subsequent material application. Contractor shall be responsible for being certain that bond release coatings are applied only in amounts that will leave surfaces in proper condition to receive subsequent material application.

3.03 Form Removal:

A. Formwork designed for easy removal without damaging or marring finished surfaces of the concrete. Prying against face of concrete will not be permitted; where

mechanical means are necessary to release forms, use wood wedges only and then only if approved by the Engineer.

B. Removal Strength: Formwork for footings shall remain in place until concrete has hardened sufficiently to resist damage from the removal operations. Determine concrete removal strength based on test cylinders, field cured under the most unfavorable conditions prevailing for any portion of the work represented, or as approved by the Engineer.

END OF SECTION

PART 1 - GENERAL

1.01 Regulations: Conform to requirement of the IBC and the Seattle Building Code for concrete reinforcement, as supplemented and modified on drawings or herein.

1.02 Reference Standards: Conform to requirements of the following Reference Standards as the Engineer judges them applicable and as modified and supplanted herein.

A. American Concrete Institute (ACI) Building Code Requirements for Reinforced Concrete, ACI 318.

B. ACI Specifications for Structural Concrete for Buildings, ACI 301.

C. ACI Detailing Manual, ACI 315.

1.03 Related Sections:

Section 03 10 00 - Concrete Formwork
Section 03 30 00 - Cast in Place Concrete
Section 03 35 00 - Concrete Finishing
Section 32 13 13 - Concrete Paving

1.04 Quality Assurance: Special Inspection: Notify the Engineer at least 48 hours before placing any concrete. Call the **SPR Inspection Request Line @ (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov** to make arrangements for inspection.

1.05 Submittals: Product Data - Submit manufacturers' published literature for specified products and accessories as applicable, including manufacturers' specifications, physical characteristics and performance data. Submit as a supplement, manufacturers' instructions and directions for application if not included in manufacturers' published literature.

PART 2 - PRODUCTS

2.01 Materials:

A. Bars: ASTM A615; types, sizes and grades as indicated and noted on drawings; all bars free from rust and loose scale at time of delivery.

B. Tie wire: 16-gauge double annealed wire. Provide galvanized tie wire for exposed concrete.

C. Rebar/Wire Mesh Support: Concrete Dobie manufactured using standard 4000 psi concrete minimum, or the psi specified for concrete, whichever is highest. Dobie size to provide a minimum of 2 inches of concrete cover, unless otherwise directed by the Engineer.

PART 3- EXECUTION

3.01 Fabrication and Detailing:

A. Fabricate steel bar reinforcement to shapes and dimensions as shown and placed as indicated.

B. Bending and Straightening: Form bars accurately to detail, other kinks or bends will not be permitted; conform to requirements of ACI 318. Make bends cold around pin with diameter at least 6 times bar dimension; heating of reinforcement will be permitted only if entire operation is approved. No bending of reinforcement after partial embedment in concrete will be permitted, except for Grade 40 dowels.

C. Splices: Obtain approval of all splices not indicated on drawings. In general avoid splices at points of maximum stress. Saw, shear or flame-cut bar ends; straighten ends of sheared bars; chip and wire brush ends of flame-cut bars. Wire brush splice area to remove burrs, paint, oil, and other foreign matter before splicing. Splice overlap shall be at least 50 times the diameter of the bars or per ACI 318 02 Code.

3.02 Placement:

A. Unless specified otherwise, all steel reinforcement shall be centered within the forms and approved by the Engineer prior to placement of concrete. No reinforcement shall be closer than 2” from any concrete surface.

B. Clean reinforcing bars free from loose rust, mud, oil and other foreign matter affecting or reducing bond using approved portable sandblasting equipment. Accurately position bars in accordance with approved placement drawings and secure against displacement. Lap at intersections as indicated or as directed; extend reinforcement through, and lap beyond, construction joints.

C. Displacement: If bars are displaced, or if it is necessary to move bars to avoid interference with other reinforcing or embedded items, and if bars are moved to exceed tolerances, obtain the Engineer’s approval of resulting arrangement prior to placing concrete.

D. Miscellaneous: After cutting tie-wire, turn wires to the inside of the section and bend in such manner that concrete placement will not force ends to exposed concrete surfaces.

END OF SECTION

PART 1 - GENERAL

1.01 REGULATIONS

A. Conform to requirements of the IBC and the Seattle Building Code as it pertains to structural cast-in-place concrete, except as supplemented and modified herein. The items of Work to be performed shall include but are not necessarily limited to:

Formed walls, curbs, foundations or footings and associated Work.

1.02 REFERENCE STANDARDS

A. Conform to requirements of the following Reference Standards or as modified and supplemented hereinafter:

1. American Concrete Institute (ACI) Specifications for Structural Concrete for Buildings, ACI 301.
2. ACI Recommended Practice for Selecting Proportions for Concrete, ACI 613.
3. ACI Recommended practices for Cold Weather Concreting, ACI 306.
4. ACI Recommended Practice for Hot Weather Concreting, ACI 605.

1.03 RELATED SECTIONS

A. Section 03 10 00 - Concrete Formwork
B. Section 03 20 00 - Concrete Reinforcement
C. Section 03 35 00 - Concrete Finishing
D. Section 32 13 13 - Concrete Paving

1.04 QUALITY ASSURANCE

A. Special Inspection

1. Inspection shall be required immediately prior to any intended pours or placement of concrete. Notify the Engineer at least 48 hours before inspection. Call the **SPR Inspection Request Line @ (206) 684-7034 or by email at** parksconstruction.inspection@seattle.gov to make arrangements for inspection.

B. Concrete Work

1. Concrete work, where indicated, shall be exposed, as finished. Special care must be taken to provide specified, finished surfaces without gravel pockets and other defacements.

1.05 SUBMITTALS

A. Submit, for approval, all Layout Drawings for all cast-in-place concrete work. Show joint locations and other pertinent information. Refer to Section 01 33 10 – Submittals, for additional requirements.

B. Records

1. Maintain records of all concrete placements; indicate exact mix proportions, list time, date, location in the project, weather conditions at the time of placement, and the source of the concrete supply.
2. Make records available to Engineer at any time during the course of construction and submit at end of concrete placement phase of project for the purposes of preparing record documents.

C. Certificates

1. Submit certification of previously tested mix designs.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Materials must comply with the requirements of the following City of Seattle (COS) Standard Specification Sections:

Material	Section
Portland Cement and Blended Hydraulic Cement	Section 9-01
Aggregates for Portland Cement Concrete	Section 9-03.1
Pit Run Sand, Washed Sand, and Gravel Backfill	Section 9-03.10
Joint and Crack Sealing Materials	Section 9-04
Reinforcing Steel	Section 9-07
Epoxy-Coated Reinforcing Steel	Section 9-07
Pigmented Sealer Materials for Coating of Concrete Surface	Section 9-08.3
Prestressed Concrete Girders	Section 9-19
Grout	Section 9-20.3
Mortar	Section 9-20.4
Concrete Curing Materials, Pozzolans and Admixtures	Section 9-23
Fly Ash	Section 9-23.6
Ground Granulated Blast Furnace Slag (GGBFS)	Section 9-23.7
Microsilica Fume	Section 9-23.8
Metakaolin	Section 9-23.9
Plastic Waterstop	Section 9-24

Material	Section
Water	Section 9-25
Elastomeric Bearing Pads	Section 9-35

2.02 CLASSIFICATION OF CONCRETE

A. The class of concrete to be used must be as noted in the Drawings and these Specifications. The class includes the specified minimum compressive strength in psi at 28 days (numerical class) and may include a letter suffix to denote structural concrete for a specific use. Letter suffixes include A for bridge approach slabs, D for bridge decks, P for piling and shafts, and W for underwater. The numerical class without a letter suffix denotes structural concrete for general purposes.

B. Concrete of a numerical class greater than 4000 must conform to the requirements specified for either Class 4000 if general-purpose, or for the appropriate Class 4000 with a letter suffix, as follows:

1. Mix ingredients and proportioning specified in Sections 2.03 and 2.04 below.
2. Consistency requirements specified in Section 2.06.D below.
3. Curing requirements specified in City of Seattle (COS) Standard Specification Section 6-02.3(11).

C. The Contractor may request, in writing, permission to use a different class of concrete with either the same or a higher compressive strength than specified. The substitute concrete must be evaluated for acceptance based on the specified class of concrete. The Engineer will respond in writing. The Contractor must bear any added costs that result from the change.

D. The phrase "w/ ___% minimum pozzolans" under the class of concrete and any designation identifies a minimum use of Pozzolans (fly ash and/or ground granulated blast furnace slag) not exceeding 40% is required. Ground granulated blast furnace slag and fly ash maximums must not be exceeded individually. See table Cementitious Requirement for Concrete in Section 2.03 below.

2.03 PROPORTIONING MATERIALS

A. The soluble chloride ion content is determined by the concrete Supplier and included with the mix design. The soluble chloride ion content is determined by (1) testing mixed concrete cured at least 28 Days or (2) totaled from tests of individual concrete ingredients (cement, aggregate, admixtures, water, fly ash, ground granulated blast furnace slag, and other supplementary cementing materials). Chloride ion limits for admixtures and water are in COS Standard Specifications Section 9-23 and Section 9-25. Soluble chloride ion limits for mixed concrete must not exceed the following percent by mass of cement when tested per AASHTO T260:

Category	Acid-Soluble	Water-Soluble
Prestressed concrete	0.08	0.06
Reinforced concrete	0.10	0.08

B. Unless otherwise specified, the Contractor must use Type I or II Portland cement in all concrete as defined in COS Standard Specifications Section 9-01.2(1).

C. The use of fly ash is required for Class 4000D and 4000P concrete. Ground granulated blast furnace slag may be substituted for fly ash at a 1:1 ratio. The use of fly ash and ground granulated blast furnace slag is optional for all other classes of concrete and may be substituted for Portland cement at a 1:1 ratio as noted in the table (Cementitious Requirement for Concrete) below.

Cementitious Requirement for Concrete				
Class of Concrete	**Minimum Pounds of Cementitious Material per Cubic Yard**	**Minimum Percent Replacement of Pozzolans for Portland Cement**	**Maximum Percent Replacement of Fly Ash for Portland Cement**	**Maximum Percent Replacement of Ground Granulated Blast Furnace Slag for Portland Cement**
6000	658	0[1]	35	40
5000	611	0[1]	35	40
4000	564	0[1]	35	50
4000A	564	0[1]	20	30
4000D	660	10[1]	20	30
4000P	600	15[1]	35	50
4000W	564	0[1]	35	50
3000	564	0[1]	35	50
Commercial Concrete	N/A	0	35	50
Lean Concrete	145[2]	0	35	50

Notes: [1] Unless otherwise specified in Bid Item.
[2] Maximum of 200 pounds.

D. When both ground granulated blast furnace slag and fly ash are included in the concrete mix, the total weight of both these materials is limited to 40% by weight of the total cementitious material.

E. The water-cement ratio must be calculated on the total weight of cementitious material. The following are considered cementitious materials: Portland cement, fly ash, ground granulated blast furnace slag, microsilica fume and metakaolin. With the

Engineer's written approval, microsilica fume and metakaolin can be used in all classifications of Class 4000, Class 3000, and commercial concrete and is limited to a maximum of 10% of the cementitious material.

F. As an alternative to fly ash, ground granulated blast furnace slag and cement as separate components, a blended hydraulic cement that meets the requirements of COS Standard Specification Section 9-01.2(3), may be used.

G. Contractor Mix Design:

1. The Contractor must provide a mix design in writing to the Engineer for all classes of concrete specified in the Drawings except for those accepted based on a certificate of compliance. Do not place concrete until the Engineer has reviewed the mix design. The required average 28 Day compressive strength must be selected per ACI 318, Chapter 5, Section 5.3.2. ACI 211.1 and ACI 318 must be used to determine proportions. All proposed concrete mixes must comply with the cementitious material requirements listed in the table titled Cementitious Requirement for Concrete in Section 2.03,C above.
2. The Contractor's submittal of a mix design must be per COS Standard Specification Section 1-05.3 and must provide a unique identification for each mix design. Each mix design must include the mix proportions per cubic yard, the proposed sources, the average 28 Day compressive strength, the fineness modulus, and the water-cement ratio. The Contractor is responsible for concrete placeability, workability, and strength. The Contractor must notify the Engineer in writing of any mix design modifications.
3. Fine aggregate must conform to Section 9-03.1(2) Class 1 or Class 2.
4. Coarse aggregate must conform to COS Standard Specification Section 9-03.1(3). An alternate combined aggregate gradation conforming to COS Standard Specification Section 9-03.1(4) may also be used. The nominal maximum size aggregate for Class 4000P must be 3/8 inch. The nominal maximum size aggregate for Class 4000D must be 1 inch. The nominal maximum size aggregate for Class 4000A must be 1 inch.
5. Nominal maximum size for concrete aggregate is defined as the smallest standard sieve opening through which the entire quantity of the aggregate is permitted to pass.
6. Class 4000D and 4000P concrete must include a water reducing admixture in the quantity recommended by the manufacturer. A retarding admixture is required in concrete Class 4000P. Water reducing and retarding admixtures are optional for all other concrete classes.
7. A high-range water reducer (superplasticizer) may be used in all mix designs. Microsilica fume may be used in all mix designs. The use of a high-range water reducer or microsilica fume must be submitted as a part of the Contractor's concrete mix design.
    a. Air content must be a minimum of 4.5% and a maximum of 7.5% for all concrete placed above the finished groundline.

H. Commercial Concrete

1. Commercial concrete must have a minimum compressive strength at 28 Days of 3000 psi per AASHTO T 22. Commercial concrete placed above the finished groundline must be air entrained and have an air content from 4.5% to 7.5% per AASHTO T 152. Commercial concrete does not require plant approval, mix design, or source approvals for cement, aggregate, and other admixtures.
2. Where concrete Class 3000 is specified for items such as culvert headwalls, plugging culverts, concrete pipe collars, pipe anchors, thrust blocks, monument cases, light standard foundations, pedestals, cabinet bases, guardrail anchors, signpost foundations, fence post footings, sidewalks, curbs, and gutters, the Contractor may use commercial concrete. If commercial concrete is used for sidewalks, curbs, and gutters, it must have a minimum cementitious material content of 564 pounds per cubic yard of concrete, must be air-entrained, and the tolerances of COS Standard Specification Section 6-02.3(5)C must apply. Commercial concrete must not be used for items such as bridges, retaining walls, box Culverts, curb walls, stairs, or foundations for high mast luminaires, mast arm traffic signals, cantilever signs, and sign bridges. The Engineer may approve the use of commercial concrete for other applications not listed above.

2.04 ADMIXTURES

A. Concrete admixtures must be added to the concrete mix when batching the concrete or per the manufacturer's written procedure and as approved by the Engineer. A copy of the manufacturer's written procedure must be furnished to the Engineer before use of any admixture. Any deviations from the manufacturer's written procedures must be submitted to the Engineer for acceptance as specified in COS Standard Specification Section 1-05.3. Admixtures must not be added to the concrete with the modified procedures until the Engineer has accepted them in writing.

B. When the Contractor is proposing to use admixtures from different admixture manufacturers, they must provide evidence to the Engineer that the admixture will be compatible and not adversely affect the air void system of the hardened concrete. Test results complying with ASTM C 457 must be provided as the evidence to satisfy this requirement. Proposed combinations must comply with this requirement.

C. Do not use accelerators.

D. Do not use air entrained cement to air entrain concrete.

2.05 EXPANSION JOINTS IN SLABS

A. Joint Filler: Pre-formed, non-extruding asphalt impregnated resilient material; ASTM D1752, Type I, 3/8 inch wide by depth required to bring top surface within 1/2 inch of slab surface.

B. Joint Sealer: Self-leveling polyurethane; ASTM C920, Type M, Grade SL, Class 25. Color: Gray.

2.06 READY-MIX CONCRETE

All concrete, except commercial concrete and lean concrete, must be batched in a prequalified manual, semi-automatic, or automatic plant as specified in Section A of this Specification. The Engineer is not responsible for any delays to the Contractor due to problems in getting the plant certified.

A. Qualification of Concrete Suppliers

1. Batch Plant Prequalification may be obtained through one of the following methods:
   a. Certification by the National Ready Mix Concrete Association (NRMCA): Information concerning NRMCA certification may be obtained from the NRMCA at 900 Spring Street, Silver Springs, MD 20910 or online at http://www.nrmca.org/. The NRMCA certification must be good for a 2-year period. When this method of certification is used, the following documentation must be submitted to the Engineer:
      1) A copy of the current NRMCA Certificate of Conformance, the concrete mix design, along with copies of the truck list, batch plant scale certification, admixture dispensing certification, and volumetric water batching devices (including water meters) verification.
   b. Independent evaluation certified by a Professional Engineer using NRMCA checklist. The Professional Engineer must be licensed under title 18 RCW, State of Washington, qualified in civil engineering. The independent certification using the NRMCA checklist must be good for a 2-year period. When this method of certification is used, the following documentation must be submitted to the Engineer:
      1) A copy of the Professional Engineer's stamped and sealed NRMCA Verification of Inspection and Application for Certificate page from the NRMCA checklist, the concrete mix design, along with copies of the truck list, batch plant scale certification, admixture dispensing certification, and volumetric water batching devices (including water meters) verification.
   c. Inspection conducted by the Plant Manager, defined as the person directly responsible for the daily plant operation, using the NRMCA Plant Certification checklist. The Plant Manager certification must be done before the start of a project, and every 6 months throughout the life of the project, and comply with the following requirements:
      1) The Agreement to Regularly Check Scales and Volumetric Batching Dispensers page in the NRMCA Plant Certification checklist must be signed by the Plant Manager and notarized.
      2) The signed and notarized Agreement to Regularly Check Scales and Volumetric Batching Dispensers page and a copy

of the NRMCA Plant Certification checklist cover page, showing the plant designation, address, and Company operating the plant, must all be submitted to the Engineer with the concrete mix design, along with copies of the truck list, batch plant scale certification, admixture dispensing certification, and volumetric water batching devices (including water meters) verification.

3) The NRMCA Plant Certification checklists must be maintained by the Plant Manager and are subject to review at any time by the Owner.
4) Volumetric water batching devices (including water meters) must be verified every 90 Days.

B. For central-mixed concrete, the mixer must be equipped with a timer that prevents the batch from discharging until the batch has been mixed for the prescribed mixing time. A mixing time of 1 minute is required after all materials and water have been introduced into the drum. Shorter mixing time may be allowed if the mixer performance is tested per AASHTO M 157 Annex A1 Concrete Uniformity Requirements. Tests must be conducted by an independent testing lab or by a commercial concrete producer's lab. If the tests are performed by a producer's lab, the Engineer or a representative will witness all testing.

C. For shrink-mixed concrete, the mixing time in the stationary mixer must not be less than 30 seconds or until the ingredients have been thoroughly blended.

D. For transit-mixed or shrink-mixed concrete, the mixing time in the transit mixer must be a minimum of 70 revolutions at the mixing speed designated by the manufacturer of the mixer. Following mixing, the concrete in the transit mixer may be agitated at the manufacturer's designated agitation speed. A maximum of 320 revolutions (total of mixing and agitation) will be permitted before discharge.

E. All transit-mixers must be equipped with an operational revolution counter and a functional device for measurement of water added. All mixing drums must be free of concrete buildup and the mixing blades must comply with the minimum specifications of the drum manufacturer. A copy of the manufacturer's blade dimensions and configuration must be on file at the concrete producer's office. All clearly visible metal data plates attached to each mixer and agitator must display the maximum concrete capacity of the drum or container for mixing and agitating and the rotation speed of the drum or blades for both the agitation and mixing speeds. Mixers and agitators must always operate within the capacity and speed-of-rotation limits set by the manufacturer. Any mixer, when fully loaded, must keep the concrete uniformly mixed. All mixers and agitators must be capable of discharging the concrete at a steady rate. Only those transit-mixers which comply with the above requirements will be allowed to deliver concrete to any Owner project covered by these Specifications.

F. In transit-mixing, mixing must start within 30 seconds after the cement is added to the aggregates.

G. Central-mixed concrete, transported by truck mixer/agitator, must not undergo more than 250 revolutions of the drum or blades before discharging. To remain below this limit, the suppler may agitate the concrete intermittently within the prescribed time limit. When water or admixtures are added after the load is initially mixed, an additional 30 revolutions will be required at the recommended mixing speed.

H. For each project, at least biannually, or as required, the Plant Manager will examine mixers and agitators to check for any buildup of hardened concrete or worn blades. If this examination reveals a problem, or if the Engineer wishes to test the quality of the concrete, slump tests may be performed with samples taken at approximately the 1/4 and 3/4 points as the batch is discharged. The maximum allowable slump difference must be as follows:

1. If the average of the 2 slump tests is < 4 inches, the difference must be < 1 inch or if the average of the 2 slump tests is >4 inches, the difference must be < 1-1/2 inches.
2. If the slump difference exceeds these limits, the equipment must not be used until the faulty condition is corrected. However, the equipment may continue in use if longer mixing times or smaller loads produce batches that pass the slump uniformity tests.

I. All concrete production facilities will be subject to verification inspections at the discretion of the Engineer. Verification inspections are a check for current scale certifications, accuracy of water metering devices, accuracy of the batching process, and verification of coarse aggregate quality.

J. If the concrete producer fails to pass the verification inspection, the following actions will be taken:

1. For the first violation, a written warning will be provided.
2. For the second violation, the Engineer will provide written notification and the Owner will assess a price reduction equal to 15% of the invoice cost of the concrete supplied from the time of the infraction until the deficient condition is corrected.
3. For the third violation, the concrete Supplier is suspended from providing concrete until all such deficiencies causing the violation have been permanently corrected and the plant and equipment have been reinspected and meet all prequalification requirements.
4. For the fourth violation, the concrete Supplier must be disqualified from supplying concrete for 1 year from the date of disqualification. At the end of the suspension period, the concrete Supplier may request the facilities be inspected for prequalification.

K. Job Site Mixing

1. For small quantities of concrete, the Contractor may mix concrete on the Job Site provided the Contractor has requested in writing and received written

permission from the Engineer. The Contractor's written request must include a mix design, batching and mixing procedures, and a list of the equipment performing the Job Site mixing. All Job Site mixed concrete must be mixed in a mechanical mixer.

2. If the Engineer permits, hand mixing of concrete will be permitted for pipe collars, pipe plugs, fence posts, or other items approved by the Engineer, provided the hand mixing is done on a water tight platform in a way that distributes materials evenly throughout the mass. Mixing must continue long enough to produce a uniform mixture. Hand mixed batches must not exceed 1/2 cubic yard.
3. Concrete mixed at the Job Site is never permitted for placement in water.

L. Consistency

1. The maximum slump for concrete is:
   a. 3.5 inches for vibrated concrete placed in all bridge decks, bridge approach slabs, and flat slab bridge superstructures.
   b. 4.5 inches for all other vibrated concrete.
   c. 7 inches for non-vibrated concrete (includes Class 4000P and 4000W).
   d. 9 inches for shafts when using Class 4000P, provided the water-cement ratio does not exceed 0.44 and a water reducer is used meeting the requirements of COS Standard Specification Section 9-23.4.
   e. When a high-range water reducer is used, the maximum slump listed in a, b, and c above may be increased an additional 2 inches.

M. Temperature and Time for Placement

1. Concrete temperatures must remain between 55 degrees F and 90 degrees F while it is being placed. Precast concrete that is heat cured per COS Standard Specification Section 6-02.3(25)D must remain between 50 degrees F and 90 degrees F while being placed. The batch of concrete must be discharged at the Project Site no more than 1-1/2 hours after the cement is added to the concrete mixture. The time to discharge may be extended to 1-3/4 hours if the temperature of the concrete being placed is less than 75 degrees F. With the approval of the Engineer and as long as the temperature of the concrete being placed is below 75 degrees F, the maximum time to discharge may be further extended to 2 hours. When conditions are such that the concrete may experience an accelerated initial set, the Engineer may require a shorter time to discharge. The time to discharge may be extended upon written request from the Contractor. This discharge time extension will be considered case by case and requires the use of specific retardation admixtures and the approval of the Engineer.

2.07 ACCEPTANCE OF CONCRETE

A. General

1. Lean concrete and commercial concrete will be accepted based on a certificate of compliance to be provided by the Supplier as specified in Section 2.07.B below.
2. All other concrete will be accepted based on conformance to the requirement for temperature, slump, air content for concrete placed above finished groundline, and the specified compressive strength at 28 Days for sublots as tested and determined by the Owner.
3. A sublot is defined as the material represented by an individual strength test. An individual strength test is the average compressive strength of cylinders from the same sample of material.
4. Each sublot will be deemed to have met the specified compressive strength requirement when both of the following conditions are met:
    a. Individual strength tests do not fall below the specified strength by more than 12.5% or 500 psi, whichever is least.
    b. An individual strength test averaged with the two preceding individual strength tests meets or exceeds specified strength (for the same class and exact mix I.D. of concrete on the same Contract).
5. When compressive strengths fail to satisfy one or both of the above requirements, the Contractor may:
    a. Request acceptance based on the Contractor/Suppliers strength test data for cylinders made from the same truckload of concrete as the Owner cylinders provided:
        1) The Contractor's test results are obtained from testing cylinders fabricated, handled, and stored for 28 Days per AASHTO T 23 and tested per AASHTO T 22. The test cylinders must be the same size cylinders as those cast by the Owner.
        2) The technician fabricating the cylinders is qualified by either ACI, Grade 1 or WAQTC to perform this Work.
        3) The laboratory performing the tests per AASHTO T 22 has an equipment calibration/certification system, and a technician training and evaluation process per AASHTO R-18.
        4) Both the Contractor and Owner have at least 15 test results from the same mix to compare. The Contractor's results could be used if the Contractor's computed average of all their test results is within 1 standard deviation of the Owner's average test result. The computed standard deviation of the Contractor's results must also be within ± 200 psi of the Owner's standard deviation.
    b. Request acceptance of in-place concrete strength based on core results. This method is not used if the Engineer determines coring would be harmful to the integrity of the Structure. Cores, if allowed, will be obtained by the Contractor per AASHTO T 24 and delivered

to the Owner for testing per AASHTO T 22. If the concrete in the Structure will be dry under service conditions, the core will be air dried at a temperature of between 60 degrees F and 80 degrees F and at a relative humidity of less than 60% for 7 Days before testing and will be tested air dry.

6. Acceptance for each sublot by the core method requires that the average compressive strength of 3 cores be at least 85% of the specified strength with no 1 core less than 75% of the specified strength. When the Contractor requests strength analysis by coring, the results obtained will be accepted by both parties as conclusive and will supersede all other strength data for the concrete sublot.
7. If the Contractor elects to core, cores must be obtained 50 Days after initial concrete placement. The Engineer will concur in the locations to be cored. The Contractor is responsible for repair of cored areas. The cost incurred in coring and testing these cores, including repair of core locations, are borne by the Contractor.

B. Certification of Compliance

1. The concrete producer must provide a certificate of compliance for each truckload of concrete. The certificate of compliance must verify that the delivered concrete complies with the mix design, and must include:
    a. Manufacturer plant (batching facility).
    b. Owner Contract number.
    c. Date.
    d. Time Batched.
    e. Truck Number.
    f. Initial revolution counter reading.
    g. Quantity (quantity batched this load).
    h. Type of concrete by class and producer design mix number.
    i. Cement producer, type, and mill certification number (The mill test number as required by COS Standard Specification Section 9-01.2 is the basis for acceptance of cement).
    j. Fly ash (if used) brand and type.
    k. Approved aggregate gradation designation.
    l. Mix design weight per cubic yard and actual batched weights for:
        1) Cement.
        2) Fly ash (if used).
        3) Coarse concrete aggregate and moisture content (each size).
        4) Fine concrete aggregate and moisture content.
        5) Water (including free moisture in aggregates).
        6) Admixtures brand and total quantity batched:
            a) Air-entraining admixture.
            b) Water-reducing admixture.
            c) Other admixture.

2. For concretes that use combined aggregate gradation, the certificate of compliance must include the aggregate components and moisture contents for each size instead of the aggregate information described above.
3. The certificate of compliance must be signed by a responsible representative of the concrete producer, affirming the accuracy of the information provided.
4. For commercial concrete, the certificate of compliance must include, as a minimum, the batching facility, date, and quantity batched per load.

PART 3 - EXECUTION

3.01 CONCRETE PLACEMENT

A. Inspection

1. Before placing concrete, inspect and complete any unfinished formwork, reinforcing steel, and items to be embedded or cast in. Notify other trades to permit installation of their Work. Call the SPR Inspection Request Line @ (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov to make arrangements for inspection.

B. General

1. Comply with ACI 304, Guide for Measuring, Mixing, Transporting, and Placing Concrete, and as specified.

C. Deposit concrete continuously or in layers of such thickness that no new concrete will be placed on concrete that has hardened sufficiently to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as specified. Deposit concrete to avoid segregation at its final location.

D. Placing Concrete in Forms: Deposit concrete in forms in horizontal layers no deeper than 24 inches and in a manner to avoid inclined construction joints. Where placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints.

1. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping. Use equipment and procedures for consolidation of concrete complying with ACI 309.
2. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations no farther than the visible effectiveness of the machine. Place vibrators to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to set. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete

embedment of reinforcement and other embedded items without causing mix to segregate.

E. Cold Weather Placement

1. Comply with provisions of ACI 306 and as follows.
2. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing action, or low temperatures.

F. When air temperature has fallen to or is expected to fall below, 40 degrees F (4 degrees C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 degrees F (10 degrees C) and not more than 80 degrees F (27 degrees C) at point of placement.

1. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen sub-grade or on sub-grade containing frozen materials.
2. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise accepted in mix designs.

G. Hot Weather Placement

1. When hot weather conditions exist that would impair quality and strength of concrete, place concrete complying with ACI 305 and as specified.
2. Cool ingredients before mixing to maintain concrete temperature at time of placement to below 90 degrees F (32 degrees C). Mixing water may be chilled or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
3. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedding in concrete.
4. Fog spray forms, reinforcing steel, and sub-grade just before placing concrete. Keep sub-grade moisture uniform without puddles or dry areas.
5. Use water reducing retarding admixture when required by high temperatures, low humidity, or other adverse placing conditions, as acceptable to the Engineer.

3.02 CONSTRUCTION JOINTS

A. Form all joints perpendicular to main reinforcement. Continue reinforcing across joints, unless otherwise indicated; provide longitudinal keys at least 1-1/2 inch deep at all joints in walls between walls and slabs or footings. Remove key forming wood inserts and thoroughly clean surface of concrete at all joints before placing next lift.

B. Roughen surface of concrete at joints and remove laitance to obtain bond before placing next lift; if use of keys is impractical due to congestion or inaccessibility or if

it is inadvisable to disturb surface before it has hardened, use only wet sandblast method for preparing surface.

C. Dampen hardened concrete of joints between footings and walls, joints in unexposed walls, and all others not specifically mentioned hereinafter and roughen by air water cutting.

D. Dampen hardened concrete joints in exposed Work and roughen by air/water cutting. Thoroughly cover joint surfaces with neat cement mortar of similar proportions to mortar in concrete; apply mortar as thick as practicable on vertical surfaces and a minimum of 1/2 inch thick on horizontal surfaces; place next lift before mortar has reached its initial set.

E. For bonding new concrete to existing concrete use bonding agent. For grouting dowels and reinforcing bars, use specified adhesives in accordance with manufacturer's instructions.

F. Provide key forming wood insert strips in walls; pour concrete to 1/2 inch above lower edge or strip.

3.03 CONTROL JOINTS

A. In slabs on grade, tool or saw-cut control joints to true, straight lines, maximum variance from true line of 1/4 inch in 10 feet and no irregularities across joint in excess of 1/8 inch; extend reinforcing steel through and lap beyond joints.

3.04 EXPANSION JOINTS

A. Provide pre-molded 3/8 inch joint filler for expansion joints abutting concrete curbs, catch basins, manholes, inlets, structures, walks and other fixed objects, unless otherwise indicated.

B. Locate expansion joints as noted on Drawings.

C. Extend joint fillers the full width and depth of joint and not less than 1/2 inch or more than 1 inch below finished surface where joint sealer is indicated. Furnish joint fillers in one-piece lengths for full width being placed, wherever possible. Where more than one length is required, lace or clip joint filler sections together. Protect top edge of joint filler during concrete placement with a metal or plastic temporary strip. Remove protection after concrete has been placed on both sides of joint before sealant is applied.

D. Fillers and Sealants: Install polyurethane sealant in a continuous, smooth joint, wiping excess sealant from adjacent concrete.

E. Provide expansion joints not more than 30 feet apart in footings. Run no reinforcement or other metal trim continuously through joints, unless otherwise indicated.

3.05 NON-SHRINKING GROUT

A. Apply in accordance with manufacturer's direction; protect adjacent finished surfaces from defacement. Provide for sleeves, and where indicated.

3.06 CLEANING

A. Leave premises completely clean and free of residue from the Work of this Section.

END OF SECTION 03 30 00

PART 1 - GENERAL

1.01 Reference Standards: Conform to requirements of the following Reference Standards or as modified and supplemented hereinafter.

A. ACI Specifications for Structural Concrete for Buildings, ACI 301.

B. ACI Recommended Practice for Cold Weather Concreting, ACI 306.

C. ACI Recommended Practice for Hot Weather Concreting, ACI 605.

1.02 Quality Assurance: Concrete Work: Concrete work, where indicated to be exposed, is architecturally finished concrete. Special care must be taken to provide specified, finished surfaces without gravel pockets, and other defacements. The Engineer shall inspect concrete after removal of forms and before concrete repair work begins. Call the **SPR Inspection Request Line @ (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov** to make arrangements for inspection.

1.03 Related Sections:

Section 03 10 00 - Concrete Formwork
Section 03 20 00 - Concrete Reinforcement
Section 03 30 00 - Cast in Place Concrete
Section 32 13 13 - Concrete Paving

1.04 Protection: Protect persons and adjacent materials and finishes from dust, dirt and other surface or physical damage during finishing operations, including materials driven by wind.

PART 2 - PRODUCTS *(Not Used)*

PART 3 - EXECUTION

3.01 Repairs:

A. Immediately after removal of forms and inspect all surfaces for defects. Repair or patch defects only after defects are inspected by the Engineer and then only with the Engineer's permission. Do all cutting and repair within 48 hours after removal of forms; cure repairs same as new concrete.

B. Defective Areas: Where patches are allowed, repair and patch areas; must match the surrounding areas in color and texture so as to be indistinguishable after completion, including curing and finishing. Determine mix for color by trial mixes before patching; after initial cure, dress patch or repair area mechanically or by hand for texture match.

3.02 Finishes for Formed Surfaces:

A. Rough Form Finish: Provide for surface of walls and footings adjacent to grade or below grade. This is the concrete surface having texture imparted by form facing material use with tie holes and defective areas repaired and patched and fins and other projections exceeding 1/4 inch in height rubbed down or chipped off.

B. Smooth Formed Finish: Provide a smooth formed finish on formed concrete surfaces exposed to view. This is an as-cast concrete surface obtained with selected form facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Remove fins and other projections completely and smoothed. Repair and patch honeycombs and defective areas as directed by the Engineer. Tie holes shall not be filled.

C. Sacked Finish:

1. On all designated surfaces of the exposed concrete, provide a sacked finish by coating the concrete with sacking mortar. Sacking of patched or defective concrete surfaces may be required by the Engineer for areas not other wise already requiring this work.
2. Repair and patch tie holes, honeycombs and defective areas and trowel to smooth finish. Remove fins and other projections completely and smoothed.
3. Thoroughly wet surface to prevent absorption.
4. Coat entire surface with sacking mortar as soon as surface of concrete approaches surface dryness.
5. Thoroughly and vigorously rub mortar over area with clean burlap pads to fill all voids.
6. While mortar is still plastic but partially set (so it cannot be pulled from voids), sack-rub surface with dry mix of sacking mortar (leave out water). There should be no discernible thickness of mortar on concrete surface, except in voids; all surfaces should be uniformly textured.
7. Immediately begin a continuous moist cure for 72 hours.

D. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated. Provide for face surface of walls adjacent to plaza, walks and stairs.

3.03 Finishes for Unformed Surfaces:

A. Screed all slabs, for whatever finish, to true levels or slopes, work surfaces only to the degree required to produce the desired finish; do no finishing in areas where water has accumulated, drain and rescued; in no case use cement and sand sprinkling to absorb moisture. Carefully finish all joints and edges with proper tools, unless otherwise specified.

B. Rough Screed Finish: Consolidate, level, and screed all surfaces to obtain evenness and uniformity; remove all surplus concrete after consolidation by striking off with sawing motion against guide strips. Provide for top horizontal surfaces of non-exposed footings. Provide for concrete slab under synthetic safety surfacing.

C. Float Finish: Apply float finish to monolithic slabs to receive trowel or other finishes. After screeding, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating, using float blades or float shoes only, when surface water has disappeared, or when concrete has stiffened sufficiently to permit operation of power-driven floats, or both. Consolidate surface with power driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to tolerances of F(F) 18 (floor flatness) and F(L) 15 (floor levelness) measured according to ASTM E 1155. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, re-float surface to a uniform, smooth, granular texture.

D. Broom Finish: Apply a non-slip broom finish to all exterior concrete slabs, stairs, walks, and ramps, and elsewhere as indicated. Immediately after float finishing, slightly roughen concrete surface by brooming with fiber bristle broom perpendicular to main traffic route.

E. Defective Work: Remove and replace when directed by the Engineer, surfaces which show excessive shrinkage cracks.

3.04 Curing:

A. Protect freshly deposited concrete from premature drying and excessively hot or cold temperatures; maintain minimal moisture loss at relatively constant temperature for necessary hydration time and proper relatively constant temperature for necessary hydration time and proper hardening of concrete.

B. Duration of Curing: In addition to the initial overnight curing, continue final curing operations until the cumulative number of days or fractions thereof (not necessarily consecutive) occurs, during which time the temperature of the air in contact with the concrete is above 50 degrees F, equals 7 days. If high-early strength concrete has been used, continue final curing operation for 3 days total time, calculated as before. Take care to prevent rapid drying at the end of the curing period. If early removal of forms is approved and forms are removed during the curing period, apply one of the curing methods specified in City of Seattle Standards Specifications (most recent edition), and continue curing for the remainder of the required curing period.

3.05 Inspection: The Contractor shall notify Engineer that they are starting concrete finish repair work at least 48 hours prior to the beginning of work. Call the **SPR Inspection Request Line @ (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov** to make arrangements for inspection

3.06 Cleaning: Leave the premises completely clean and free of residue from the work of this section.

END OF SECTION

DIVISION 05

Metals

PART 1 - GENERAL

1.01 DESCRIPTION

A. Provide and install all metal handrails, guardrails, and associated hardware.

1.02 RELATED SECTIONS

A. Section 03 30 00 – Cast-In-Place Concrete

1.03 QUALITY ASSURANCE

A. All construction shall be in accordance with the City of Seattle (COS) Standard Specifications and Plans (most recent edition) and all other pertinent Seattle Parks and Recreation (SPR) Standard Specifications and Details.
B. Conform to requirements of the most recent editions of the following Reference Standards, or as modified and supplemented herein:

1. International Building Code (IBC)
2. City of Seattle Building Codes and Regulations (SBC)
3. American Institute of Steel Construction (AISC)
4. American Iron and Steel Institute (AISI)
5. American Welding Society (AWS)

C. Steel fabricator shall be experienced in steel fabrication, including: Cutting, bending, fastening, and finishing.
D. Welders shall be certified by Washington Association of Building Officials (WABO) for structural welding.

1.04 SUBMITTALS

A. Product Data: Submit manufacturer's published literature for specified products and accessories as applicable including manufacturer's specifications, performance calculations, and physical characteristics.
B. Shop Drawings: Submit to the Engineer for approval, shop drawings, details of fabrication with dimensions and connections shown.
C. Color or Finish Samples: The Contractor shall submit for selection colors available from manufacturer's standard color line.

1.05 DELIVERY, STORAGE AND HANDLING

A. Ship, store, and handle all items so as to protect metal components from damage on the Project Site. Store in a safe location, out of pedestrian and vehicular traffic and

protected from weather. Repair or replace any damaged components before installation.

PART 2 - PRODUCTS

2.01 HANDRAILS

A. SPR's Standard Material for handrails shall be Schedule 40 Galvanized Steel pipe.
B. Special exceptions for unique applications shall be either Painted, Powder Coated, Aluminum, or Stainless Steel, only as approved by the Engineer during the design/technical review process.

2.02 PAINT

A. Color shall be selected by the Engineer after submittal of color samples.

2.03 GUARDRAILS

A. Same as handrails above.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Connect handrail pipe to concrete footing as shown on the Drawings. Handrails to be set straight, true, and plumb without curves and bends.
B. Coordinate anchor bolt placement with concrete contractor.

3.02 MATERIALS AND FINISHES

A. Hot-dipped galvanizing after fabrication is required and is the preferred finish.

END OF SECTION 05 52 00

DIVISION 12

Furnishings

PART 1 – GENERAL

1.01 Description of Work included shall include but not be limited to the following list.

A. Provide all labor, materials and equipment necessary to supply and install the following Site Furnishings:

1. Benches
2. Trash Receptacles
3. Project Specific Furnishings

1.02 Related Sections:

Section 03 30 00 - Cast-in-Place Concrete
Section 31 00 00 – Earthwork

1.03 Quality Assurance:

A. Manufacturer's Instructions: Adhere to manufacturer's instructions for product handling, assembly, installation, and maintenance.

B. Manufacturer’s original factory finish must be intact for the installation of the furnishing to be considered satisfactory. On-site touch-up will not be accepted.

1.04 Submittals: For each Product Specified, submit the following for approval prior to delivery:

A. Manufacturer's product data.

B. Manufacturer's installation instructions.

PART 2 - PRODUCTS

2.01 General:

A. Comply with SPR Standard Specifications and Manufacturer's recommendations at all times. Where these may be in conflict, the more stringent requirements shall prevail.
B. All products shall be supplied as specified, or approved equal. Refer to Division 1 Specifications for Product Substitution requirements.

2.02 Benches:

B. Steel Bench Styles shall be selected from the following list, but all benches shall be consistent within a park:
1. Keystone Ridge Pullman Series, Models #P16 (w/o back), #P-26 (with back), or #P26C (with middle armrest). Color choices: black or dark green.
2. DuMor Bench 93 (backless) and Bench 95 (with back). Color choices: black or dark green.

1. Victor Stanley Classic Series, Model #C-138 (with back). Color choices: black powder-coated, wood with ductile iron frames.

2.03 Trash Receptacles:

1. Victor Stanley "Ironsides" (Model #SD-42-S2), with side door and domed lid, as manufactured by Victor Stanley Inc., Dunkirk, Md., represented locally by ParkForms, Inc., Portland, OR. Color choices: undercoated and powder-coated black.

3. Urban Accessories Model #RR55, with side door and domed lid, as manufactured by Urban Accessories, Inc. Color choices: black or hot-dipped galvanized finish.

4. Fairweather "Plaza" Series (Model TR-12), with side door and small domed lid, as manufactured by Fairweather Site Furnishings & Accessories. Finish and color: Undercoating shall be 3-M ScotchKote 134 Fusion Bonded Epoxy, for corrosion resistance, or approved equal. Final finish shall be a TGIC type polyester powder coat, and shall be baked on to a thickness of 4-6 mils thick. Color shall be black

2. Or, approved equal.

2.04 Project Specific Furnishings

A. Additive Pebble Seating Element

i. Cast Concrete Pebble shaped seating Element. Hollow Center, surface mounted. Multiple colors and sizes.

PART 3 - EXECUTION

3.01 Examination: Verify installation conditions as satisfactory to receive work of this Section. Do not install until unsatisfactory conditions are corrected. Beginning work constitutes acceptance of conditions as satisfactory.

3.02 Direct Burial Installations:

A. All below-grade steel components scheduled for direct burial installation shall be coated in an approved manner prior to installation, typically either factory powder coating or hot-dipped galvanized.

B. Provide footing excavations sized per measured plans provided with the Contract Drawings, manufacturers printed assembly and installation instructions, or as directed by the Engineer, typically 12" diameter x 18" depth for most installations under 100 lbs/footing.

C. Coring and Saw-cutting:

1. All products scheduled for direct burial installation within new paved areas are to be installed prior to paving.

2. In the event that paving is installed prior to site furnishings scheduled for direct burial installation, saw-cutting will not be approved as a means of penetrating pavements. Coring, to the specified size of the footing, is the only method that may be considered.

3. Do not core completed work of the Contract to accomplish product installation without prior approval of the Engineer.

4. Where site furnishings are scheduled for installation in existing pavement of any type or where the Engineer has approved coring of pavement installed as part of the work of the Contract, the Contractor shall insure an adequate supply of clean water and continuously flush and clean cuttings from pavement surfaces to remain.

D. Concrete footings shall be neatly and evenly crowned slightly above adjacent finished grade where adjacent finished grade is generally level, matching adjacent finished grade where adjacent finished grade is sloped, or level to the bottom of base aggregate where installation in paved areas is scheduled.

E. Remove all concrete slurry from surrounding surfaces and site furnishings prior to request for inspection.

3.03 Surface Installations:

A. Surface installations shall be made only upon approved concrete surfaces.

B. Use only manufactured approved anchoring devices.

C. Where the manufacturer does not provide a specification for anchoring, use only approved stainless steel wedge anchors as follows;

1. Do not proceed with anchor installation until concrete pavement has had a minimum of 14 days cure time under normal conditions. Where weather conditions are beyond the range of normal, do not proceed with anchor installation without the approval of the Engineer.

2. Size to the largest standard diameter that the manufacturer’s pre-made hole will accommodate without force, typically 5/8”.

3. Size for embedment of ¾ of the actual depth of concrete to support the installation, in no case less than 2½”. Allow for depth of nut plus 3-5 threads protrusion above finished installation.

4. Do not over drill beyond 1/8” the depth necessary to accommodate the anchor.

5. Torque to 80-85% of the anchor manufacturers recommended maximum.

6. Provide at least one anchor for every bolt location hole for any site furnishing.

3.04 Installation of Manufactured Items: Install all equipment in accordance with Specifications, Drawings and manufacturer's directions. Where these may be in conflict, the more stringent requirements govern.

3.05 Installation of Fabricated Items: All fabricated items shall be installed consistent with the measured plans provided in the Contract Drawings utilizing materials

3.06 Cleanup: Remove all metal, wood, and concrete debris, protective wrappings and coverings, and shipping materials from the project site. Remove all residues, repair all stains, scuffs, abrasions,

and marks from the finished product prior to requesting inspection. Fully restore all areas of the site that were impacted by the installation activities per SPR Standard Specifications.

END OF SECTION

DIVISION 26

Electrical

1.01 DESCRIPTION

A. Work included:

1. This Work shall consist of furnishing, installing, testing, and placing in satisfactory and successful operation all equipment, Materials, devices and necessary appurtenances to provide electrical service and necessary power to all equipment hereinafter specified and/or shown on the Plans.
2. The Work shall include all Materials, equipment and apparatus not specifically mentioned herein or noted on the Plans, but which are necessary to make a complete working installation of all electrical systems shown on the Plans or described herein.
3. Provide all excavation, trenching and backfill required for the underground electrical Work indicated by the Contract documents.

B. Work not included:

1. Motors, controllers and equipment as described in other Divisions of this Specification shall be furnished under those Divisions, but they shall be set and wired under this Section.
2. Telephone system wires and equipment are not a part of this Contract.

1.02 RELATED WORK

A. Section 26 56 00 - Exterior Lighting
B. Section 31 00 00 - Earthwork

1.03 DEFINITIONS AND ABBREVIATIONS

A. Definitions: Refer to Division 00.
B. Abbreviations:

1.	ANSI	American National Standards Institute
2.	NEC	National Electrical Code
3.	NEMA	National Electrical Manufacturers Association
4.	NFPA	National Fire Protection Association
5.	UL	Underwriters Laboratories, Inc.
6.	IES	Illuminating Engineering Society

1.04 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with the National Electrical Code, NFPA regulations, and all other applicable national, state, and local codes and ordinances. The Contractor shall undertake all Work in strict accordance with the National

Electrical Code and any Washington State WAC 296-45, Safety Standards for Electrical Workers and WAC 296-46B, Electrical Safety Standards, Administration, and Installation.

1. Local Codes and Ordinances
2. State and Federal Law
3. National Electrical Code (NEC)
4. Life Safety Code (NFPA-101)
5. State Fire Marshall
6. Underwriters' Laboratory
7. National Electric Safety Code (NESC)
8. American National Standards Institute (ANSI)
9. National Electrical Manufacturers' Association (NEMA)
10. Institute of Electrical and Electronics Engineer (IEEE)
11. Insulated Power Cable Engineers Association (IPCEA)
12. The Occupational Safety and Health Act (OSHA)
13. Federal, State and Local Building Codes

B. Responsibilities of the Contractor:

1. Complete all Work specified under these Specifications and Drawings.
2. Coordinating with other trades.
3. Referring to all the Drawings, Specifications, and Shop Drawings pertaining to equipment containing electrical components.
4. Furnishing and installing all incidental items not specifically shown or specified which are required by good practice to provide the complete systems specified.

C. Nothing in these Drawings and Specifications shall be construed to permit Work not conforming to governing codes or regulations.

D. Wherever the requirements of the Specifications or Drawings exceed those of the governing codes and regulations, the requirements of the Specifications or Drawings shall govern. Nothing in these Drawings or Specifications shall be construed as relieving the Contractor from complying with any requirements of the Plans and Specifications which may be in excess of the requirements of governing codes or regulations.

E. Inspection: All Materials, equipment, and workmanship shall be subject to inspection at any time by the Engineer. The Contractor shall correct any Work, Materials, or equipment not in accordance with these Contract Documents or found to be deficient or defective, in a manner satisfactory to the Engineer, at no additional cost to the Owner.

1.05 PROJECT CONDITIONS

A. Protection During Construction:

1. Throughout this Contract, provide protection for Materials and equipment against loss or damage. Protect everything from the effects of weather. Prior to installation, store items in indoor, dry locations. Store in indoor, heated, dry location items subject to corrosion under damp conditions, and items containing insulation, such as controllers, motors, etc.
2. Following installation, protect Materials and equipment from corrosion, physical damage and the effects of moisture on insulation. Cap conduit runs during construction with manufactured seals. Keep openings in boxes or equipment closed during construction.
3. All debris shall be removed from premises during Work, as directed and at completion of job.
4. The electrical Subcontractor shall furnish and place on his portion of Work proper guards for prevention of accidents. Provide and maintain construction required for the safety of life or property including the maintenance of sufficient light during night hours.

B. Temporary Utilities

1. Temporary or interim use of any and all portions of the electrical system shall be under the supervision of the Contractor.
2. Provide all temporary facilities as required in Section 01 50 00 - Temporary Facilities and Controls.

1.06 CONTRACT DOCUMENTS

A. Intent of Drawings:

1. Drawings are partly diagrammatic. Installation of conduit stub-ups shall be in accordance with field conditions and actual manufacturer's Shop Drawings. The Contractor shall be responsible for verifying all dimensions before proceeding with the Work.
2. The electrical work shown on the Drawings does not indicate all fittings, hardware or appurtenances required for a complete operating installation.

B. Departures from Contract Documents: Refer to Section 01 26 00 - Modification Procedures and Change Orders for any necessary, proposed departures from these Contract Documents, and the reasons therefore. Submit such requests as soon as practicable. Make no such departures without the written approval of the Engineer.

1.07 RECORD DOCUMENTS

A. Provide red-lined As-builts and final record documents as directed in Section 01 78 39 - Record Documents.

1.08 WARRANTY

A. Refer to Division 00 for warranty information and requirements.

1.09 PERMITS AND FEES

A. The Contractor shall obtain and pay for all licenses, permits and inspections required by laws, ordinances and rules governing Work specified herein. The Contractor shall arrange for inspection of Work by the inspectors and shall give the inspectors all necessary assistance in their Work of inspection.

B. The Contractor shall coordinate with and follow the requirements of Seattle City Light (SCL). Make an application through the Seattle Services Portal that can be accessed on Seattle Department of Construction and Inspections' (SDCI's) website, www.seattle.gov/sdci/permits or through the Applicant Services Center (ASC) located on the 20th floor of Seattle Municipal Tower at 700 Fifth Ave. in downtown Seattle, Ph. (206) 684-8850.

1.10 SUBMITTALS

A. Submit product data for each item specified in these Specifications. Product data shall include the following:

1. Voltage and continuous current rating.
2. Short circuit with stand rating of bus.
3. Main breaker frame current rating.
4. Main breaker short circuit rating.
5. Main breaker trip rating.

PART 2 - PRODUCTS

2.01 GALVANIZED RIGID STEEL CONDUIT (GRS)

A. Above Grade Raceways shall be hot dipped galvanized inside and out, UL listed as manufactured by Republic Steel, Triangle, Allied, Western, National, or approved equal. Minimum size shall be 3/4 inch. Field-cut threads shall be protected and damaged galvanizing shall be repaired per the conduit manufacturer's recommendations.

B. Steel Fittings: Galvanized malleable iron or non-corrosive alloy compatible with galvanized conduit. Erickson couplings and watertight split couplings (O.Z. type or equivalent) are permitted. Running thread or set screw type fittings are not approved except as noted.

C. Conduit used in underground runs shall be Scheduled 40 heavy wall rigid PVC, gray in color, UL labeled, with fittings of the same Materials.

D. All conduits shall be capped during construction by means of manufactured seals to prevent entrance of water and debris. The conduits shall be cleaned before pulling of the wire. Spare conduits shall include a nylon pull rope.

2.02 WIRE AND CABLE

A. Wire:

1. Above Grade: All wires shall be copper with insulation Type THW. Type THWN/THHN or XHHW wire may be utilized, subject to code requirements. Wire and cable shall be brought to the Project Site in original containers bearing the Underwriters Label.
2. Underground: All conductors shall be type USE. Increase raceway size when necessary to accommodate conductors per Code. Exception: Underground conductors completely contained in Code-recognized raceway and boxes may be Type THW, THWN or XHHW. Type UF direct burial permitted for branch circuits only when noted on the Drawings.
3. Aluminum conductors are not approved for use on this project.

B. Splices:

1. Above Grade: Solderless type only. Pre-insulated "twist-on" type (limited to size #10 and smaller) shall be Scotch-Lok, Ideal wire nut, or approved equal. Bolt-on compression type with application of preformed insulated cover, heat shrinkable tubing or plastic insulated tape is acceptable for all sizes.
2. Below Grade: Splices below grade shall be in hand holes and shall be made watertight with epoxy resin type splicing kits.

C. Plastic Ties: Cable ties shall be nylon or equivalent, locking type.

2.03 JUNCTION BOXES AND HAND HOLES

A. Junction boxes and hand holes for the underground circuit runs shall be composite material with bolt-down and weldable cover designed to withstand a 20,000-pound static load. They shall be suitable for use in driveway, parking lot and road shoulder applications that may be subject to occasional, non-deliberate heavy vehicles. Covers shall be labeled “Electric.” They shall be as manufactured by Christy Concrete Products, Fogtite, or approved equal. The hand hole shall be similar in size to WSDOT J-11a, Type I, II or III, and in accordance with the following table.

WSDOT Type	Composite Type	Size
I - (Christy)	FL9/FL9T Box/Cover	10" x 16" x 12"
II - (Christy)	FL30BOX18/FL30T Box/Cover	14" x 24" x 18"
III - (Christy)	FL36BOX18/FL36T Box/Cover	17" x 31" x 18"

B. Each conduit entering the box shall be neatly upswept and shall terminate not less than 5 inches or more than 10 inches below the lid.

C. All hand holes shall be set on a 6-inch free draining, compacted pea gravel base and be leveled to match surrounding grades. The lid shall be set flush with finish grade. Conduits into the junction boxes and service cabinet foundations shall have bell ends installed. Sufficient slack wire shall be provided to enable the splice to be raised a minimum of 18 inches outside of the box.

D. Following final inspection and approval by the Engineer and Seattle Parks and Recreation (SPR) Electrical, the cover will be welded to the handholes on all four sides with 1-inch welds.

2.04 OUTDOOR ELECTRIC RECEPTACLE LOCK BOX

A. Outdoor electrical receptacles shall be protected with a vandal resistant, weatherproof, 12-gauge stainless steel metal, outdoor electric receptacle lock box that can be padlocked and includes a slot for an extensions cord to be run inside of it, while keeping the unit itself locked. Provide approved non-conductive gaskets between lock box and mounting surface.

2.05 PANELBOARDS

A. Acceptable Manufacturers: Square D, General Electric, I.T.E, or approved equal.

B. Bussing Assembly:

1. Panelboard bus structure and main lugs or main breaker shall have current ratings as shown on the panelboard schedules. Such ratings shall be established by heat rise tests with maximum hot spot temperature, on any connector or bus bar that does not exceed 122 degrees F (50 degrees C), rises above ambient. Heat rise tests shall be conducted in accordance with Underwriters Laboratories Standard UL 67. The use of conductor dimensions will not be accepted in lieu of actual heat tests.
2. Panelboard bus shall be Copper sized at 1000 amps per square inch.
3. Provide 100% rated insulated neutral bus where shown.
4. Provide separate fully rated ground bus bonded to panelboard cabinet.

C. Circuit Breakers:

1. Circuit breakers shall be thermal magnetic trip equipped with individually insulated, braced and protected connectors. The front faces of all circuit breakers shall be flush with each other. Large permanent individual circuit numbers shall be affixed to each breaker in a uniform position. Tripped indication shall be clearly shown by the breaker handle taking a position between ON and OFF. Provisions for additional breakers shall be such that no additional connectors will be required to add breakers.
2. Circuit breakers shall be bolted securely to the panelboard bus. "Push on" or "plug in" breakers are not acceptable.

D. Integrated Equipment Short Circuit Rating:

1. Each panelboard, as a complete unit, shall have a short circuit current rating equal to or greater than the integrated equipment rating shown on the panelboard schedule or on the Plans or as specified. This rating shall be established by testing with the overcurrent devices mounted in the panelboard. The short-circuit tests on the overcurrent devices and on the panelboard structure shall be made simultaneously by connecting the fault to each overcurrent device with the panelboard connected to its rated voltage source. Method of testing shall be per Underwriters Laboratories Standard UL 67. The source shall be capable of supplying the specified panelboard short-circuit current or greater. Testing of panelboard overcurrent devices for short-circuit rating only while individually mounted is not acceptable. Also, testing of the bus structure by applying a fixed fault to the bus structure alone is not acceptable. Panelboards shall be marked with their maximum short-circuit current rating at the supply voltage and shall be UL listed.
2. Provide panelboards with short circuit rating as shown on the panelboard schedule.

E. Cabinets and Fronts:

1. Panelboard assembly shall be enclosed in a steel cabinet. The rigidity and gauge of steel is to be as specified in UL Standard 50 for cabinets. The size of wiring gutters shall be in accordance with UL Standard 67 for panelboards.
2. Fronts shall include doors and have flush, stainless steel, cylinder tumbler-type locks with latches and spring-loaded door pulls. The flush lock shall not protrude beyond the front of the door. All panelboard locks shall be keyed alike. Fronts shall be adjustable indicating trim clamps, which shall be completely concealed when the doors are closed. Doors shall be mounted with completely concealed steel hinges. Provide cabinets of sufficient dimensions to allow for future expansion and addition of circuit breakers within the panelboards as indicated on panel schedules. Panel fronts shall be of the door-in-door type so that opening the inner door can access breaker handles and opening the outer door can access panel wiring. Provide two keys for each panel.
3. Circuit Directory: A circuit directory frame and card with a transparent protective plastic covering shall be provided on the inside of the door. The directory card shall provide a writing space at least 1/4-inhes high x 3-inches long, or equivalent, for each circuit.
4. Finish: Fronts shall be of code gauge, full finished steel with rust-inhibiting primer and baked enamel finish, ANSI 61 gray color.

F. Barriers: The panel board interior assembly shall be dead in front with panelboard front removed. Main lugs and main breaker shall be barriered on five sides. The barrier in front of the main lugs shall be hinged to a fixed part of the interior. The end of the bus structure opposite the mains shall be barriered.

G. Panelboard Nameplate

1. Provide nameplates with the following information attached with screws to each panelboard front:
   a. Panel Name 1/2-inch-high characters.
   b. Voltage, Phase, Wire (i.e., 240/120, 3 phase, 4 wire) 3/8-inch-high characters.
   c. Short circuit withstand capability rating (i.e., 22,000 AIC symmetrical) 3/8-inch-high characters.
2. Nameplate colors shall be white letters on black background.

2.06 MAGNETIC MOTOR STARTER

A. Provide starter consisting of a 3 pole, 3-phase full voltage non-reversing motor starter unless otherwise shown.
B. Provide three overload relays with one-piece interchangeable thermal unit. The starter shall be inoperable if the thermal unit is removed. A reset button shall be mounted in the cover and operable from the outside without opening the door.
C. Provide a Hand-Off-Automatic switch mounted in the cover.
D. Provide auxiliary contacts, 2 minimum, or more, if shown.
E. Acceptable manufacturers: Square D, General Electric, or approved equal.

2.07 POWER DISCONNECT SWITCH

A. Shall be Square D, or approved equal, with 15-amp breaker.

PART 3 - EXECUTION

3.01 GENERAL

A. Install Materials and equipment in a good workmanlike manner, utilizing craftsmen who are skilled in that particular trade. Provide Work, which has a neat and finished appearance.
B. Check the approximate locations of electrical system components shown on Drawings for conflicts with other systems and equipment having fixed locations. In the event of conflicts, consult the Engineer. The Engineer's decision shall govern. Make necessary changes at no cost to Owner.
C. Follow manufacturers' installation instructions explicitly, unless otherwise indicated. Wherever any conflict arises between manufacturers' instructions, codes and regulations, and these Contract Documents, follow Engineer's direction at no additional cost to Owner. Keep copy of manufacturers' installation instructions on the job site available for review at all times.

3.02 COORDINATION

A. The Work of this Section, if applicable, shall be coordinated with that of the other Divisions and trades and all Drawings shall be examined for construction details and necessary coordination.

3.03 EXISTING UTILITIES

A. Underground utilities and elements: The Contractor shall call **Utility Notification Center at (811) or (800) 424-5555 or click** http://www.callbeforeyoudig.org to locate all underground utilities (on or near Public Rights-of-Way / Property Lines) prior to digging and/or driving stakes. The Contractor can also engage the services of a private utilities locating service for location of utilities within the site by calling **Locating, Inc. at (425) 392-6412; CNI at 877-826-1177** https://www.cnilocates.com/about/ **; or Applied Professional Services 425-888-2590**; to locate utilities within the site. A list of Washington Private Utility Locators and contact info is available at https://digsafewa.com/wp-content/uploads/2020/05/PRIVATE-UTILITY-LOCATORS-LIST-5420.pdf. **(Note: these firms will charge for services rendered)**. The Contractor is also **required** to call the **SPR Inspection Request Line at (206) 684-7034 or by email at** parksconstruction.inspection@seattle.gov to make arrangements for utility locates within park property, in addition to contacting the professional utility location services. The Contractor shall request that the SPR plumbing, electrical, and sewer crews, along with the SPR Environmental Services staff be contacted with at least 48-hours notice. The Contractor can also contact the Engineer for As-built information for on-site underground utility system information by calling the **SPR Inspection Request Line @ (206) 684-7034 or by email at** parksconstruction.inspection@seattle.gov to make arrangements for as-built information.

B. Existing utilities shown on the Contract Drawings have been plotted from available records.

C. The Contractor shall protect shown, visible and located utilities from damage and promptly repair all active utilities damaged by construction. This repair shall be made solely at the expense of the Contractor.

D. When, despite all care and caution, damage occurs to active utilities not visible, located or indicated on the Contract documents, immediately obtain a decision from the Engineer as to repair. When so directed, the repair shall be made immediately by the Contractor whose trade is involved. The Contract price shall not change when the conditions outlined above and utmost possible care and caution have not been followed.

E. Adjust the depth of electrical utilities to avoid existing utilities with no change to Contract price.

3.04 SECURING SITE WORK:

A. The Contractor alone is solely responsible for securing all electrical site work with adequate barriers, warning indicators and shoring.

3.05 ELECTRICAL TRENCHES

A. Trenching

1. Trenching shall be to depths as required by code, the particular installation, or as shown on the Drawings, whichever is deeper. All trenching for electrical conduit is to be done by pneumatic mole method. All holes and cavities are to be filled, compacted and reseeded with turf mix.
2. Trench bottom shall be free of debris and graded smooth. Where trench bottom is rock, or rocky, or contains debris larger than 1-inch, or material with sharp edges, Contractor shall over excavate 3-inches and fill with 3-inches of builder's sand.
3. Separation between new electrical utilities and other utilities shall be 6-inches minimum except gas lines shall be 12-inches (vertical and horizontal) and shall be 36-inches (horizontal) for all water service lines.
4. All crossings of concrete or asphalt shall be performed only after the surface material has been saw cut to required width and removed. Conduit shall also be placed in a PVC sleeve that is at least 2 times the OD of the conduit.
5. Detect-A-Tape (red) marking ribbon shall be place in trenches 6-inches directly above all buried electrical conduit.

B. Backfill and Compaction:

1. Backfill around vaults and hand holes to be free of debris larger than 2-inches in all directions to 6-inches from vault and free of debris larger than 2-inches for all directions to 12-inches from vault.
2. Bedding for vaults and hand holes shall be 6-inches of pea gravel or sand.
3. All other backfill shall be free of debris larger than 6-inches in diameter.
4. All backfill material shall be placed so as to obtain a minimum degree of compaction of 95% of the maximum density at optimum moisture content. Moisten backfill material as required to obtain proper compaction.
5. Broken pavement, concrete, sod, roots and debris shall not be used for backfill.
6. Contractor shall, within one-year guarantee period, refill and compact all settled areas to match adjacent grade.

3.06 RACEWAYS

A. GENERAL

1. Cut raceway ends square, ream and extend maximum distance into all couplings and connectors. Tighten all fittings securely.
2. Provide and install manufactured end caps on all raceway ends during construction to prevent the entrance of water or dirt. Tape, as a cover, is not permitted.

3. After final assembly is in place, all raceways shall be thoroughly cleaned and a mandrel, correctly sized for each size of conduit, shall be pulled through all raceways, prior to installing wires or pull cords. Mandreling shall be done in the presence of the Engineer.
4. All elbows for GRS and PVC raceway shall be factory elbows. For all other raceway, use factory ells for bends of 1-1/4-inches and larger diameter.
5. Size all raceways per code unless specifically noted to be larger on the Drawings.

B. Galvanized Rigid Steel Conduit:

1. All connections shall be watertight. Install for all raceways in concrete or where subject to damage.
2. Where hazardous areas are indicated, use GRS and seals to conform to the requirements of the National Electrical Code.

C. Raceways Underground:

1. Galvanized rigid steel conduit - painted with two coats of bitumastic paint - or galvanized rigid steel conduit with 15 mil. Polyvinyl Chloride (PVC) jacket (repair abrasions with PVC base paint or PVC).
2. PVC raceways may be used for underground runs when permitted by code. Field bends, when necessary, shall be formed only with factory recommended heater with radius not less than that noted in the NEC. Penetrations through slabs shall be galvanized rigid steel conduit.
3. Ground wires shall be provided in all PVC Raceway.

D. Inserts, Shields and Sleeves:

1. Furnish and set in place, in advance of pouring slabs and walls, all inserts and sleeves needed to execute Division 26 equipment installation, if applicable to this project.
2. Where supports in slabs are required after wall has been poured, use a drilled-in threaded insert, installed as recommended by manufacturer.

E. Raceways That Stub Up Through Concrete:

1. Install at such depth that the exposed raceway is vertical and no curved section of the elbow is visible.
2. PVC raceway shall not be stubbed through concrete.

F. Sealing of Raceway Penetrations: Exterior surfaces below grade: Cast raceway into concrete or use manufactured seal assembly (such as o.z. type FSK) cast in place.

G. Raceway Supports:

1. Raceways, whether exposed or concealed, shall be securely supported and fastened.
2. When more than two raceways will use the same routing, group together on a patented channel support system (such as Unistrut).

3.07 WIRING

A. General: Install all wiring in raceway unless shown or specifically authorized (in writing) otherwise.

B. Wire Size:

1. Minimum wire size for power circuits shall be #12 AWG.
2. Provide stranded wire for all applications.

C. Tests: Test all wiring connections for continuity and ground before any fixtures or other loads are connected. Test cable with a DC "Megger" type tester. If tests indicate faulty insulation (less than 2 megohms) such defects shall be corrected and tested again. Contractor shall provide all apparatus and Material required to make tests and shall bear all expense of required testing. Results of tests shall be recorded and submitted to the Engineer.

D. Conductor Sizes, Referenced on Plans: All conductors shall be copper with type THW insulation unless noted otherwise. For conductor sizes see equipment manufacturer's specifications.

E. Splices:

1. Feeder, service and branch circuit conductors 8 AWG and larger shall not be spliced.
2. Branch circuits may be spliced in boxes where circuits divide.
3. All splices shall be made mechanically and electrically secure.

F. Pulling: Use no mechanical means for pulling Number 8 AWG conductors and smaller. Use approved lubricants only.

G. Termination:

1. Do not score the conductor when stripping insulation, always pare or pencil when using a blade. Use of a stripping tool is preferable.
2. Terminate all wires and cables at their assigned points of connection at panels, switches, equipment, etc.
3. All terminations shall be secure and tightened in accordance with the manufacturer’s recommendations.

H. Conductors in Panels and Switchboards: Conductors in panels, switchboards and terminal cabinets shall be neatly grouped, fastened and formed in a manner to "fan" into terminals with regular spacing.

I. Cable Supports: Provide conductor support devices as required by code in vertical cable runs.

J. Color Coding:

1. Conductor identification of each phase shall be by color-coded insulation. The color of the insulation of the underground conductors of different voltage systems shall be as follows: 120/240 volt, 3-phase: A-phase black, B-phase red, C-phase blue. Neutral conductors shall be white. Equipment grounding conductors shall be green.
2. Control circuit conductor identification shall be made by sleeve type identifiers, sized for the conductor, or done by equivalent means, as approved by the Engineer. Conductor identification shall be provided within each enclosure where a tap, splice, or termination is made. Control circuit terminals of equipment shall be properly identified.
3. Terminal and conductor identification shall match that shown on approved Shop Drawings. Hand lettering or marking is not acceptable. Where insulation of the required color is not available, electrical tape of the required color shall be half-lapped for the entire length within the indicated enclosures.

K. Underground Installation:

1. Wire and cable shall be inspected for damage during installation.
2. Wire and cable pulling equipment shall be equipped with an accurate gauge to allow continuous monitoring of pulling tension. Pulling tension shall not exceed the manufacturers recommended values. A cable grip shall be used for pulling wire and cable. The pulling force shall be applied directly to the conductor.
3. A swivel shall be placed between the pulling rope and pulling grip.
4. The cable reel shall be mounted on the pulling side of the pay-off manhole to prevent any reverse bending when the cable pays off and be mounted so that it can turn freely.
5. The wire and cable shall be fed through a cable feeder or over sheaves in such a way that it never contacts the edge of the manhole or duct. Bending radius shall never be less than 10 times the conductor or cable diameter. The cable must be fed straight into the duct in the pay-off manhole or handhole and straight out of the duct at the pulling manhole or handhole.
6. Cable under tension shall not be pulled through sheaves (multiple roller or otherwise) without prior approval of the Engineer.
7. Wire and cable shall be adequately lubricated at pay-off end with approved Cable Lubricant.
8. The pay-off reel shall be tended throughout the pulling process.
9. The rate of pull shall be constant and shall not exceed 50 feet per minute.
10. Manholes, handholes and duct banks shall be free from water prior to cable pulling and shall be kept dry until the cable is spliced.

3.08 POWER DISCONNECT SWITCH

A. Install disconnect switch inside controller housing per code requirements.

3.09 PANELBOARD

A. Mounting: Secure in place, plumb and square. Firmly anchor cabinet to mounting panel inside enclosure per Details.
B. Circuit Index: For each branch circuit panelboard: Provide a typewritten index listing each circuit in the panelboard by number with its proper load designation. Mount with a transparent protective cover in a metal frame inside the cabinet door. The listing shall match circuit breaker arrangements typically with odd numbers on the left and even numbers on the right.
C. Cabinet Painting: Clean and touch-up exposed surfaces with paint to match factory finish.
D. Bolted Connections: Inspect all bolted connections after installation and retighten all connections not securely tightened.

3.10 MOTOR STARTER

A. Installation:

1. Three-phase motor starters shall be installed in an accessible location.
2. Install thermal units according to full load current of motors provided and the National Electrical Code.

B. Tests: For each motor, record the name of the load served nameplate full load current, catalog number and ampere rating off the corresponding thermal element and submit to Engineer at the completion of Work.

3.11 GROUNDING

A. General: Provide all grounding for electrical systems and equipment as required by codes and as specified herein.
B. Ground Rods: Provide as shown and/or required. Connect the grounding conductor to each rod.
C. Grounding Conductor:

1. Provide as required by code and as shown on the Drawings.
2. Run grounding conductors inside raceways.

D. Ground Connection of Enclosure: Metal enclosure shall be grounded, as part of this Contract.
E. Connection to the Ground Bus: Provide connections in accordance with the codes; including but not limited to conduit system, switchboard frames, service neutral and electrically operated equipment and devices. No device or equipment shall be connected for electrical service which has a neutral conductor connected to a grounding conductor or to the frame within the device or equipment.

F. Method of Connection: Make all buried grounding connections by a (exothermic) welding process. Unless shown otherwise, make other connections brazing, thermite, welding, or with approved pressure terminals. When making thermite welds, wire brush or file the point of contact to a bare metal surface. Use thermite welding cartridges and molds in accordance with the manufacturer's recommendations. After welds have been made and cooled, brush slag from the weld area and thoroughly clean the joint.

G. Controllers: Ground all irrigation controllers per manufacturer's specifications and as shown in SPR Standard Details.

H. Testing: Measure the OHMIC value of the electric service entrance metallic "system ground" with reference to "earth ground" using the "multiple ground rod" method and suitable instruments. Maximum resistance to ground shall be less than 2 OHMS. If this resistance is not obtained, then add additional ground rods and retest until the resistance is below 2 OHMS.

END OF SECTION 26 05 00

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Work shall consist of furnishing and installing lighting fixtures, poles, mounting hardware and footings. Provide photoelectric controls, time clocks/switches and light fixture maintenance labels as required:

1.02 RELATED SECTIONS

A. ***Section 26 05 00 – Electrical General Work***

1.03 QUALITY ASSURANCE

A. The installer shall be a licensed electrical contractor with a minimum of two years of experience in similar lighting fixture installations.
B. Thoroughly inspect the Project Site, existing electrical panels and other related Work.

1.04 SUBMITTALS

A. Submit Shop Drawings for approval by the Engineer, of all electrical lighting fixtures and associated hardware.

1.05 PRODUCT HANDLING

A. All Materials are to be new and delivered to the Project Site in an undamaged condition. Store Materials off the ground and protect from damage.

PART 2 - PRODUCTS

2.01 LIGHTING FIXTURES, POLES AND BASES

A. For General Use:

1. Light Poles: All poles used for exterior pedestrian or security lighting shall be no higher than 20 feet for ease of maintenance (typical).
2. Decorative Post Light: 16 foot pole, Staff #SA1-SP-1-H100-BK/S35 with silver louver, polycarbonate enclosure with CL-36W-30K, 36 watt light emitting diode (LED) lamp in 3000K color temperature, 120 V – 277V AC.
3. Area Light: Kim #2B/AR3/150/BL type III sharp cut-off distribution, fused, wet label, Lexan shield, black finish with 150 watt high pressure sodium lamp and 120 V ballast.

4. Concrete Pole for Area Light: Centrecon #SBR-5.5-S-613 round concrete pole with base plate for surface mounting.

5. Or, approved equal.

2.02 BALLASTS

A. Ballasts shall be energy efficient or electronic type. Electronic ballast shall have maximum total harmonic distortion of 10% and minimum ballast factor of 95%. Ballasts shall be covered by a two-year warranty against defects and warranty shall include payment for normal labor costs or replacement of inoperative in-warranty ballasts. Provide thermal protectors in fixtures where required by Code.

2.03 THERMAL PROTECTORS

A. Provide thermal protectors in fixtures where required by Code.

2.04 LIGHT FIXTURE MAINTENANCE LABELS

PART 3 - EXECUTION

3.01 INSTALLATION

A. For Lighting Fixtures, the installer must be a licensed electrical contractor, experienced in lighting fixture installations.
B. Fixtures shall be neatly and firmly mounted, using mounting hardware as directed in manufacturer's Specifications and the Plans and Details.
C. Install a photo-cell bypass switch for all applications where photo-cells are specified for outdoor lighting installations.
D. Exterior lighting fixtures shall be constructed and gasketed to prevent entry of dirt and insects and damp or wet labeled as required.
E. Provide reinforced concrete pole bases as indicated. Coordinate with concrete work. Verify exact location of light poles with Engineer prior to placement.
F. Adjust photoelectric controls and time clocks/switches as directed by the Engineer.

END OF SECTION 26 56 00

DIVISION 31

Earthwork

PART 1- GENERAL

1.01 Description: Provide all labor, materials, and equipment to perform the following work of the Contract, including incidentals related to that work and coordination and support of other work specified elsewhere in the Contract Documents:

A. Safety Monitoring & Response.
B. Protection of Existing Features and Work in Progress.
C. Survey for horizontal and vertical control of all work of the Contract.
D. Grading and compaction as required achieving lines and grades on Drawings.
E. Excavation and backfill of trenches for Utilities, including; Irrigation Systems, Potable Water Systems, Storm/Sub-surface Drainage Systems, Sanitary Sewer Systems and Electrical Conduit to lines and grades as shown on the Drawings.
F. Grading & Compaction of sub-grade and base aggregates for Concrete, Concrete Masonry Unit and Asphalt Paving.
G. Placement and compaction of Structural Soils.
H. Removing materials from the site which are in excess of that which is required.
I. Coordinate Earthwork operations for Walls, Abutments, Footings, Building Foundations and other work associated with the project.

1.02 References:

A. City of Seattle Standard Plans and Specifications for Road, Bridge and Municipal Construction (2023).
B. City of Seattle Title: Stormwater Code (2021)
C. R.C.W. - Chapter 39.04.180 Public Works/Trench Excavations - Safety Systems Required.
D. R.C.W. - Chapter 49.17 WISHA. WAC 296-155 - Safety Standards for Construction Work.

1.03 Related Sections: Coordinate related work specified in other parts of the Project Manual, including but not limited to following:

Section 01 56 39 - Temporary Tree, Vegetation, and Soil Protection
Section 02 41 13 - Selective Site Demolition
Section 32 11 23 - Mineral Aggregates
Section 33 30 00 - Sanitary Sewerage Utilities
Section 33 34 00 - Storm Drainage Utilities

1.04 Quality Assurance:

A. The Contractor is responsible for verifying the quality of the work and shall perform compaction and density tests on request of the Engineer to check compliance with these specifications. A copy of the test reports shall be furnished to the Engineer.

B. The Engineer's Testing Agency may perform compaction and density tests to verify compliance with these specifications.

C. The Engineer may require that an independent testing laboratory test imported materials at any time. If the material is found to be non-compliant with the Contract, the Contractor shall bear the cost of testing, removal of all non-compliant materials from the Project Site, and replacement of the materials with materials meeting the requirements of the Contract. If the materials tested are found to be compliant with the requirements of the Contract, the Owner will reimburse the Contractor for costs incurred by testing plus mark-ups as allowed for elsewhere in the Contract.

D. It is the responsibility of the Contractor to verify the accuracy of all survey information provided by the Owner prior to commencing excavations or filling operations. Commencement of these operations constitutes acceptance of the survey information as appropriate to meet the intent of the Contract.

E. Submittals:

1. Safety Products:
   a. Submit for the Engineer's approval manufacturers product data for each worker safety product specified.
   b. Provide current calibration certificates for each piece of mechanical monitoring equipment to be used in the work. Perform field testing of equipment for the Engineers approval prior to commencing excavation.

2. Bulk Materials: The Engineer shall approve in principle all products used in the execution of this section prior to their importation to the Project Site. Submit a particle gradation analysis in graph and table form for each product specified. Approval of the Engineer of an analysis does not constitute approval of the actual product, which may be subject to additional testing at any time per paragraph 1.04.C above.

1.05 Existing Conditions: Documentation regarding existing conditions, in addition to the current survey supplied in the Contract Drawings, includes the following;

A. Project Site Record Drawings: Complete archival documentation of previous improvements made by the Owner at the project site may be reviewed during regular business hours at the offices of the **Park Engineer, located at 800 Maynard Ave. - 3rd Floor, Seattle WA. Telephone 206-684-7034** to arrange review of these documents. Copy services are available for a fee, unless other arrangements are made.

B. Geotechnical and Soils Reports: The Owner shall provide updated geotechnical and/or soils reports in anticipation of this project if they are available. Those reports will be attached in their entirety, for informational purposes only, following this Section.

C. Other Available Information: Other information regarding utilities belonging to jurisdictions other than the Owner may be obtained through the City of Seattle

Department of Parks and Recreation, Seattle Public Utilities (SPU) and/or King County - Metro.

1.06 Manufacturer's Qualifications: The Contractor shall cause the materials that are to be furnished under this section to be the product of firms that are experienced in the manufacture of the specified materials.

PART 2 - PRODUCTS

2.01 General:

A. Prior to the importation of any materials, the Contractor shall provide the Engineer with a certified test lab report of the sieve analysis of each aggregate product. The Engineer shall be the final determining factor in establishing compliance with sieve requirements. No material shall be brought onto the job site until the initial sieve analysis has been approved in writing by the Engineer.

B. During the course of importation of materials, the Contractor shall be responsible for continually checking the materials to insure that they continue to meet the Specifications.

2.02 Safety, Monitoring, & Response Products and Equipment: The Contractor shall provide barricades, safety guards, temporary fencing, signage and/or other methods to secure trenches, open excavations, and other unsafe conditions resulting from this construction. Undertake work in full compliance with all applicable regulatory requirements.

2.03 Storm Drainage Backfill:

A. Perforated Drain Pipe (Non-rigid PVC Pipe) pipe Bedding & Backfill shall be City of Seattle Type 4 Mineral Aggregate (aka 1½" Washed Gravel). Perforated drain pipe bedding shall consist of well-graded mineral aggregate with no fractured surfaces, meeting a particle gradation as follows:

Sieve Size	Percent Passing
1-1/2" square sieve	100
1-1/4" square sieve	90-100
¾" square sieve	0-20
3/8" square sieve	0-2

B. Solid Pipe/Tight Line (Non-rigid PVC):

1. Bedding in solid pipe storm drainage trenches, shall be City of Seattle Type 22 Mineral Aggregate (aka 3/4" crushed gravel, bearing no naturally occurring or worn surfaces).

2. Backfill for solid piped drainage shall be of native soils occurring on-site, only if those soils meet or exceed the gradation standards for City of Seattle Type 17 Mineral Aggregate (aka Bank Run Gravel), per the City of Seattle

Standard Specifications (most recent edition) and/or Section 32 11 23 - Mineral Aggregates, or as approved by the Engineer.

2.04 Crushed Surfacing Top Course shall be City of Seattle Type 1 Mineral Aggregate (3/4" minus crushed rock), bearing no naturally occurring or worn surfaces, per City of Seattle Standard Specifications (most recent edition) and/or Section 32 11 23 - Mineral Aggregates.

2.05 Storage Reservoir shall be City of Seattle Type 13 Mineral Aggregate (2-1/2" crushed rock).

2.06 Selected Backfill (Common Fill): Where on-site soils prove to be insufficient in quantity or quality to achieve design sub-grades and compaction levels, imported fills may be accepted upon approval of the Engineer. Selected Backfill (Common Fill) shall be Type 17 (Bank Run Gravel), available from a recognized commercial source meeting the following sieve gradation, per the City of Seattle Standard Specifications (most recent edition).

A. Organic content shall be no greater than 8% dry weight.

B. Variations to this particle gradation may be considered dependent on the application.

C. Submit to the Engineer a written request to import Selected Backfill (Common Fill) including the total volume of import anticipated (or range) and the source including name, address, and phone number of supplier, and geographic source of the material proposed to be imported.

2.07 Utility Pipe Tracer Tape: Shall be detectable below ground surface and color coded, with utility name printed on the tape. Conductive Warning Tape is required over all water, sewer, drainage, irrigation pipe and electrical conduit. Tape shall be manufacturer's standard permanent, bright-colored, continuous printed plastic tape, aluminum backed, intended for direct-burial service. Tape shall be not less than 3" wide x 4 mils thick.

Tape Schedule:	Piping	Color	Wording
	Sanitary Sewer	Green	Caution - Sanitary Sewer
	Storm Drain	Green	Caution - Storm Drain
	Irrigation Systems	Blue	Caution - Irrigation
	Domestic Water	Blue	Caution - Water
	Electrical Conduit	Red	Caution – Electrical

PART 3- EXECUTION

3.01 Safety Monitoring & Response: In addition to all current State and Local Safety Requirements;

A. Maintain conformance to the Contractors Health and Safety Plan.

B. When working in the presence of landfill materials (exposed refuse), the Contractor shall conform to all appropriate WAC codes and practices.

3.02 Protection of Existing Facilities:

A. Refer to Division 1 Specifications, for information pertinent to the protection of all existing facilities.

B. It is understood that there will be interfering utilities, service laterals and other underground pipes, drains or structures encountered that are not shown, or areas shown incorrectly on the plans, or have not been previously discovered in the field. Contractor agrees this is a normal and usual occurrence in the construction of underground improvements. Furthermore, Contractor understands and agrees that work in some cases must be done in close proximity to said utilities and underground pipes, drains and structures not shown or shown incorrectly on the plans, which may require a change in operations and may cause sloughing of the trench, additional traffic control, additional pavement and backfill costs and time. The Contractor agrees that these occurrences are usual and ordinary, and are reflected in the bid and plan of operation.

C. Contractor agrees to provide for these conflicts and interferences and agrees to provide for a reasonable amount of time for design changes and/or utility relocations due to said interferences.

D. Repair and or replacement of damaged facilities to the Engineer’s satisfaction will be accomplished at the Contractor's expense.

3.03 Protection of Work In Progress: It is the responsibility of the Contractor to protect all work in progress from damage due to extremes of cold, moisture, or drying, or mechanical damage from equipment traffic or foot traffic. Alert the Engineer to the presence or likelihood of conditions that may adversely affect the quality of the work, the physical structure of soils, or transport of site soils off-site.

A. Do not work frozen soils.

B. Protect soils from excessive moisture. During periods of prolonged precipitation, take aggressive steps to avoid over-saturation, erosion, or homogenization of soils by covering with protective plastic sheeting, collection and controlled dewatering, detention for sediment removal, and allowing excessively wetted soils to remain fallow until approved by the Engineer as appropriate for continued work. It shall be the Contractor’s sole responsibility for soils that are contaminated by the weather and/or by his/her construction activities.

C. Apply supplemental moisture to overly dry soils.

D. Do not operate heavy equipment near excavations where trench wall or cut-slope failure may result.

3.04 Earthwork - General:

A. Removal of materials beyond indicated sub-grade elevations or dimensions without specific direction of the Engineer is not authorized. Unauthorized excavation, as well as remedial work directed by the Engineer, shall be at the Contractor's expense.

B. Stability of excavations:

1. Sides of excavations to be vertical as shown on the Drawings. Maintain sides of excavations in a clean and safe condition until completion of back filling.
2. Shoring and bracing are required at excavations deeper than 4 feet below adjacent existing grade. All shoring and bracing shall conform to the requirements of the Seattle Standard Specifications (most recent edition) and requirements of the Washington Industrial Safety and Health Act.

C. Dewatering: Prevent surface and subsurface water from flowing into excavations and from flooding project site. Establish and maintain temporary drainage ditches and other diversions outside excavation limits to convey rain water and water removed from excavations to collecting or run-off areas. If required, line ditches and sumps with coarse-grained material that acts as a filter. Do not use trench excavations as temporary drainage ditches. All dewatering shall conform to the requirements of the City of Seattle Standard Specifications (most recent edition) and Title 22.802 of the City of Seattle Stormwater, Grading, and Drainage Control Code (most recent edition).

D. Material Storage: Stockpile satisfactory excavated materials where directed, until required for backfill or fill. Place, grade, and shape all stockpiles for proper drainage.

E. Locate and retain soil materials away from edge of excavations and drip lines of trees to remain.

F. Dispose of excess soil material and waste materials as herein specified.

3.05 Grading:

A. Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finished surface within specified areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades. Finish surfaces free from irregular surface changes.

B. Landscape planting, lawns, and other landscape repair areas finish grade to be minus 1/2 inch from adjacent paving surfaces with smooth transition to adjacent grades.

3.06 Excavation:

A. Layout: All work shall be surveyed and staked by the Contractor as required to complete earthwork. Maintain all benchmarks, control monuments and stakes, whether newly established or previously existing. Protect from damage and

dislocation. If necessary to disturb existing benchmarks, re-establish in a safe place. Notify Engineer a minimum of 3 days prior to excavation of work areas. Engineer shall inspect staking and layout of work.

B. Excavation for Trenches: Provide neat trenches to the depth, slope (where appropriate) and width as indicated in the Contract Drawings. Allow for import of surfacing materials and bedding. Provide clean, smooth trench walls and trench floors.

3.07 Excavation Safety Systems: Provide all trench excavation in excess of 4 feet in depth with a safety system conforming to the referenced requirements.

3.08 Compaction:

A. General: Control soil compaction during construction providing minimum percentage of density specified for area classification. Do not allow equipment traffic to overly compact areas beyond specified percentages. Remediate over-compaction as directed by the Engineer including ripping, re-grading and re-compaction or over-excavation and in-kind replacement per plan.

B. Percentage of Maximum Density Requirements: Compact soil to not less than the following percentages for maximum density for soils which exhibit a well-defined moisture density relationship (cohesive soils) determined in accordance with ASTM D698; and not less than the following percentages of relative density; determined in accordance with ASTM 4253, for soils which will not exhibit a well defined moisture density relationship (cohesionless soils).

1. Backfill:
   a. Solid Piped Drainage Bedding under pipe- 95%
   b. Solid Piped Drainage Bedding over pipe - 75%
   c. Solid Piped Drainage Backfill - 95%
   d. Perforated Piped Drainage Bedding and Top Lift, water settle, 75%.
   h. Over excavation Backfill of Existing Sub-grade to remain - 95%

2. Sub-grades:
   a. Sub-grade soils in lawn areas (outside Playfield) - 75%
   b. Sub-grade soils on Playfield - 90%
   c. Base Sand on Playfield - 95%
   d. Sub-grade soils in landscape planting areas - 70%
   e. Import aggregate base material in paving areas - 95%.

3. Surface Fills:
   a. Playfield Soils - 85%
   b. Planting Soils - 70%
   c. Structural Soils - 95%
   d. Fills on slopes exceeding 3:1, to prevent erosion – shall be determined on a project by project basis based on recommendations by the Engineer and the Geo-technical Engineer of Record for the project.

C. Moisture Control:

1. Where sub-grade or lift of soil material must be moisture conditioned before compaction, uniformly apply water to surface of sub-grade, or layer of soil material, to prevent free water appearing on surface during or subsequent to compaction operations.
2. Before compaction, moisten or aerate each layer as necessary to provide optimum content. Compact each layer to required percentages of maximum dry density or relative dry density for each area classification.
3. Do not perform compaction operations on excessively wetted soils.

3.09 Trench Backfill:

A. Place fill materials in specified lifts to required sub-grade elevations, for each area classification as described in this Section.

B. Backfill excavations as promptly as work permits, but not until completion of the following:

1. Inspection, testing, approval, and recording locations of underground utilities.
2. Removal of shoring and bracing, and back filling of voids with satisfactory materials.
3. Removal of trash and debris.

C. Placement and Compaction: Place backfill and fill materials in layers of 2’ maximum loose depth for material compacted by heavy compaction equipment and 1’ maximum loose depth for material compacted by hand operated tampers. All compaction shall be by mechanical methods. Water settling may be used for Perforated Piped Drainage aggregates only. Do not place backfill for fill material on surfaces that are overly wet or dry, frozen, or graded inconsistently.

D. Perforated Pipe Drainline Trench Backfill:

1. Provide a single, consistent 4” lift of Perforated Pipe Drainage Bedding.
2. Coordinate installation of piping per the requirements of Section 33 34 00 - Storm Drainage Utilities.
3. Upon Engineers approval of installation of Perforated Pipe Drainage, backfill with Perforated Pipe Drainage bedding to within 12” of the design sub-grade.
4. Place a uniform 6” settled lift of Slotted Underdrain Pipe Drainage Middle Lift Aggregate.
5. Complete installation with 6” settled lift of Perforated Pipe Drainage Top Lift Aggregate to design sub-grade.
6. Where design depths of pipe do not accommodate the installation of the three specified products as described, delete the installation of middle lift aggregate following identification of the limit of the area to be modified and the approval of the Engineer.

E. Solid Piped Drainline Trench Backfill:

1. Provide a single, consistent 4” compacted lift of Solid Piped Drainline Trench Bedding.
2. Coordinate the installation of Solid Piped Drainlines per the requirements of Section 33 34 00 - Storm Drainage Utilities.
3. Upon approval of the Engineer of installation of Solid Piped Drainlines, install an additional single lift of Solid Piped Drainage Bedding in a thickness allowing a minimum 4” compacted cover over crown of Solid Pipe.
4. Complete installation with specified native soils or approved Common Fill compacted to design sub-grade.

3.10 Pavement Base Backfill:

A. Provide a minimum 6” compacted lift of specified Pavement Base Aggregate true to the elevations either described or implied in the Contract Drawings or as required to match adjacent existing pavements or landscapes, and a minimum of 4” beyond the horizontal layout lines of pavement or as indicated on the Contract Drawings.

B. Pavement Bases shall be graded such that upon approval of compaction, the surface of the Base is at the correct elevation to receive pavement to design finished grade.

3.11 Backfill of Over-excavations: Backfill over-excavations with approved excess native soils or approved Common Fill true to the design elevations per the Contract Drawings unless otherwise directed. Install and compact to specified rates in lifts not exceeding 8” of loose material.

3.12 Disposal of Excess and Waste Materials: Remove from the Owner's property, all waste materials, including unacceptable excavated material, trash and debris, and dispose of it off site in a legal and timely manner. Provide dump receipts from an approved dumpsite if directed.

END OF SECTION

PART 1 – GENERAL

1.01 Summary:

A. This Section includes specifications for clearing, grubbing, and disposing of vegetation, including bushes, brush, trees, stumps, roots, rubbish, refuse, trash, and debris within the indicated site limits.

B. Related Sections: The work of the following Sections is related to the work of this Section. Other Sections, not referenced below, may also be related to the proper performance of this work:

Section 01 56 39 - Temporary Tree, Vegetation, and Soil Protection
Section 02 41 13 - Site Demolition
Section 31 00 00 - Earthwork

PART 2 – PRODUCTS

2.01 Materials & Equipment:

A. Furnish materials, tools, equipment, facilities, and services as required for performing site clearing, grubbing.

PART 3 – EXECUTION

3.01 Preparation:

A. For sites that are identified possible Archaeological Sites or possible landfills or historic “dump” sites, prior to clearing and grubbing operations, the Contractor shall notify the Engineer at least one week in advance of planned activities and make work sites available to SPR’s Consulting Archaeologist for observation. Notify the Engineer in the event artifacts are discovered during clearing work.

B. Dispose of cleared, grubbed, and removed material away from the site. Burying and burning of materials at the site is not permitted. Stockpile salvaged material in a secured location.

C. Clear and restore areas used for the Contractor's convenience; restore areas to original condition providing mulching, seeding, and planting as required.

D. Protect survey markers and monuments, existing improvements, existing observation wells and piezometers, and adjacent properties from removal and damage.

E. Protect all trees, lawns, and planted areas that are not in direct conflict with the work shown on the Contract Documents. Restore all on-surface disturbed areas to a condition satisfactory to the Engineer.

F. Review with the Resident Engineer the location, limits, and methods to be used before clearing work. Perform clearing and grubbing in compliance with all local, state, and federal laws and requirements pertaining to clearing and grubbing.

G. Care of Existing Trees: Protect trees and plants indicated in the Contract Documents to remain and to be preserved as specified in Section 01 56 39 - Temporary Tree & Plant Protection.

3.02 Clearing and Grubbing:

A. Clear the site within the limits indicated on the Contract Documents and remove cleared materials and debris from the site. Unless otherwise indicated, clearing and grubbing includes removal of all roots, grass and debris from the existing ground.

B. Remove stumps and roots completely in excavation areas and under embankments where the original ground level is within 3-1/2 feet of sub-grade or slope of embankments. In embankment areas, where the original ground level is more than 3-1/2 feet below the sub-grade or slope of embankment, cut off trees, stumps, and brush to within 6 inches of the ground.

C. Do not start earthwork operations in areas where clearing and grubbing are not complete. Stumps and large roots may be removed concurrently with excavation.

1. Where the work includes requirements for wood chip mulch, acceptable material from clearing and grubbing activities may be used to produce such mulch.

D. Demolition/Removal:

1. Coordinate the work of this Section with the work of Section 02 41 13, Selective Site Demolition, as required to remove existing pavements, curbs, structures, and site improvements which interfere with new construction and where demolition is not indicated.

E. Disposal of Cleared Vegetation, Grubbed Material and Waste:

1. Dispose of in a safe, acceptable manner, in accordance with applicable laws and ordinances.
   a. Do not bury or burn trash and/or debris on the site.
   b. Remove cleared vegetation, grubbed material and waste from the site at frequent intervals so that its presence will not delay the progress of the Work or cause hazardous conditions for workers and the public.

c. Removed materials, waste, trash, and debris shall become the property of the Contractor. Remove such materials from the Site and dispose of in a legal manner. It is the responsibility of the Contractor to locate disposal sites and determine length of haul route.

2. Backfill: Backfill excavations resulting from work under this Section in accordance with applicable requirements of Section 31 00 00 - Earthwork.

END OF SECTION

PART 1 – GENERAL

1.01 Description: The work of this section shall consist of clearing, grubbing, removing and disposing of all vegetation and debris which are within work limits as designated on the contract drawings except such objects as are designated to remain or are to be removed in accordance with other sections of these specifications. This work shall also include the preservation from injury or defacement of all vegetation and objects designated to remain.

1.02 Related Sections:

Section 01 56 00 - Temporary Fencing
Section 01 56 39 – Temporary Tree , Vegetation, and Soil Protection
Section 02 41 13 - Selective Site Demolition

PART 2 – PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 Trees shall be felled and removed in such a manner as to avoid injury to other trees or other objects designated to remain. Clearing and grubbing and related work shall be accomplished only in the areas as designated on the contract drawings.

A. Clearing: Shall include the cutting and removal of all trees, brush and other designated unwanted growth and the removal and disposal of logs, rubbish piles, refuse, and other objectionable or unwanted matter.

B. Grubbing/Stump Grinding: Shall include the removal of all stumps, roots and other objectionable or unwanted matter, lying wholly or in part below the surface of the ground to a minimum depth of 3 feet below grade.

3.02 Protection: Objects designated to remain shall be carefully protected during construction operations in accordance with Section 01 56 39 – Temporary Tree, Vegetation, and Soil Protection.

3.03 Disturbance: In case of injury to the bark, limbs or roots of vegetation designated to remain, the Contractor shall repair such damage by corrective pruning or other methods, to be approved by the Engineer and/or SPR's Senior Urban Forester. Low hanging branches and unsound or unsightly branches on trees or shrubs designated to remain shall be removed as directed. All trimming shall be done by an ISA Certified Arborist and in accordance with good tree surgery practices.

3.04 Holes from which designated vegetation is removed: All holes or depressions shall be backfilled with Structural Soil and compacted as specified in other sections (refer to Section 31 00 00 - Earthwork) of these specifications.

3.05 Disposal: All cleared and grubbed materials shall be recycled and/or disposed of by the Contractor as specified or directed by the Engineer. Unless otherwise specified, all merchantable timber shall become the property of Seattle Parks and Recreation. The Contractor shall deliver merchantable timber to SPR facility as directed by the Engineer.

3.06 Tree Replacement Note: All trees that are designated for removal by the Engineer and SPR's Senior Urban Forester shall be replaced at a two to one (2:1) ratio as part of the project design**,** per the City of Seattle's directive for tree removal and replacements on public properties. If trees are removed due to damage by the Contractor, it is the Contractor's responsibility to provide the two to one replacement of the tree(s).

END OF SECTION

DIVISION 32

Exterior Improvements

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Aggregates for Concrete, Asphalt, Reinforced Turf, and Granite and Crushed Stone Paving Work. Also includes aggregates for various Sanitary and Storm Utility Work.

1.02 RELATED SECTIONS

Section 32 13 13 – Concrete Paving

Section 33 30 00 – Sanitary Sewerage Utilities

Section 33 34 00 – Storm Drainage Utilities

1.03 SUBMITTALS

A. Submit material gradation sieve analysis per ASTM D-422.

1.04 GENERAL REQUIREMENTS

A. Mineral Aggregates shall be composed of clean, uniform in quality and particulate size groups, essentially free from wood Waste and other deleterious Materials. They shall be obtained only from sources approved by the Engineer.

1. Written requests for source approval shall be submitted to the Engineer not less than 10 days prior to the intended use of the Mineral Aggregate.
2. Should the proposed source be one that the Engineer has no history of Material performance with, the Engineer reserves the right to take preliminary samples at the proposed source, and make preliminary tests, to first determine acceptability of the new source and then perform the applicable Material approval testing.
3. Continued approval of a source is contingent upon the Mineral Aggregates from that source continuing to meet Contract requirements.

B. Mineral aggregates shall meet the requirements of the Standard Specifications for grading and quality for use in the Work; however, allowable exceptions may be specified in other Project Manual Sections.

C. Crushed concrete shall meet the requirements specified in the Aggregate for Bases and Ballasting and Crushed Surfacing Subsection of this Section as applicable.

D. All percentages are by weight unless otherwise specified.

PART 2 - PRODUCTS

2.01 AGGREGATE FOR BASES

A. At the option of the Contractor, and approval of the Engineer, recycled concrete crushed to the requirements of this Section will be permitted as a substitute for Mineral Aggregate (Type) with the following exceptions:

1. In exposed areas.
2. Where free drainage is required.
3. For pavement base and sub-base when wet conditions exist.

B. Recycled aggregates include recycled concrete and recycled asphalt concrete.

C. At least 10 working days in advance of ordering, the Contractor, including Subcontractor at any tier, must allow the Engineer or its representative full and unrestricted access to its facilities for inspection, observation, sampling, and testing purposes. Samples as identified below may be requested by the Engineer. The Engineer's representative must be present when sampled, or will not be accepted for testing, unless so permitted by the Engineer.

1. If requested, a 75-pound sample of adequately broken recycled Portland cement concrete shall be submitted to the Engineer for approval.

    a. Testing for determination of degradation value and abrasion of coarse aggregates by use of the Los Angeles Machine will be done in accordance with this Section.
    b. In addition, the source of any native material that may be blended with the recycled Portland cement concrete rubble shall also meet these same requirements for the Mineral Aggregate Type being used.

2. A sample of recycled asphalt concrete shall be tested for the following:

    a. A maximum of 15% by weight of recycled asphalt concrete pavement may be used in the blended product.
    b. The asphalt concrete content is calculated as the amount of asphalt particles retained on all screens 1/4 inch and above for the Mineral Aggregate being used.

D. The recycled aggregates shall be stockpiled in such a manner that each certified test report can be identified with a single stockpile of not more than 10,000 tons.

E. The Contractor shall submit a Manufacturer's Certificate of Compliance including certified laboratory test reports certifying that the recycled material is neither hazardous nor toxic.

1. This certification shall address the toxicity characteristics, and sampling and testing, in accordance with Chapter 173-303 WAC.
2. Sampling and testing shall be one sample per 10,000 or less tons from any single source, and not less than one sample from any single source.

F. Gradation, sand equivalent, L.A. Abrasion, fracture, and other requirements, as applicable, for each Mineral Aggregate shall be per requirements of this Section.

2.02 BALLASTING AND CRUSHED SURFACING

A. Material Requirements:

1.	Dust Palliative:	Dust Palliative Oil CMS-2
2.	Roadway Ballast:	Mineral Aggregate Types 2 and 14
3.	Shoulder Ballast:	Mineral Aggregate Type 13
4.	Base Course:	Mineral Aggregate Type 2
5.	Crushed Surfacing:	Mineral Aggregate Type 1
6.	Maintenance Rock:	Mineral Aggregate Type 3
7.	Sand Filler:	Mineral Aggregate Type 11
8.	Dust Palliative Sand:	Mineral Aggregate Type 6
9.	Gravel Base:	Mineral Aggregate Type 17

B. Crushed Gravel, Mineral Aggregates Type 1G and Type 2G shall not be used as a substitute for Mineral Aggregates Type 1 and Type 2 except when specified in the Contract Documents for specific locations or uses.

1. The Contractor shall provide written notification of these substitutions as required in Section 00 72 00 - General Conditions, Paragraph 1.03.R.

C. Crushed gravel Mineral Aggregates Type 1G and Type 2G shall not be used as a base course Material under asphalt concrete pavement, unless the Pavement Structure is a composite Pavement Structure consisting of asphalt concrete over Portland cement concrete base (or rigid base).

D. Crushed gravel may be used as a substitute for base course under Portland cement concrete pavement.

E. Recycled concrete crushed to the requirements of this Section and proposed for pavement base or Sub-base where wet conditions do not exist, will be permitted as a substitute for gravel base when approved by the Engineer, and shall meet the requirements of this Section.

2.03 AGGREGATES FOR ASPHALT CONCRETE

A. General Requirements:

1. Aggregates for HMA shall be manufactured from ledge rock, talus, or gravel, per COS Standard Specification 3-01 – Test Methods for Aggregates.
2. The Material from which they are produced shall meet the following test requirements:

a. Los Angeles Wear, 500 Rev.: 30% max.
b. Degradation Factor, Wearing Course: 30 min.
c. Degradation Factor, Other Courses: 20 min.

3. It shall be uniform in quality, substantially free from wood, roots, bark, extraneous materials, and adherent coatings.

   a. The presence of a thin, firmly adhering film of weathered rock is not considered as coating unless it exists on more than 50% of the surface area of the aggregate retained on any size sieve.

4. Aggregate removed from deposits contaminated with various types of wood waste shall be washed, processed, selected, or otherwise treated to remove sufficient wood waste so that the oven-dried Material retained on a US No. 4 sieve shall not contain more than 0.1% by weight of Material with a specific gravity less than 1.0.

B. Test Requirements:

1. Aggregate for HMA shall meet the following test requirements:

   a. The aggregate must meet the flat and elongated shape requirements measured as percent by weight of flat-elongated per ASTM D 4791. The percent must not exceed 10% and the ratio must be 5:1.
   b. The fracture requirements for the combined coarse aggregate in the table below must apply to the aggregate retained on each sieve U.S. No. 4 and larger when tested per AASHTO T 335:

"Design ESALs" (Millions)	**No. Fractured Faces**	**% Fracture**
<10	1	90
≥10	2	90

   c. The uncompacted void content for the combined fine aggregate is tested per Test Method for AASHTO T 304, Method A. The minimum voids must be 45%.

2. The minimum sand equivalent must be 45. During verification by the Laboratory, the mix design must produce HMA mixtures that when combined within the limits specified in COS Standard Specification Section 9-03.6(6) and mixed with the designated grade of asphalt binder, using the Superpave gyratory compactor per AASHTO T 312, and at the required gyrations for N design with the following properties:

	HMA Class							
	3/8 Inch		1/2 Inch		3/4 Inch		1 Inch	
HMA Mix Criteria	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
Voids in Mineral Aggregate (VMA), %	15.0	--	14.0	--	13.0	--	12.0	--
ESALs (Millions)	**Voids Filled with Asphalt (VFA), %**							
< 0.3	70	80	70	80	70	80	67	80
0.3 to < 3	65	78	65	78	65	78	65	78
3 to < 10	73	76	65	75	65	75	65	75
10 to < 30	73	76	65	75	65	75	65	75
≥ 30	73	76	65	75	65	75	65	75
Dust / Asphalt Ratio	0.6	1.6	0.6	1.6	0.6	1.6	0.6	1.6
Tensile Strength Ratio	80 min. / no visible damage							
	ESALs (Millions)		**$N_{Initial}$**		**N_{Design}**		**$N_{Maximum}$**	
% G_{mm}	< 0.3		≤ 91.5		96.0		≤ 98.0	
	0.3 to < 3		≤ 90.5		96.0		≤ 98.0	
	≥ 3		≤ 89.0		96.0		≤ 98.0	
Gyratory Compaction (number of gyrations)	< 0.3		6		50		75	
	0.3 to < 3		7		75		115	
	3 to < 30		8		100		160	
	≥ 30		9		125		205	

3. During the production run of each approved JMF, the HMA will not be evaluated for VMA or VFA for quality assurance purposes. The fine aggregate angularity, flat and elongated particles, and fracture and sand equivalent requirements apply at the time of HMA production.

C. Grading:

1. The Contractor may furnish aggregates for use on the same Contract from a single stockpile or from multiple stockpiles, as long as all aggregate is from the same source. The gradation of the aggregates, including any use of RAP, mineral filler, and blending sand, must be such that the completed mixture complies in all respects with Section 09-03.6(6) Acceptance of the aggregate gradation will be based on samples taken from the final mix:
2. Recycled Asphalt Pavement (RAP).
   a. Asphalt concrete planings or old asphalt concrete utilized in the production of asphalt concrete must be sized before entering the mixer so that a uniform and thoroughly mixed asphalt concrete is produced in the mixer. If there is evidence of the old asphalt concrete not breaking down during the heating and mixing of the asphalt concrete,

the Engineer may elect to change the maximum size entering the mixer. No contamination by deleterious materials will be allowed in the old asphalt concrete used.

b. RAP may be added to the mix in the proportions specified in COS Standard Specification Section 5-04.2(1). The Contractor is responsible for gradation for the new aggregate used in the production of the asphalt concrete, and when combined with recycled material, the combined Material must comply with the gradation Specifications of COS Standard Specification Section s 9-03.6(6) and 9-03.6(7) for the specified class of HMA, unless the Contract specifies otherwise. The new aggregate must comply with the general COS Specifications in Section 9-03.6(1) and must comply with the appropriate fraction COS Specifications in Section 9-03.6(2) item 2 for coarse aggregate, and sand equivalent requirements specified in COS Standard Specification Sections 9-03.6(2) and 9-03.6(4) for blending sand.

3. Recycled Portland Cement Concrete Rubble and Steel Furnace Slag:
   a. Recycled Portland cement concrete rubble and/or steel furnace slag may be blended with virgin aggregates in the proportions specified in COS Standard Specification Section 9-03.16(1)E. The proportion of each of these Materials in the mix will be considered independently and not cumulatively. The final mix must comply with the COS Specifications in Section 9-03.16(1)B and 9-03.16(1)D respectively.
   b. The Contractor must indicate on the mix design submittal the percentage of each in the proposed mix design.
4. Blending Sand:
   a. Blending sand must be clean, hard, sound Material, either naturally occurring sand or crusher fines, and must be material which will readily accept an asphalt coating. The exact grading requirements for the blending sand must be such that, when it is mixed with an aggregate, the combined product must comply with CAS Standard Specification Section 9-03.6(6) for the specified class of HMA. Blending sand must have a sand equivalent value of at least 30.
5. Mineral Filler:
   a. Mineral filler, when used in HMA, must conform to the requirements of AASHTO M 17.
6. HMA Proportions of Materials:
   a. The Materials of which HMA is composed must consist of such sizes, grading, and quantity that when proportioned and mixed together, produce a well-graded mixture complying with the requirements that follow.
   b. The Contractor’s HMA mix design must be between the following control points:

HMA Aggregate Gradation Control Points				
	Percent Passing			
Sieve Size	**HMA Class 3/8 Inch**	**HMA Class 1/2 Inch**	**HMA Class 3/4 Inch**	**HMA Class 1 Inch**
1 1/2" square				100
1" square			100	90-100
3/4" square		100	90-100	90 maximum
1/2" square	100	90-100	90 maximum	
3/8" square	90-100	90 maximum		
U.S. No. 4	90 maximum			
U.S. No. 8	3-67	28-58	23-49	19-45
U.S. No. 200	2.0-7.0	2.0-7.0	2.0-7.0	1.0-7.0

c. The aggregate percentage refers to completed dry mix and includes mineral filler when used.

7. HMA Tolerances and Adjustments:

a. After the Job Mix Formula (JMF) is determined as specified in COS Standard Specification Section 5-04.3(6), the constituents of the mixture at the time of acceptance must conform to the following tolerances:

Aggregate, Percent Passing[1]	Tolerance
1", 3/4", 1/2" and 3/8" sieves	± 6% each sieve
U.S. No. 4 sieve	± 6%
U.S. No. 8 sieve	± 6%
U.S. No. 200 sieve	± 2.0%
Asphalt binder	± 0.5%
VMA[2]	1% below minimum value in Section 9-03.6(2)
VFA[2]	Min. and Max. as listed in Section 9-03.6(2)
V_a[3]	2.5% minimum and 5.5% maximum

[1] The tolerance limit for aggregate must not exceed the limits of the control points specified in COS Standard Specification Section 9-03.6(6), except the tolerance limits for sieves designated as 100% passing must be 99 to 100. The tolerance limits on sieves must only apply to sieves with control points.
[2] The tolerances for VMA and VFA are for mix verification only.
[3] The tolerance for V_a is for mix verification and acceptance.

b. Adjustments beyond the limits below require approval by the Engineer and require the development of a new mix design.

1) Aggregates: The Engineer may approve the Contractor's written request to adjust the JMF. The maximum adjustment from the approved mix design must be 2% for the aggregate retained on the U.S. No. 8 sieve and above, 1% for aggregate passing the U.S. No. 8 sieve, and 0.5% for the aggregate

passing the U.S. No. 200 sieve. These field adjustemtns to the JMF will only be considered if the changes produce Material of equal or better quality. The adjusted JMF and allowed tolerances must be within the range of the control points specified in COS Standard Specification Section 9-03.6(7). Va of the adjusted JMF must remain within the limits shown above.

2) Asphalt Binder Content: The Engineer may order the Contractor, or may approve the Contractor's written request, to change the JMF asphalt binder content a maximum of 0.3% from the approved mix design.

2.04 AGGREGATES FOR PORTLAND CEMENT CONCRETE

A. General Requirements:

1. Portland cement concrete aggregates shall be manufactured from ledge rock, talus, or sand and gravel in accordance with the provisions of Section 3.01 – Test Methods for Aggregates.
2. They shall possess the characteristics of shape and size such that the concrete, resulting from a mixture of fine and coarse aggregates in the specified proportions, has workability acceptable to the Engineer.
3. Regardless of compliance with all other provisions of these Specifications, if the concrete is not of a workable character, or does not exhibit a proper surface when finished, either the fine or the coarse aggregate or both, will be rejected, or shall be altered as required by the Engineer.
4. If, in the judgment of the Engineer, based on previous experience or on Laboratory tests, concrete aggregates from a given source are detrimentally reactive with Alkalies in Portland cement, corrective measures, including use of only low-alkali cement may be required as a condition of approval.

B. Fine Aggregate for Portland Cement Concrete:

1. General:

a. Fine aggregate for Portland cement concrete shall consist of sand or other inert Materials, or combinations thereof, approved by the Engineer, having hard, strong, durable particles free from adherent coating. Fine aggregate shall be washed thoroughly to remove clay, loam, alkali, organic matter, or other deleterious matter.

2. Deleterious Substances:

a. The amount of deleterious substances in the washed aggregate shall not exceed the following values:

1) Particles having a specific gravity less than 1.95 shall not exceed 1.0% of total weight.
2) Organic matter, by calorimetric test, shall not be darker than the reference standard color (organic plate No. 3) AASHTO T 21 unless other tests prove a darker color to be harmless.

3. Grading:

a. Fine aggregate for Portland cement concrete shall be graded to conform to the following requirements expressed as percentages by weight:

Sieve Size/Number	(Paving/State)		(Building/Concrete)	
	Class 1		Class 2	
	Max.	Min.	Max.	Min.
3/8" Square	100	100	---	---
% Passing No.4	100	95	100	95
% Passing No.8	86	68	95	85
% Passing No.16	65	47	80	45
% Passing No.30	42	27	60	40
% Passing No.50	20	9	30	10
% Passing No.100	7	0	10	2
% Passing No.200 (wet sieving)	2.5	0	2.5	0

Sieve Size/Number	Permissible Variation in Individual Tests
No. 30 and coarser	2.0%
No. 50 and finer	0.5 %

4. Use of Substandard Gradings:

a. Fine aggregate with more than the maximum percentage passing any sieve may be accepted provided the cement content of the finished concrete is increased, at the Contractor's cost, by 1/3% for each 1% the fine aggregate passing each sieve is in excess of the maximum.
b. Under no circumstances shall fine aggregate Class 1 be used, which has a grading finer than the following:

Sieve Size/Number	Percent Passing
U.S. No. 8	95
U.S. No. 16	80
U.S. No. 30	60
U.S. No. 50	25
U.S. No. 200	2.5

C. Coarse Aggregate for Portland Cement Concrete:

1. General:

   a. Coarse aggregate for Portland cement concrete shall consist of gravel, crushed stone, or other inert Material or combinations thereof approved by the Engineer, having hard, strong, durable pieces free from adherent coatings. Coarse aggregate shall be washed thoroughly to remove clay, silt, bark, sticks, alkali, organic matter, or other deleterious Material. When required by the Engineer, coarse aggregate shall be handpicked to remove harmful Material.

2. Deleterious Substances: The amount of deleterious substances shall not exceed the following values:

a.	Amount finer than U.S. No. 200	0.5%
b.	Pieces with a specific gravity less than 1.95	2.0%
c.	Clay lumps	0.5%
d.	Shale	2.0%
e.	Wood Waste	0.05%

3. Wear In Los Angeles Machine:

   a. Coarse aggregate shall not have a percentage of wear in the Los Angeles machine in excess of 35 after 500 revolutions in accordance with ASTM C 131.

4. Grading:

Sieve Size/Number	Percent Passing							
	Grading No. 2		Grading No. 4		Grading No. 5		Grading No. 6	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1½" square	100	100	---	---	---	---	---	---
1¼" square	95	100	90	100	---	---	---	---
1" square	---	---	---	---	100	---	---	---
¾" square	40	70	0	20	80	100	100	---
½" square	---	---	---	---	---	---	90	100
3/8" square	5	20	0	2	10	40	40	90
U.S. No. 4	0	2	---	---	0	4	5	30
U.S. No. 200	0	0.5	0	0.5	0	0.5	0	0.5

a. In individual tests, a variation of 4% under the minimum percentages or over the maximum percentages will be allowed. The average of three successive tests shall be within the percentages stated above.

b. Coarse aggregate shall contain no pieces larger than two times the maximum sieve size for the specified grading measured along the line of greatest dimension.

c. Acceptance of grading and quality of the aggregate will be based on samples taken from stockpiles at the concrete plant. The exact point of acceptance will be determined in the field by the Engineer.

d. When the Engineer approves, the coarse aggregate may be blended from other sizes if:

1) The resulting aggregate meets all requirements for specified grading.
2) Each size used makes up at least 5% of the blend.
3) The Contractor supplies the Engineer with gradings for the proposed sizes, along with their proper proportions before producing the aggregate. If the aggregate comes from commercial sources, the Contractor shall supply this information and have it approved before proportioning and mixing the concrete.

e. In place of grading No. 2, the Contractor may substitute a 50-50 mix of Grading Nos. 4 and 5.

5. Use of Substandard Gradings.

a. Coarse aggregate containing more than the maximum percentage passing any sieve may be accepted provided the cement content of the finished concrete is increased at the Contractor's sole expense.

b. The cement content shall be increased 0.25% for each 1% the amount passing each of the 3/4-inch, 3/8-inch, and No. 4 sieves is in excess of the maximum specified in the Grading paragraph of this Article.

c. Coarse aggregate No. 2 shall not be used under any circumstances when the combined amount passing any of the following sieve sizes exceeds the following:

Sieve Size/Number	Percent Passing
3/4” square	70
3/8” square	30
U.S. No. 4	5

d. Coarse aggregate No. 5 shall not be used under any circumstances when the combined amount passing any of the following sieve sizes exceeds the following:

Sieve Size/Number	Percent Passing
3/8" square	50%
U.S. No. 4	8%

2.05 QUARRY SPALLS

A. The spall shall be hard, sound, and durable. It shall be free from fracture, seams, cracks, and other discontinuities tending to adversely impact its resistance to weathering. Test for this aggregate shall be in accordance with Section 3.01 of Specification. Quarry spalls shall meet the following gradation requirements:

2-inch to 4-inch quarry spalls:

Sieve Size/Number	Percent Passing
4 inch	100
2 inch	40 max
1-1/4 inch	5 max

4-inch to 8-inch quarry spalls:

Sieve Size/Number	Percent Passing
8 inch	100
4 inch	40 max
2 inch	5 max

2.06 ROCK FACING MATERIAL

A. Rock for constructing new rock facing shall be large, broken pieces of igneous and metamorphic rock types. Each rock shall be rectangular, intact, fracture free, sound

and durable material, resistant to weathering and free of soft weathered material and seams of soft rock susceptible to deterioration.

The size categories for rock shall be as follows:

Size	Approx. Weight	Min. Approx. Dimensions	Approx. Volume
One-man rock	200-400 lbs	12 inches	2 cf
Two-man rock	500-800 lbs	13 inches	4 cf
Three-man rock	900-1200 lbs	16 inches	6.6 cf
Four-man rock	1300-2000 lbs	18 inches	12.5 cf
Five-man rock	2000-4000 lbs	24 inches	18.5 cf
Six-man rock	4100-6000 lbs	30 inches	31 cf

Note: Rocks less than 1.5 cubic foot (cf) in volume shall not be used.

B. The Contractor shall provide the services of an ASTM or AASHTO accredited testing laboratory approved by the Engineer to sample the rock from the quarry source, ensuring that rock samples are representative of the rock anticipated for use on the project, and to perform the following laboratory tests:

Specific Gravity	ASTM C 127	Minimum 2.65
Soundness	AASHTO T 104 (section 5.2.2)	Not greater than 5% loss
Accelerated Expansion	CRD-C-148	Not greater than 15% breakdown
Absorption	ASTM C 127	Not greater than 2%
L.A. Abrasion	ASTM C 131	Maximum 20% loss @ 500 revolutions

PART 3 - EXECUTION

3.01 TEST METHODS FOR AGGREGATES

Material properties in these Specifications shall be determined in accordance with the following test methods:

Title	Test Method
Sampling	AASHTO T 2
Organic Impurities	WSDOT No. 21
Clay Lumps in Aggregates	AASHTO T 112
Abrasion of Coarse Aggregates by Use of the Los Angeles Machine	AASHTO T 96
Material Finer than U.S. No. 200 Sieve in Aggregates	AASHTO T 11
Sieve Analysis of Fine and Coarse Aggregates	AASHTO T 27
Determination of Degradation Value	WSDOT No. 113
Determination of Fineness Modulus	AASHTO T 27
Lightweight Pieces in Aggregates	WSDOT No. 122
Mortar Strength	WSDOT No. 311
Percentage of Particles Smaller than 0.025 mm and 0.005 mm	AASHTO T 88
Stabilometer R Value, Untreated Materials	WSDOT No. 611
Swell Pressure and Permeability	WSDOT No. 611
Stabilometer S Value, Treated Materials	WSDOT No. 703
Cohesiometer	WSDOT No. 703
Compressive Strength of Concrete	AASHTO T 22
Flexural Strength of Concrete	WSDOT No. 802
Specification for Wire-Cloth Sieves for Testing Purposes	AASHTO M 92

END OF SECTION 32 11 23

PART 1 - GENERAL

1.01 Description: Furnish all material, labor, services and related items required to complete concrete paving work indicated on drawings and/or specifications. The items of work to be performed shall include but are not necessarily limited to:

Concrete flatwork, slabs, sidewalks, curbs, ramps, and associated work.

1.02 Related Sections:

Section 03 10 00 – Concrete Formwork
Section 03 20 00 – Concrete Reinforcement
Section 03 30 00 – Cast-in-Place Concrete
Section 03 35 00 – Concrete Finishing
Section 31 00 00 - Earthwork
Section 32 11 23 - Mineral Aggregates

1.03 References: This section references the latest revisions of the following documents. They are a part of this section as specified and modified. In case of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail. Other references are as follows:

A. American Association of State Highway and Transportation Officials (AASHTO) "Standard Specifications for Highway Materials and Methods of Sampling and Testing"

B. City of Seattle Standard Specifications for Road, Bridge and Municipal Construction (most recent edition).

1.04 Submittals: The Contractor shall submit to the Engineer materials containing the following information:

A. Procedures to be used in the construction under this Section with regard to the division of labor and the responsibilities of the Contractor and all sub-contractors involved.

B. Furnish samples, manufacturer's product data, test reports, and materials certifications for Portland cement products, expansion joint materials, fillers, sealants, etc.

C. Provide mock-up of concrete finishes, colors, and joints on a sheet of plywood, minimum 48 inches square. Concrete mock up shall be provided for the Engineer's review a minimum of 48 hours in advance of concrete delivery.

1.05 Quality Assurance:

A. The Contractor shall provide, at the request of the Engineer, original supplier invoices for concrete. Concrete found not to be consistent with these specifications shall be removed from the project site(s) unless otherwise approved by the Engineer. The Engineer may copy the original invoices and then return them to the Contractor in a timely manner.

B. Prior to commencing the work of this Section, the Contractor shall verify the accuracy of layout and grading. Verify that all sub-grade and base course aggregate conditions are as specified. Notify the Engineer of any discrepancies and coordinate the correction of those discrepancies with other trades as necessary.

C. Notify Engineer a minimum of 48 hours prior to any concrete pour for inspection of base course aggregates, forms, reinforcing steel, and placement of joint materials. Anticipate pours to provide adequate time for inspection without causing delays to other trades. Call the **SPR Inspection Request Line @ (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov** to make arrangements for inspections.

D. Protect all finished work. Vandalized work will be rejected by the Engineer and repaired/replaced by the Contractor at their expense, as directed by the Engineer.

PART 2 - PRODUCTS

2.01 Concrete Mix: Non-Roadway Cement Concrete, High Strength per the City of Seattle Standard Specifications for Road, Bridges, and Municipal Construction (most recent edition). The concrete shall have the characteristics as follows:

28 day compressive strength	3,000 psi
94# Sacks Cement per Cubic Yard (see "Cement", below)	6
dry Fine Aggregate (Type 6) (see "Aggregates", below)	
dry Coarse Aggregate (Type 5) (see "Aggregates", below)	
Max. Water / Cementitious Material ratio	0.49 %
Fiberous Reinforcement	1.5 lb. per CY
Slump (per ASTM C143)	2 – 3.5 inches

2.02 Portland Cement: Use only Type II Portland Cement, as specified in the City of Seattle Standard Specifications (most recent edition), and AASHTO M 85.

2.03 Aggregates:

A. Fine Aggregate shall be Mineral Aggregate Type 6 (washed sand), per the City of Seattle Standard Specifications (most recent edition). Fine Aggregates shall consist of sand or other inert materials, or combinations thereof, having hard, strong, durable particles, free from an adherent coating. The Fine Aggregate shall be washed

thoroughly to remove clay, loam, alkali, organic matter, or other deleterious matter. Mineral Aggregate Type 6 Particle Gradation shall be as follows:

Sieve Size	% Passing
#4	95 - 100
#8	68 - 86
#16	47 - 65
#30	27 - 42
#50	9 - 20
#100	0 - 7
#200 (wet)	0 - 2.5

B. Coarse Aggregate shall be Coarse Aggregate Type 5 (1" washed gravel), per the City of Seattle Standard Specifications (most recent edition). Coarse Aggregate shall consist of gravel, crushed stone, or other inert material or combination thereof having hard, strong, and durable pieces free from adherent coatings. Coarse Aggregate shall be washed to thoroughly remove clay, silt, bark, sticks, alkali, organic matter, or other deleterious material. Mineral Aggregate Type 5 Particle Gradation shall be as follows:

Sieve Size	% Passing
1-1/2" Square	100
1" Square	95 - 100
1/2" Square	25 - 60
#4	0 - 10
#8	0 - 5
#200	0 -0.5

Cement and coarse and fine aggregate weights shall be in accordance with the tolerances outlined in Section 5-05.3(1) Conformance to Mix Design of the City of Seattle Standard Specifications for Road, Bridge, and Municipal Construction (most recent edition).

2.04 Forms: Forms shall be made of steel, wood, or other suitable materials and shall be of size and strength to resist movement during concrete placement. Use straight forms, free of defects. Use flexible spring steel forms or laminated boards to form curved edges if specified.

2.05 Steel Reinforcement:

A. Welded wire mesh to be furnished in flat sheets not rolls, unless otherwise specified or approved. Gauge and opening size to be outlined per the Drawings. If not specified, wire mesh reinforcement should have the following characteristics:

Gauge range:	10 – 16
Mesh Opening:	2" –6"

B. Reinforcing bars to be deformed steel bars, ASTM A 615, Grade 60, sized per the Drawings.

C. Concrete Engineered Reinforcing Fibers (Optional for slabs only instead of or in conjunction with steel reinforcement where vehicle traffic is anticipated):

1. Fibermesh Company, 4019 industry Drive, Chattanooga, Tennessee 37416, per ASTM C1116-89, or approved equal.

2.06 Expansion Joint Materials:

A. Joint Filler: Pre-formed non-extruding resilient material; ASTM D1752, Type I, 3/8 inch wide by depth required to bring top surface within 1/2 inch of slab surface.

B. Joint Sealer: Self-leveling polyurethane; ASTM C920, Type M, Grade SL, Class 25 (color shall match concrete color).

2.07 Curing Materials: Curing shall be per the City of Seattle Standard Specifications (most recent edition), or as approved by the Engineer.

2.08 ADA Ramp Detectable Warning Strip: The warning strip shall be a vitrified polymer composite tile with epoxy polymer composition with an ultra violet stabilized coating of aluminum oxide particles. The tactile warning tile shall be 2 feet long by 4 feet wide Armor Tile by Engineered Plastics Inc. (916) 549-9700, or approved equal. Color: Yellow. Refer to City of Seattle and SPR Standard Details.

2.09 Utility Sleeves: Refer to the drawings and details for the locations of sleeves under paving. Sleeves shall be installed prior to placement of paving and shall be done as follows:

A. Sleeves required for utility lines located under paving (pathways and service roads within the park site) where vehicles are anticipated, shall be, **Schedule 40 PVC** or better. The inside diameter (I.D.) of the sleeve shall be **twice (2 times)** the outside diameter (O.D.) of the inserted pipe with a maximum of one (1) insert pipe per sleeve. All wiring shall be in its own separate **Schedule 40 PVC** sleeve, independent from the piping sleeves.

B. Sleeves under roadways (street rights-of-way, boulevards or parkways) where heavy vehicular traffic is anticipated, shall be ductile iron pipe. The inside diameter (I.D.) of the sleeve shall be at least **twice (2 times)** the outside diameter (O.D.) of the total inserted pipes with multiple pipes inserted per sleeve (only as directed by the Engineer). All wiring shall be in separate **Schedule 80 PVC** electrical conduit (min. 2" O.D.) within the ductile iron pipe.

C. All sleeves shall be inspected and approved by the Engineer after forms are set and before paving operations are executed. Call the **SPR Inspection Request Line @ (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov** to make arrangements for inspection.

PART 3 - EXECUTION

3.01 Barriers: The Contractor shall erect and maintain barricades, canopies, guards, lights and warning signs to the extent required by law and as is prudent for the protection of the public and protection of the work.

3.02 Form Construction:

A. Set forms to required grades and alignments rigidly braced and secured. Install sufficient quantity of forms to allow continuous progress of work and so that forms can remain in place at least 24 hours after concrete placement.

B. Check completed formwork for grade and alignment to following tolerances:

1. Top of forms not more than 1/8” in 10 feet.
2. Vertical faces, on longitudinal axis, not more than 1/4" in 10 feet.

C. Clean forms after each use and coat with form release agent as often as required to ensure separation from concrete without damage.

3.03 Reinforcement:

A. Locate and place reinforcement as indicated on the contract drawings. Support reinforcing steel or wire fabric with pre-cast concrete blocks at spacing that will ensure minimum deflection of the reinforcement.

B. Concrete Engineered Reinforcing Fibers (Optional for slabs only instead of or in conjunction with steel reinforcement where vehicle traffic is anticipated): Add reinforcing fibers to concrete mix per manufacturer's instructions for specified comprehensive concrete strength.

3.04 Utility Sleeves:

A. Pipe trenches located under areas of existing or new paving shall have sleeves installed. Sleeves shall extend 12” beyond the pavement on each side. Trenches shall be back-filled with sand (6 inches above and 4 inches below the pipe) and compacted in layers to 95% compaction, using manual or mechanical tamping devices. Trenches for piping shall be compacted to equal the compaction of the existing adjacent undisturbed soil and shall be left in firm unyielding condition. All trenches shall be left flush with the adjoining grade. The Contractor shall set in place; cap and pressure test all piping under paving prior to paving work.

B. All sleeves installed by the Contractor prior to and during the installation of the rest of the irrigation system shall be inspected by the Engineer and the SPR Plumbing Shop with at least two (2) working days prior notice by calling the **SPR Inspection**

Request Line @ (206) 684-7034 or by email at
parksconstruction.inspection@seattle.gov to make arrangements for inspection.

3.05 Concrete Placement:

A. Do not place concrete until sub-base, forms, and reinforcement have been checked for line and grade. Moisten sub-base if required to provide a uniform dampened condition at time concrete is placed.

B. The concrete shall be placed and spread uniformly between the forms and thoroughly compacted with a steel shod strike-board.

C. After the concrete has been thoroughly compacted and leveled, it shall be floated with wood floats and finished at the proper time with a metal float.

3.06 Joints:

A. All Joints shall be edged with a quarter-inch (1/4") radius edger, and sidewalk edges with a half-inch (1/2") radius edger or saw cut as directed by the Engineer in the field.

B. Expansion Joint placement shall be 10' to 15' spacing (with no more than approx. 200 square feet or pavement between expansion joints), with control joint spacing equal and alternating in between. Provide Joints as shown on the Contract Drawings or as directed by the Engineer in the field.

C. Provide Expansion Joints, dividing the concrete areas as indicated on the Drawings:

1. Provide pre-molded 3/8” joint filler for expansion joints abutting concrete curbs, catch basins, manholes, inlets, structures, walks and other fixed objects as applicable or as indicated in the Contract Drawings.
2. Expansion Joints shall be located and placed according to the Contract Drawings, and sufficiently supported to ensure final placement perpendicular to the finished surface of the pavement.
3. Extend joint fillers full width and depth of joint and not less than 1/2 inch or more than 1 inch below finished surface where joint sealer is indicated. Furnish joint fillers in one-piece lengths for full width being placed, wherever possible. Where more than one length is required, lace or clip joint filler sections together. Protect top edge of joint filler during concrete placement with a metal or plastic temporary strip. Remove protection after concrete has been placed on both sides of joint before sealant is applied.

D. Provide Control Joints, dividing the concrete areas as indicated on the Drawings.

1. Form Control Joints in fresh concrete by grooving top portion with a recommended cutting tool and finishing edges with a jointer.

2. Saw Control Joints into hardened concrete using power saws equipped with shatterproof abrasive or diamond rimmed blades. Cut joints into concrete as soon as surface will not be torn, abraded, or otherwise damaged by cutting action.

3.07 Concrete Finishing:

A. After striking off and consolidating concrete, smooth surface by screening and floating. Use hand methods only where mechanical floating is not possible. Adjust floating to compact surface irregularities, and refloat repaired area to provide a continuous smooth finish.

B. After completion of floating and trowelling when excess moisture or surface sheen has disappeared, complete finishing as follows:

1. Light broom finish, by drawing fine hair broom across concrete surface, perpendicular to line of traffic after the tooled grid is installed. The Engineer's decision will be final on acceptance of joint finishing details and surface finishes.

3.08 Curing: Protect and cure finished concrete paving, complying with applicable requirements of the References specified in this Section. Use only pre-approved curing and sealing compound or moisture curing method.

3.09 Clean-up:

A. Repair and replace broken or defective concrete as directed by the Engineer.

B. Protect concrete from damage until acceptance of work. Exclude traffic from pavement for at least fourteen (14) days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.

C. Sweep concrete pavement and wash free of stains, discoloration, dirt and other foreign material just prior to final inspection.

END OF SECTION

PART 1 - GENERAL

1.01 Description: Furnish all labor, equipment and materials to install (or blow in) the Engineered Wood Fiber Safety Surfacing (EWFSS) as shown on the plans and details or as otherwise specified.

1.02 RELATED SECTIONS:

- Section 31 00 00 - Earthwork
- Section 33 34 00 - Storm Drainage Utility

1.03 QUALITY ASSURANCE:

A. Manufacturer's Instructions: Strictly adhere to the manufacturer's instructions regarding product handling, sub-base preparation, surfacing system application and all other aspects of the surfacing installation.

B. The contractor who is installing the surfacing shall have at least 5 recent (within the last 3 years) installations of EWFSS and shall have personnel, facilities and equipment for the specified work. The contractor shall also submit evidence of the recent installations of the surfacing materials.

C. Special Requirements:

1. The engineered wood safety surface products shall meet or exceed the current Consumer Products Safety Commission 200-g Guideline and ASTM F2075. The Contractor shall submit two copies (2) of the manufacturer's independent test results showing conformance. Reports shall be for the exact depth that is specified to be installed.
2. Warranties: Provide the manufacturer's five-year materials warranty for all safety surfacing systems materials.
3. Disabled Accessibility (ADA): Provide testing data showing products meet the requirements of ASTM F 1951 Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment.
4. Impact Attenuation: Provide testing data showing products meet the requirements of ASTM F 1292 Standard Specification for Impact Attenuation of Surfacing Materials within the Use Zone of Playground Equipment.

1.04 SUBMITTALS:

A. Not less than 6 days prior to the intended use of the materials, the Contractor shall submit the full documentation of the specific product literature, illustrating compliance with this section. Contractor shall submit a calculation for the total volume of Engineered Wood Fiber Safety Surfacing to be used on this project.

B. The contractor shall submit to the Engineer, for approval, material samples that are to be used and the proposed methods of application and procedures that are to be followed.

C. Submit the test results for impact attenuation in accordance with ASTM F1292 (most recent edition).

PART 2 - PRODUCTS

2.01 GENERAL:

A. The EWFSS shall have fall or shock attenuation not to exceed 200g and 1000 HIC for an eight foot (8') height as per ASTM F1292 (most recent edition).

B. The EWFSS shall be constructed of random sized manufactured wood fiber material, specifically designed to be accessible play area safety surfacing materials.

C. The manufacturer supplied Geo-textile Fabric, in sufficient quantity to allow for at least 3” of overlap at all seams.

D. Sub-surface drainage is required and play area containment areas shall be installed with the sub-grade surface sloping (2% min.) towards the drainage trenches. The EWFSS system shall include drainage matrix which allows the EWFSS to be free-draining and positively flows to the sub-surface drainage system.

2.02 RECOMMENDED MANUFACTURERS:

A. “WoodCarpet" - as manufactured by Zeager Brothers, Inc.

B. “Sof’Fall - as manufactured by Sof’Fall, Inc.

C. “GT-Impax” - as manufactured by GameTime, Inc.

D. “Fibar” – as manufactured by The Fibar Group, LLC.

F. Or, approved equal.

2.03 RECOMMENDED SOURCES:

A. *Ivary Enterprises, Inc. (Sof'Fall)*
   i. *Ph. (888) 305-0504*
   ii. *Email: ivaryent@comcast.net*

B. *PlayCreation (WoodCarpet)*
   i. *Ph. (206) 932-6366*
   ii. *Email: john@playcreation.com*

C. *Northwest Recreation (Sof'Fall)*
   i. *Ph. (360) 357-9966*
   ii. *Email: nwrecreation@comcast.net*

D. *Playscapes Northwest (Sof'Fall)*
   i. *Ph. (206) 851-5427*
   ii. *Email: lynda@playscapesnw.com*

E. *Site Lines Park & Playground Products (GT-Impax)*
   i. *Ph. (425) 355-5655 (Ext.24)*
   ii. *Email: max@sitelines.com*

F. *Cascade Recreation, Inc. (Fibar)*
   i. *Ph. (253) 566-1320 or (888) 280-8010*
   ii. *Email: jill@cascaderec.com*

G. *Northwest Playground Equipment (WoodCarpet)*
   i. *Ph. (425) 313-9161*
   ii. *Email:* eric@nwplayground.com

H. *Highwire, Inc. (Wood Carpet)*
   i. *Ph. (206) 228-3843*
   ii. *Email: Peter@Highwireus.com*

I. *Allplay Systems (WoodCarpet)*
   i. *(425) 766-7822*
   ii. *Email: jeff@allplaysystems.com*

J. *Or, approved equal.*

2.04. WEAR MATS AND ANCHORS: Wear mats are required under [all belt swings, whirls, at transfer spaces, and at the exit points of all slides]. Wear mats shall be installed per manufacturer's specifications and recommendations. They shall also be made from recycled materials to the greatest extent possible. Provide (1) 4' x 6' x 2" mat at each swing belt seat and (1) 3' x 4' x 2" mat at each slide exit. Available from Action Play Systems, LLC. Or approved equal.

2.05 DRAINAGE, DRAINAGE MATRIX, LINERS AND GEO-TEXTILE FABRIC: Refer to Specification Section 33 34 00 - Storm Drainage Utility and the Civil drawings for drainage design, for construction details included in these Contract Documents. All drainage products shall be installed per manufacturer's recommendations.

A. Drainage matrix - Recommended Manufacturers:

1. "Duradrain System - as manufactured by Zeager Brothers, Inc.
2. Or approved equal.

B. Liners - Recommended Manufacturers:

1. "Duraliner System - as manufactured by Zeager Brothers, Inc.
2. Or approved equal.

PART 3 - EXECUTION

3.01 PREPARE SUBGRADE: Rake out all rocks and debris greater than 2" and compact subgrade per Section 31 00 00.

3.02 DRAINAGE MATRIX INSTALLATION: After subgrade work is complete, install drainage matrix products per manufacturer's instructions, using all appropriate accessories, as required. Install on prepared subgrade, the geo-textile wrapped drainage strips to a maximum of 6' on center throughout the play area, orienting the drain ends towards the drainage system as shown on the Drawings.

3.03 FILTER FABRIC INSTALLATION: Roll out filter fabric in full widths when possible, cutting around the posts and other equipment as required. Run filter fabric rolls in same direction as the drainage matrix strips. Overlap filter fabric edges minimum six inches.

3.04 ENGINEERED WOOD FIBER SAFETY SURFACING (EWFSS) INSTALLATION: After filter fabric installation work is complete, the Contractor shall strictly conform to the manufacturer's instructions using all appropriate equipment and accessories as required.

A. Install surfacing to the compacted depth specified on the Drawings, allowing for settling and compaction in the ratio of approximately 18 inches of loose filled EWFSS to attain a depth of 12 inches of compacted EWFSS.

B. Install surfacing in a minimum of two lifts of approximately 9-inch loose depth per lift. Rake, level and thoroughly wet the EWFSS before compacting.

C. Compact each lift to attain the required depth using a mechanical vibratory plate compactor. Change the direction of the compacting 90 degrees between the two lifts. Repeat the compacting of lifts until the specified compacted depth is reached. The Engineer will determine if the required compaction has been achieved.

D. Compact the EWFSS carefully to avoid contamination of wood fiber material with dirt, gravel or other materials.

3.05 WEAR MAT INSTALLATION: Coordinate with the installation of the engineered wood safety surfacing and set the mat depth to approximately six inches below finished grade. Bury mat halfway down into the safety surfacing material with 6" of cover. Install mats with (4) Duckbill anchors per mat.

3.06 INSPECTION: Examine the areas and conditions under which the work of this section will be completed. Do not proceed until conditions detrimental to the proper and timely completion of the work have been satisfactorily corrected and thus meet the manufacturer's instructions. Beginning of work constitutes the acceptance of site conditions as satisfactory.

The Engineer will make the final inspection and determination that the Engineered Wood Fiber Safety Surfacing has been installed correctly.

3.07 CLEANUP: Sweep and/or rake wood materials away from all paved surfaces and remove it from all surrounding turf or planted areas.

3.06 WARRANTY: The Contractor shall warranty that all work performed under this section shall be free from any defects in materials and workmanship. Upon notice in writing, within **two (2) years** of Physical Completion, from the Engineer to the Contractor shall, at no cost to the Owner, make all necessary repairs or replacements of the defective work in question. During this period of warranty, the Owner shall perform normal maintenance.

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION

A. Furnish and install Automatic Irrigation System in conformance with the Drawings and Specifications, complete and ready for use. The Work consists of furnishing all Materials necessary for a complete installation, including, pipe, pipe sleeves, wire sleeves, fittings, back-flow prevention device assemblies, valves, valve boxes, swing joints, sprinkler heads, control and communications equipment and enclosures, and all appurtenances related thereto. Included must be all labor necessary for installation, including trenching, plumbing, back-filling, electrical work, adjustments, and all other items of labor necessary for a satisfactory operating system.

1.02 QUALITY ASSURANCE

A. Basic Qualifications - The Contractor must be a Washington State Landscape Industry Professional that has passed the Certified Landscape Professional (CLP) exam. The irrigation system must be installed under the direct supervision of a Certified Irrigation Technician or Journey Plumber. All potable water system components must be installed by a Washington State Licensed Plumber and all testing of the backflow prevention equipment must be done by a Washington State Certified Backflow Assembly Tester (BAT).

1.03 DEFINITION

A. Within this Specification Section the term “The Engineer” refers to the Park Engineer and all their representatives that may be involved with the project. Those may include (but are not limited to) SPR Engineering and Design Services staff (including Landscape Architects, Engineers, and Architects), SPR Construction Manager and Inspection Staff, SPR Surveyors, SPR Facilities Maintenance Shops staff (including Plumbers and Electricians), and SPR Resource/Operations Staff (including District Senior Gardeners and other maintenance staff) as required and appropriate for the project.

1.04 RELATED SECTIONS

Section 02 41 13.23 – Site Utility Removal
Section 01 56 39 – Temporary Tree, Vegetation, and Soil Protection
Section 31 00 00 – Earthwork
Section 33 10 13 – Potable Water Systems for Drinking Fountains

1.05 REFERENCES

A. ASTM A276-24a – Standard Specification for Stainless Steel Bars and Shapes
B. ASTM A536-24 – Standard Specification for Ductile Iron Castings
C. ASTM B3-13(2018) – Standard Specification for Soft or Annealed Copper Wire

D. ASTM B43-20 – Standard Specification for Seamless Red Brass Pipe, Standard Sizes
E. ASTM B62-17 – Standard Specification for Composition Bronze or Ounce Metal Castings
F. ASTM B88-22 – Standard Specification for Seamless Copper Water Tube
G. ASTM B584-22 – Standard Specification for Copper Alloy Sand Castings for General Applications
H. ASTM D1785-21a – Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
I. ASTM D2466-24 – Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
J. ASTM D3035-22 – Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter
K. ASTM D3139-19 – Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals
L. ASTM D3261-24 – Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
M. ASTM D3350-24 – Standard Specification for Polyethylene Plastics Pipe and Fittings Materials
N. ASTM F477-14(2021) – Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
O. ASTM F714-24 – Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Outside Diameter
P. ASTM F876-24b – Standard Specification for Crosslinked Polyethylene (PEX) Tubing
Q. ASTM F877-24 – Standard Specification for Crosslinked Polyethylene (PEX) Hot- and Cold-Water Distribution Systems
R. ASTM F1055-16a(2022) – Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene and Crosslinked Polyethylene (PEX) Pipe and Tubing
S. ASTM F1807-23 – Standard Specification for Metal Insert Fittings Utilizing a Copper Crimp Ring, or Alternate Stainless Steel Clamps, for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing
T. ASTM F1960-24 – Standard Specification for Cold Expansion Fittings with PEX Reinforcing Rings for Use with Cross-linked Polyethylene (PEX) and Polyethylene of Raised Temperature (PE-RT) Tubing
U. ASTM F2023-21 – Standard Test Method for Evaluating the Oxidative Resistance of Crosslinked Polyethylene (PEX) Pipe, Tubing and Systems to Hot Chlorinated Water
V. ASTM F2080-23 – Standard Specification for Cold-Expansion Fittings with Metal Compression-Sleeves for Crosslinked Polyethylene (PEX) Pipe and SDR9 Polyethylene of Raised Temperature (PE-RT) Pipe
W. ASTM F2657-21 – Standard Test Method for Outdoor Weathering Exposure of Crosslinked Polyethylene (PEX) Tubing

X. ASME B16.1-2020 – Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250
Y. ASME B16.5-2020 – Pipe Flanges and Flanged Fittings: NPS 1/2 through NPS 24, Metric/Inch Standard
Z. ASME B16.15-2018 – Cast Copper Alloy Threaded Fittings: Classes 125 and 250
AA. ASME B16.18-2021 – Cast Copper Alloy Solder Joint Pressure Fittings
BB. ASME B16.51-2021 – Copper and Copper Alloy Press-Connect Pressure Fittings
CC. ASME B1.20.1 - Pipe Threads, General Purpose, Inch
DD. AWWA C104/A21.4-2022 – Cement-Mortar Lining For Ductile Iron Pipe and Fittings
EE. AWWA C111/A21.11-2023 – Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
FF. AWWA C151.A21.51-2023 – Ductile-Iron Pipe, Centrifugally Cast
GG. AWWA C800-21 – Underground Service Line Valves and Fittings
HH. AWWA C901-20 – Polyethylene (PE) Pressure Pipe and Tubing, 3/4 In. (19 mm) Through 3 In. (76 mm), for Water Service
II. AWWA C904-22 – Crosslinked Polyethylene (PEX) Pressure Tubing, ½ in. (13 miM) Through 2 In. (76 Mm) For Water Service
JJ. AWWA C906-00 – Standard Test Method for T-Peel Strength of Hot Applied Sealants
KK. CSA B137.5:20 – Crosslinked polyethylene (PEX) tubing systems for pressure applications
LL. CSA B242:05 (R2021) – Groove- and shoulder-type mechanical pipe couplings
MM. NSF/ANSI 14 – Plastics Piping System Components and Related Materials
NN. NSF/ANSI 61 – Drinking Water System Components – Health Effects
OO. UL 651A Ed. 6-2023 – High Density Polyethylene (HDPE) Conduit

1.06 SUBMITTALS

A. Submit complete Materials list prior to performing any Work. Submit manufacturer catalog data and full descriptive literature, including current manufacturer's price list.
B. Equipment or Materials installed or furnished without prior approval of the Engineer will be rejected and such Materials will be required to be removed and replaced with approved Materials at the complete expense of the Contractor.
C. Submit Shop Drawings for review and approval prior to beginning Work.

1.07 PROJECT CONDITIONS

A. Underground utilities and elements: The Contractor must call **Utility Notification Center at (811) or (800) 424-5555** or webpage **www.callbeforeyoudig.org** to locate all underground utilities (on or near Public Rights-of-Way / Property Lines) prior to digging and/or driving stakes. The Contractor can also engage the services of a private utilities locating service for location of utilities within the Project Site by calling **Locating, Inc. @ (425) 392-6412, CNI @ (206) 255-8650 or Applied Professional Services @ (425) 954-8436** to locate utilities within the Project Site. **(Note: These firms will charge for services rendered)**. The Contractor is also

required to call the **SPR Inspection Request Line at (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov** to make arrangements for utility locates within park property, in addition to contacting the professional utility location services. The Contractor must request that the **SPR Plumbing, Electrical, and Drainage and Wastewater Crews, along with the SPR Environmental Services Staff** be contacted with at least **two working days' notice**. The Contractor can also contact the **SPR Inspection Request Line @ (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov** for As-built information for on-site underground utility system information.

B. **Site Inspection and Layout:** Before proceeding with any Work, the Contractor must inspect the Project Site, carefully checking all grades and verifying all dimensions and conditions affecting the Work to satisfy themselves that they may safely proceed. Changes or alterations to the system to meet actual conditions must be made at the Contractor's expense. Always use appropriate fittings for changes in direction or elevation. Do not bend the pipe more than that allowed by this Specification. The irrigation plan is diagrammatic and is not intended to show exact locations of existing or proposed piping, valves, or controllers. Locate new items as closely as possible to related curbs, walls, fences, or edges of paving. Pipelines shown parallel on Drawing may be placed in a common trench but separated by at least 6 inches and all pipes of dissimilar materials must be installed per UPC and SPR Standard Details included with the Plans. Sprinkler heads are shown accurately and must be installed as indicated by center of symbol.

C. When renovating or working around an existing park irrigation system, the Contractor and the Engineer (including the SPR Maintenance District, Plumbing and Electrical Shops personnel) must test and document the condition of the existing system prior to the Contractor beginning the Work.

D. All Materials must be inspected by the Engineer (including SPR Plumbing and Electric Shops personnel) prior to installation of any and all Materials required to complete the Work. Include sample fitting assemblies for approval prior to installation. The Contractor must call the **SPR Inspection Request Line at (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov** to schedule inspections.

E. Contractor must take precautions to neither disturb nor damage any existing above ground or underground utilities or elements. Keep streets, sidewalks, and site clean and free from debris, and affected drains open and free flowing at all times.

F. During the installation of the new irrigation system, if underground utilities are encountered or damaged, including (but not limited to) existing irrigation systems, the Contractor must notify the Engineer two working days in advance and perform repairs to that system per this Section and/or as directed by the Engineer. This also applies to the connection of new irrigation systems to existing older systems. Repairs and connections must be done per SPR Standard Details and/or as directed by the Engineer in the field. (**Note: No telescoping repair couplings will be allowed).**

1.08 IRRIGATION SYSTEM WARRANTY

A. Contractor must provide a minimum **One Year** warranty as per the requirements of Section 00 72 00 – General Conditions, Part 1.03.J and per Section 32 80 00 – Irrigation Systems, Paragraph 3.06.K, whichever is greater.
B. The Warranty must include restoration of planted or paved areas due to settlement of trenches.
C. The Contractor shall provide one winterization and de-winterization, which may occur before and/or during the Warranty Period, depending on the Physical Completion date. For example, if the project is Physically Complete in November, the Contractor will have Winterized prior to Physical Completion, and De-winterize under the Warranty Period. If the project is Physically Complete in July, the Contractor will provide Winterization the following October and De-winterization the following March, under the Warranty Period.

PART 2 - PRODUCTS

2.01 IRRIGATION SYSTEM PIPE AND FITTINGS

A. Copper Pipe and Fittings

1. All Copper Piping must be Type K Copper and must conform to industry standards and be in conformance with applicable ASTM or ANSI standards.
2. Copper Tubing: ASTM B88-22, Type K water tube. For tubing up to 2 inches in diameter, use 'soft' copper (annealed temper). For tubing with diameters larger than 2 inches, use 'hard' copper.
    a. For **2 inch Outside Diameter (O.D.) and smaller**: Cast-copper alloy solder-joint pressure fittings and soldered joints with Alloy Sn95 solder.
    b. Any copper pipe installed under or thru any paving and within 3 feet of the paving must be braised at each joint, per UPC Building Codes.
3. Copper Fittings:
    a. Cast-Copper-Alloy, Solder-Joint Pressure Fittings: ASME B16.18-2021.
    b. Copper Unions: ASME B16.18-2021, cast-copper-alloy body, hexagonal stock, with ball-and-socket joint, metal-to-metal seating surfaces, and solder-joint, threaded, or solder-joint and threaded ends.
    c. Threaded Ends: Threads conforming to ASME B1.20.1.

B. Brass Pipe and Fittings

1. Brass pipe must be seamless red brass per ASTM B43-20 rated for 250-psi working pressure.
2. All Brass Pipe and fittings must conform to industry standards and be in conformance with applicable ASTM or ANSI standards.

3. Brass fittings must be Class 250 fittings rated for a minimum of 250-psi working pressure and must conform to ANSI/ASME B16.15-2018 and ASTM B584-22.

C. High Density Polyethylene (HDPE) Pipe and Fittings

1. **Polyethylene (PE) Pressure Pipe (2 inches O.D. and Smaller)**: Pipe must be manufactured from a PE 4710 resin listed with the Plastic Pipe Institute (PPI) as TR-4. The resin material must meet the specifications of ASTM D3350-24 with a cell classification of PE: 345464C. The pipe must have a manufacturing standard of ASTM D3035-22 (IPS). The pipe must be DR 9 or DR 11 (200-psi WPR) unless otherwise specified on the Plans. The pipe must contain no recycled compounds except that generated in the manufacturer's own plant from resin of the same specification from the same raw material. All pipes must be suitable for use as pressure conduits, and per AWWA C901-20, have nominal burst values of three times the Working Pressure Rating (WPR) of the pipe. Pipe must also have the following agency listing of NSF/ANSI 61.
2. **Polyethylene (PE) Pressure Pipe (3 inches O.D. and larger)**: Pipe must be manufactured from a PE 4710 resin listed with the Plastic Pipe Institute (PPI) as TR-4. The resin material must meet the specifications of ASTM D3350-24 with a cell classification of PE: 345464C. The pipe must have a manufacturing standard of ASTM F714-24. The pipe O.D. sizes 4 inches to 24 inches must be available in both steel pipe sizes (IPS) and ductile iron pipe sizes (DIPS). The pipe must not contain recycled compounds except that generated in the manufacturer's own plant from resin of the same specification from the same raw material. All pipes must be suitable for use as pressure conduits, listed as NSF/ANSI 61, and per AWWA C906-00 Pressure Class (PC) 100 have a nominal burst value of three and one-half times the Working Pressure Rating (WPR) of the pipe. Peak flow water velocity of 5 ft/sec must be used in the hydraulics engineering design.
3. **Polypropylene Compression Fittings for HDPE (PE) Pipe: Fittings (2 inches O.D. and smaller laterals only)** must be Polypropylene Compression Fittings suitable for use on HDPE pipe per ASTM D3035-22 (IPS diameter, OD controlled). Fittings must be long term rated for 230 psi complying with ISO 14236 and meet the dimensional and performance requirements of AWWA C800-21. Fittings must comply with NSF/ANSI 61 and must be listed by NSF. Fitting Bodies must be Polypropylene. Fitting Compression Nuts must be Acetal. Joint seal activation must be accomplished solely by the Compression Nut. Joint Seals must not interfere with pipe insertion. No bevelling or lubrication of pipe must be required. Fitting components must not require dismantling prior to assembly on to pipe. Fittings must be 3G or UTC with Slide & Tighten capability
4. **Butt Fusion Fittings:** Fittings must be PE 4710 HDPE, Cell Classification of 345464C as determined by ASTM D3350-24, and approved for AWWA

use. Butt Fusion Fittings must have a manufacturing standard of ASTM D3261-24. Molded and fabricated fittings must have a pressure rating equal to the pipe unless otherwise specified in the Plans. Fabricated fittings are to be manufactured using Data Loggers. Temperature, fusion pressure, and a graphic representation of the fusion cycle must be part of the quality control records. All fittings must be suitable for use as pressure conduits, and per AWWA C906-00, have nominal burst values of three and one-half times the Working Pressure Rating (WPR) of the fitting.

5. **Electro-fusion Fittings:** Fittings must be PE 4710 HDPE, Cell Classification of 345464C as determined by ASTM D3350-24. Electro-fusion Fittings must have a manufacturing standard of ASTM F1055-16a(2022). Fittings must have a pressure rating equal to the pipe unless otherwise specified on the Plans. All electro-fusion fittings must be suitable for use as pressure conduits, and per AWWA C906-00, have nominal burst values of three and one-half times the Working Pressure Rating (WPR) of the fitting. Mechanical saddles are not allowed.
6. **Flanged and Mechanical Joint Adapters:** Flanged and Mechanical Joint Adapters must be PE 4710 HDPE, Cell Classification of 345464C as determined by ASTM D3350-24. Flanged and Mechanical Joint Adapters must have a manufacturing standard of ASTM D3261-24. Fittings must have a pressure rating equal to the pipe unless otherwise specified on the Plans.

D. PEX A Pipe and Fittings, **for Laterals Only (Optional, note Section as RESERVED, if not used)**

1. Pipe: Shall be white PEX-a (Engel-method crosslinked polyethylene), and comply with these standards:
   a. ASTM F876-24b – Materials, dimensions, and performance for PEX tubing
   b. ASTM F877-24 – Performance standard for tube/fitting systems
   c. ASTM F2023-21 – Chlorine resistance test method for PEX pipes
   d. ASTM F2657-21 – UV resistance test method for PEX pipes
   e. ASTM fitting standards such as ASTM F1807-23, F1960-24 and F2080-23
   f. AWWA C904-22 – Cross-Linked Polyethylene (PEX) Pressure Pipe, 1/2 inch. (12 mm) Through 3 inches. (76 mm), for Water Service
   g. CSA B137.5:20 – Materials, dimensions, performance for PEX systems
   h. NSF/ANSI Standard 61 – Drinking Water System Components
   i. NSF/ANSI Standard 14 – Plastics Piping System Components and Related Materials
2. Fittings shall be third-party certified to NSF 14 and ASTM F1960-24 cold-expansion with PEX reinforcing ring and shall comply with ASTM F876-24b and ASTM F877-24, 1/2 inch through 3 inches nominal pipe size fittings manufactured from the following Material types:

a. Reinforcing cold-expansion rings shall be manufactured from the same source as PEX-A piping manufacturer and marked "F1960."
b. Multiport tees and elbows: Multiple-outlet fitting complying with ASTM F877-24 (CAN/CSA B137.5:20); with ASTM F1960-24 inlets and outlets.

3. Manifolds: Multiple-outlet assembly with ASTM F1960-24 outlets.
a. Type L copper branch manifold with lead-free brass valve outlets.
b. Type L copper branch manifold without valves, with lead-free brass outlets.

E. PEX Transition Fittings

1. PEX-to-metal transition fittings:
a. Manufacturers: Provide fittings from the same manufacturer of the piping.
b. Third-party certified to NSF 14 and ASTM F1960-24 cold-expansion with PEX reinforcing ring and shall comply with ASTM F876-24b and ASTM F877-24, 1/2 inch through 3 inches nominal pipe size fittings manufactured from the following Material types:
c. PEX-A to thread transition: One-piece Lead free (LF) brass fitting with male or female threaded adapter and ASTM F1960-24 cold-expansion end, with PEX-A reinforcing cold-expansion ring.
d. PEX-A to copper sweat transition: One-piece lead free (LF) brass fitting with sweat adapter and ASTM F1960-24 cold-expansion end, with PEX-A reinforcing cold-expansion ring.
e. PEX-A to copper press transition: One-piece lead free (LF) brass fitting with one ASME B16.51-2021 copper press end and one ASTM F1960-24 cold-expansion end, with PEX-A reinforcing cold-expansion ring.
f. PEX-A to flange transition: Two-piece fitting with one steel flange conforming to ASME B 16.5 and one lead free (LF) brass adapter conforming to ASTM F1960-24.
g. PEX-A to groove transition: One-piece lead free (LF) brass fitting with one CSA B242-05 groove end in either iron pipe size (IPS) or copper tube size (CTS) and one ASTM F1960-24 cold-expansion end, with PEX-A reinforcing cold-expansion ring.
h. PEX-A to water meter transition: Two-piece fitting with one NPSM union thread and one ASTM F1960-24 cold-expansion end, with PEX-A reinforcing cold-expansion ring.

2. PEX-to-thermoplastic transition fittings:
a. PEX-A to CPVC transition: Thermoplastic fitting with one spigot or socket end and one ASTM F1960-24 cold-expansion end, with PEX-A reinforcing cold-expansion ring.

F. Ductile-Iron Pipe (DIP) and Fittings

1. All Ductile iron pipe and fittings must conform to the City of Seattle Standard Plans and Specifications, current edition, for water mains and service connections, unless otherwise indicated herein.
   a. Ductile iron pipe must conform to ANSI/AWWA C151/A21.51-23, standard thickness, Class 52. The pipe must be lined with cement mortar conforming to ANSI/AWWA C104/A21.4-2022 and coated with an asphaltic coating. Each length must be plainly marked with the manufacturer's identification, year cast, class of pipe, and weight. Type of joint must be rubber gasket, push-on type (Tyton) or mechanical joint (M.J.) conforming to ANSI/AWWA C111/A21.11-2023. Flanged joints must conform to ANSI B16.1-2020.
   b. Ductile Iron fittings must conform to the Standard Specifications Section 7-09.2 for water mains and Section 7-15 for service connections, unless otherwise indicated herein:
      1) DIP Fittings must be short-bodied ductile cast iron C110 or C153 for 350 psi pressure rated mechanical joint fittings and 250 psi pressure rated flanged fittings. All fittings must have a cement mortar lining conforming to ANSI/AWWA C104/A21.4-2022. The fittings must be furnished with flanged ends or mechanical joints as shown.
      2) DIP Restrained Joints must be made up with mechanical joint pipe and fittings. The mechanical joint restraint device must have a working pressure of at least 250 psi with a minimum safety factor of 2:1
      3) Solid Sleeve Pipe Couplings must be long pattern sleeves constructed of ductile iron with a minimum pressure rating of 250 psi working pressure.

2.02 PVC (POLYVINYL CHLORIDE) PIPE, FITTINGS, PRIMER, AND GLUE (if approved by Park Engineer):

A. All PVC Pipe must be **Schedule 40 PVC** (or better) and must conform to all requirements of ASTM D1785-21a.
B. All PVC Pipe must be marked with the manufacturer's name, class of pipe and NSF seal. Pipe must bear no evidence of interior or exterior extrusion marks. Pipe walls must be uniform, smooth, and glossy. Pipe may be pre-belled or with individual solvent-weld couplings.
C. All PVC Pipe must be solvent welded pipe. All PVC pipe must be delivered in at least 20-foot lengths.
D. All PVC fittings must be of the solvent welded type except where risers, valves, etc., require threaded transition fittings. All threaded PVC tees, fittings, adaptors, and nipples must be **Schedule 80 PVC** (or better) and must conform to the requirements of ASTM D2467-24. **All PVC Schedule 80 Female Adapters shall be Special Reinforced with Stainless Steel Collar, commonly referred to as "banded fittings**."

E. All PVC pipes and fittings for swing joints must conform to all requirements of ASTM D3139-19. No additional threaded PVC nipples of any kind are allowed in swing joint fabrications. All swing joints must be threaded into Schedule 80 PVC tees or Schedule 80 PVC 90-degree ells that are glued into the Schedule 40 mainline and lateral pipes.
F. Use Teflon tape on all threaded fittings, regardless of pipe type.
G. Primer color must be **Purple** and glue color must be **Gray**.

2.03 THRUST BLOCKING

A. Thrust Blocking is required for all mainline pipe 4 inches and greater and shall comply with the current edition of the City of Seattle Standard Plans for Municipal Construction, Concrete Blocking Standard Plans 330a-331b.

2.04 SLEEVES

A. Sleeves required for main and lateral lines located under paving (pathways and service roads within the park site) where light vehicles are anticipated, must be **HDPE drainage pipe, smooth interior wall, corrugated exterior (solid) meeting AASHTO M-252 Type S** (or better). The inside diameter (I.D.) of the sleeve must be two times the O.D. of the inserted pipe with a maximum of one insert pipe per sleeve. All wiring must be in its own separate sleeve, independent from the piping sleeves

1. For transverse installation (crossing the pathway), where vehicular loading and cover is less than 18 inches, use Controlled Density Fill (CDF) as trench backfill.
2. For longitudinal installation (along the pathway), install line in midway the width of the path (not along the wheel path), then standard trench backfill.

B. Sleeves under roadways (street rights-of-way, boulevards, or parkways), or where heavy vehicular traffic is anticipated, must be ductile iron pipe. The I.D. of the sleeve must be at least **two times** the O.D. of the total inserted pipes with multiple pipes inserted per sleeve (only as directed by the Engineer). All wiring must be in separate Schedule 80 PVC (or better) electrical conduit (min. 2 inches O.D.) within the **ductile iron pipe**.
C. All sleeves must be inspected and approved by the Engineer after forms are placed (for wall penetrations) and/or before paving operations are executed.

2.05 IRRIGATION SUBMETER (always required unless park facility has dedicated irrigation-only water service meter)

A. The irrigation submeter shall meet the requirements of the SPU Submetering Program, and shall meet current SPU Automated Meter Reading (AMR) technology requirements.
B. Meter shall be sized per design.

C. Meter shall be a Multi-jet Meter with Acculink register, potted for Itron AMR with 25-foot pigtail and connector for Electronic Radio Transmitter (ERT). Master Meter, Sensus, or approved equal, and must read in cubic feet.
D. ERT shall be Itron 100W+ E, "H2R – Hard-to-Read" mode.
E. During submittal review process, ensure meter and ERT are compatible and comply with current SPU requirements. ERT may need to be remotely mounted for reading by SPU. Coordinate location with Engineer.

2.06 BACKFLOW PREVENTION DEVICES (BPD) (May include a Double Check Valve Assembly (DCVA))

A. BPD must meet the requirements specified in the City of Seattle Standard Plans and Specifications for Road, Bridge, and Municipal Construction (most recent edition). Proper drainage must be provided at all BPD. Drainage problems must be brought to the attention of the Engineer at the time of system layout.
B. The BPD must be type and size as shown on the Plans and Details and/or the following: For (3/4 inch to 2 inches) use Double Check Valve Assembly (DCVA), for (2-1/2 inches to 10 inches) use DCVA or for other water features (as directed) use (3/4 inch to 2 inches) Reduced Pressure Assembly (RPA)
C. The manufacturer must be on the Approved Cross Connection Control Devices list of the Washington State Department of Social and Health Services for that size device.

2.07 PRESSURE REDUCING VALVE (PRV)

A. PRV must be capable of a minimum 150 psi working pressure as specified. Pressure fall off through the PRV must not exceed designer's specified limit. PRV must be the same size as the mainline where installed.
B. PRV must be of the type, manufacture and size shown on the Plans and Details

2.08 IRRIGATION BOOSTER PUMP(S) (if required)

A. Pump(s) must be as manufactured by Precision Pumping Systems, Boise, ID; Flowtronex, Dallas, TX; Watertronics, Hartland, WI; Rain Bird Corp., or approved equal.
B. Size of pump(s) varies and must be determined by the designer based on the pressure and flow demands of the irrigation system as designed. Bypass valve assembly shall be included. Refer to Section 32 82 00 – Irrigation Booster Pumps for information and specific requirements.

2.09 MANUAL VALVES

A. Gate Valves (GV): >2 inches must be flanged; all sizes must be iron body, brass trimmed, resilient double disc wedge, and integral taper seats with non-rising stem. Small (smaller than 2 inches) must have wheel handle, large sized (2 inches and larger) gate valves must have square actuators. All gate valves must be Class 150

with a minimum 150 psi - 300 WOG. Gate Valves: Must be ***Kennedy, Mueller, or Hammond***, or approved equal.

B. Globe Valves for HDPE irrigation systems: (2 inches O.D. through 3 inches O.D.) must be 200 psi rated angle globe valves with integrally restrained ends. Ends must be male swivel or integrally restrained push on gasketed joint as required. Components must be Ductile Iron, 316 Stainless Steel, and Low Zinc Bronze complying with ASTM A536-24, ASTM A276-24a, ASTM B62-C83600 respectively or equivalent. Ductile Iron must be fusion bond epoxy coated. Gasketed joints must be SBR Rubber and comply with ASTM F477-14(2021). Internal seals must be EPDM rubber.

C. Curb Stop Valves: Must be all bronze construction with 'tee' handle, 175 psi water working pressure,

D. Manual Drain (Stop & Waste) Valves: Must be all bronze construction, 175 psi water working pressure,

E. Manual Valves (MV): Size varies, must be of types, manufacture and sizes as shown on the Plans and Details and/or as specified in this Section.

2.10 QUICK COUPLING VALVES (QCV)

A. Must be of the type, manufacture and size shown on the Drawings All quick coupling valves must be installed in a 10-inch diameter valve box, as shown on the details.

B. Must be 1 inch, all brass, and two-piece bodies, with locking brass tops and have galvanized steel swing joints as shown in the details. Provide five operating keys and hose swivels on each project.

C. For Quick Coupler Valve installations on ballfield infields (generally located behind the pitcher's rubber/mound) a 1-1/2-inch brass, single piece body QCV must be used. In addition to the swing joint described below, an additional three feet of 1-1/2-inch O.D. Sch. 40 galvanized steel pipe must be installed at the end of the pipe to the QCV and must be installed as shown on the details. Note: When adding a quick coupling valve to an existing system, "Ford Coupling" as approved through Submittal process is required. No telescoping repair couplings will be allowed.

D. Quick coupler valve assemblies must be anchored with quick coupler anchors per the Detail.

2.11 SWING JOINTS

A. Swing joints for quick couplers must be triple swing joints using Schedule 40 galvanized steel with threaded fittings. Swing joints must consist of street ells, ells, and nipples for full adjustability. Galvanized swing joint, quick coupler assemblies must be installed in valve boxes, per the details.

B. Prefabricated swing joints, for irrigation heads, must be triple swing joints, using Schedule 80 or Class 315 PVC threaded fittings. Swing joints must consist of street ells, ells, and nipples for full adjustability. Fittings must have "O" ring seals.

2.12 POP-UP SPRINKLER HEADS

A. All heads must have a built-in pressure-regulating device. The device must regulate nozzle pressure to the design pressure. The pressure-regulating device must be an internal part of the pop-up stem.
B. The heads must have matched precipitation rate nozzles with adjusting screws.
C. All heads must have screens under the nozzles.
D. The heads must be equipped with check valves to prevent low head drainage. The check valves must hold back pressures equivalent to 10 feet of head.
E. The heads must be of types, manufacture and sizes shown on the Plans and Details and must be from the following list:

1. For Medium-sized Lawn Areas and/or Large Shrub Bed Areas use: Toro 300 Series or Hunter I-10 or 1-20 Series Heads, or approved equal. All heads must have stainless steel risers, if available.
2. For Small/Narrow Lawn Areas & Strips and Shrub Bed Areas use: Rainbird 1800-SAM-PRS-MPR Series or Toro 570 Series, (including strip or bubbler heads), or approved equal**.** HE-VAN (High-Efficiency Variable Arc Nozzle) nozzles on spray heads should be very limited but will be allowed provided they have matched precipitation rates for the zone in which they are used. Hunter MP Rotator or Rainbird R-VAN nozzles are allowed where conditions warrant, and shall be installed on 45 psi regulated sprinkler body.

2.13 AUTOMATIC CONTROL VALVE ASSEMBLIES

A. Valves must be of types, manufacture, and sizes as shown on the Drawings
B. For battery operated valves (rare), valves must be brass valve, with latching solenoid part #16305. Coordinate with battery timer to verify correct output voltage.
C. Valves must be of all brass construction or iron body, bronze-mounted, globe pattern. The valve pressure rating must be 150 psi min. All connections must be brass pipe, threaded.
D. Valves must be electrically operated, actuated by a solenoid utilizing AC current, 24 volts, and rated at not more than 8.5 VA with an in-rush maximum of 1.0 amp. The solenoid coil is to be sealed in an Epoxy material so it is completely waterproof.
E. Operation of all valves must be normally closed solenoid control capable of operating within minimum flow requirements.
F. Diaphragm operated of one-piece construction. The diaphragm must be fully pressure balanced in both the open and closed positions.
G. Solenoid must be mounted directly on the valve or bonnet. All parts and tubing downstream of the entrance must be of larger size to permit passage of foreign particles.
H. A flow adjustment stem with cross handle must be provided that limits the travel of the valve plug from full closed to full open, allowing manual closure or flow regulation. A manual control must be provided for operation with or without the control wiring installed.

I. Construction must be such that all operating parts are accessible and removable from the top by removing the bonnet without having to disconnect the valve body from the pipeline. The valve must be capable of being operated in any position.

J. All automatic control valve assemblies must include a manual shut-off valve upstream of the solenoid valve.

2.14 WIRING FOR AUTOMATIC CONTROL VALVES, MASTER VALVES AND FLOW SENSORS

A. Automatic Control Valve Wires must be insulated single strand copper designed for 20 to 50 volts and UL approved as Type U.F. (Underground Feeder). The UL and U.F. designations must be clearly marked or indented on the insulation jacket of the wire.

B. Expansion curls must be provided within three feet of each wire connection to solenoid and at least every 300 feet in length of control wire length. Expansion curls are formed by wrapping at least five turns of control wire around a rod or pipe 1 inch or more in diameter. Withdraw the rod or pipe once curls are formed.

C. Color coded wires must be used for all control and tracer wires and the following colors are the only colors that will be accepted:

Power (or lead-in) – Black or Red
Common (or neutral) – White
Spares (see below) – Orange
Tracer – Blue or Purple

D. One unconnected Spare Wire (color Orange) for each of the four zones, must be run from the controller through each intermediate control valve box. Provide at least 24 inch long, tight loop for each wire in each box. For clarification, zones 1 through 4 require one spare wire, zones 5 through 8 require an additional spare wire, and zones 9 through 12 require an additional spare wire, and so on. Where control valves run in multiple directions from the controller, at least one separate spare wire must be run in each direction. The spare wire(s) must always be installed to the farthest valve(s) location(s) from the controller.

E. The Master Valve must be installed with separate power and common wires which must be different colors than the other control wires. A spare wire must also be installed to the Master Valve. The following wire colors are the only colors that will be accepted:

1. Power – Blue
2. Common – Yellow
3. Spare – Orange

F. The Flow Sensor must be installed with a PE-89 Shielded Communication Cable as manufactured by Regence, or approved equal. This cable must be installed with no splices accepted other than where cable is attached to flow sensor, unless as

approved by the Engineer. Approved splice kit must be Super Serviceseal Closure with Poly-bee, or approved equal, to make that splice.

G. Copper conductors must meet or exceed ASTM B3-13(2018) requirements.

2.15 MASTER VALVES/FLOW SENSORS/FLOW MONITORS

A. Master Valves: Normally Open when MV is located on the same mainline as the Quick Coupler Valves (QCV) and Normally Closed when the quick coupler valves are on a separate mainline. (Locating QCV on a separate mainline is the preferred method).

1. The Master Valve must be of the type, manufacture and size shown on the Drawings and/or the following: Superior Series #3100 (for normally Open up to 3 inches O.D. size) or Superior Series #3200 (for normally Closed up to 3 inches O.D. size) or Bermad Ram 400 Series Hydraulic Control Valve (for 4 inches O.D. pipe size and larger), or approved equals.
2. The Master Valve must be a normally Open/Closed electric solenoid actuated valve. The valve must have an NPT inlet and outlet. The valve must be capable of working at pressures of up to 150 psi.
3. The Master Valve must meet all requirements for Automatic Control Valves as noted above.
4. The Master Valve must be installed with separate power and common wires which must be different colors than the other control wires. The wire colors must be blue (power) and yellow (common).

B. Hard Wired Flow Sensor

1. Flow sensor should be sized based on expected range of flows.
2. The thermoplastic Flow Sensor must have a six-bladed impeller with a proprietary, non-magnetic sensing mechanism. The transmitted signal must be a low impedance 8 VDC square wave signal. The maximum transmitted signal distance must be 2000 feet.
3. The Flow Sensor must include a Schedule 80 PVC tee fitted with a removable sensor insert.
4. The Flow Sensor must be installed in a PVC jumbo valve box, green color.

2.16 VALVE BOXES

A. Valve boxes must be of the type, manufacture and size shown on the Plans and Details and/or the following:

1. Use NDS Pro Series 10 inches diameter round valve boxes with locking lids for quick coupler valves, green color, or approved equal.
2. Use Oldcastle (Carson Specification Grade 1220 (typical for <1.5-inch valves), 1324 (typical for 1.5-inch and 2-inch valves), or larger/sized as

needed to fit valve assemblies) Super Jumbo Valve Boxes with locking lid or NDS Pro Series Jumbo boxes with bolt down locking lids and extensions as required (for single valve assembly only), green color, or approved equal.

3. Backflow Prevention Device Assemblies and pressure reducing valves (1-1/2-inch O.D. and larger) must be installed in a Concrete Vault as shown on the Plans and Details. For backflow prevention devices and pressure reducing valves (1-1/4-inch O.D. and smaller), use Fogtite #2 Meter Box or Christy Concrete Vault, or approved equal, with metal lid and extensions and/or bricks as required.
4. Use Pentek or NDS Pro Series 6–7-inch diameter round box, or approved equal, for grounding rods, green color.
5. Use vehicle traffic rated valve box in pathways with vehicular traffic. Load rating per anticipated vehicle and use, size will vary with valve needs.

B. Automatic control valves must be enclosed in valve boxes of HDPE or polyolefin and fibrous material (preferably recycled material) with locking lids. The bottom must be slotted so as to extend below the pipe. Extensions must be added as required to meet grades per the details. Automatic control valves must read ACV, master valve boxes must read MV, cast iron gate valve boxes must read WATER, etc.

C. Manual drain valves and individual gate valves must be enclosed in a Cast Iron Roadway Box, as manufactured by Olympic Foundry, Tyler Pipe, or Pentek "Polyiron" 5-1/4-inch valve box, or approved equal, with bottom, top, and lid, sized and extensions, as required. Lid must have the word "water" printed on it.

D. Provide two sets of all keys required for valves, valve box covers, and protective sleeve covers unless otherwise noted.

E. Occasionally, valves may need to be installed in athletic field areas of play. In those cases, valve boxes must be installed underground with the box cover 6 inches below finished grade and must have covers with a 4-inch by 4-inch by 1/8-inch-thick steel locator plate attached to the top of the cover. Clearly locate on As-built Drawings using latitude/longitude for GPS location, or dimensions to fixed objects (e.g., curb edge, or other non-buried valve boxes).

2.17 AUTOMATIC IRRIGATION CONTROLLER AND COMMUNICATIONS EQUIPMENT

A. Hybrid type controller that combines electromechanical and microprocessor-based circuitry capable of fully automatic and manual operation. Station timing: 1-120 minutes in 1-minute increments, and 2-12 hours in 10-minute increments. Input: 117-volt AC, 60HZ. Output: 26.5 Volt AC, 1.5 amps. Controller must have an integral circuit breaker or fuse. Controller must have two master valve/pump start circuits. Controller must have remote operation capability and must also include the following additional equipment:

NOTE: The Consultant needs to select the controller type from the following list of choices depending on whether the system is Maxicom controlled or not. If the system is not a Maxicom controlled system, select item #1 below, and fill in the correct controller model number. If option #1 is selected, further select flow sensing and IQ options as applicable. If

the system is to be a Maxicom controlled system, select item #2 below, and fill in the correct controller assembly model numbers. (Delete the item not used and this note).

1. The Controller must be a Rain Bird ESP-LXME2P Controller (XX station, wall mount) (Note: The exact configuration of controller modules varies based on the number of zones and other site conditions). If required during project review, include Rain Bird IQ-NCC-4G Communication Cartridge, or most current version, preconfigured by Rain Bird for cellular communication.
2. All Controller panels must have a Duplex Receptacle
3. All Controller panels must include a Terminal Strip for 24-volt wires.
4. All Controller assemblies must be mounted on an aluminum panel that is pre-assembled at the supplier's facility and later installed in the controller enclosure at the site by the Contractor's electrician.

B. Controller:

1. The Controller must be hard wired in conduit. All conduits must be UL approved electrical conduit minimum size 1-1/2-inch diameter, 18 inches deep minimum. Electrical Service conduit shall comply with local code and permit requirements.
2. The Conduit size for irrigation control wires must be minimum 1-1/2-inch diameter or greater to allow for all wires to be installed in a single conduit. Control wire and communication cable conduit shall be meeting or exceeding ASTM 3350, tested and listed to comply with UL651A.
3. The Communication Cable, or approved equal, must be the type recommended by the irrigation controller manufacturer. No splices in the communication cable will be allowed unless approved in writing by Engineer.

C. All controllers, communications and other required electrical equipment must be grounded (to a resistance of less than 10 ohms) using an array of three ground rods per the details.

2.18 CONTROLLER ENCLOSURE

A. The Controller Enclosure for a Single or Multiple Controller(s) or a Metered Power Drop with control equipment combination must be either a Skyline Electric NEMA-3R steel enclosure with concrete pedestal, a Strong Box stainless steel enclosure and concrete pedestal, or approved equal, per manufacturer's specifications and SPR Standard Details, and enclosure must be sized according to the control equipment required by the design and as shown on the Plans and Details.
B. Controller Enclosures must be constructed of 12-gauge pre-galvanized steel with aluminum interior mounting panels, double doors with three-point compression latches, and special vandal-proof slide bar and lock as shown on Plans and Details. The exterior of the enclosure must be dark green baked enamel.

2.19 OTHER SUPPLIES

A. Electrical tape must be black plastic, 3/4 inches wide and a minimum of 0.007 inches thick and the all-weather type.
B. Teflon tape must be used for all threaded connections. Tape must be set back a minimum of 1/4 inch into the pipe threading.
C. Pressure gages for the pressure reducing valve assembly must be liquid-filled with 1/4-inch gage cock attached.
D. Encapsulate all control valve wire splices with approved splice kit with sealant. The Wire Splice Kit is the 3M-DBY splice kit.
E. Grounding array must consist of at least three 8-foot long by 5/8-inch diameter copper rods.
F. When tying irrigation system piping into an existing system, a "Ford Coupling" as approved through Submittal process is required. No telescoping repair couplings will be allowed. An isolation valve is also required at that point of connection to allow for pressure testing of the new system.
G. Optional Sprinkler Head Protection Collars: Pre-cast concrete protection collars for heads installed immediately adjacent to walking or driving surfaces, as shown on the Drawings, or as directed by the Engineer. Pre-cast concrete protection collars must be 8-5/8-inch diameter by 2-inch depth.

2.20 IDENTIFICATION

A. Underground - Type Plastic Line Markers (Detect-a-Tape): Permanent, bright-colored, continuous-printed plasticized aluminum tape, intended for direct-burial service; not less than 3 inches wide x 5 mils thick and must be placed directly over the pipes at 6 inches below finished grades. Provide blue tape with black printing reading "CAUTION IRRIGATION LINE BURIED BELOW."
B. Valve zone identification tags are required . Tags must be made of polyurethane, incorporating an integral attachment neck and reinforced attachment hole and will be capable of withstanding 180 pounds pull force. Tag must be 2-1/4 inch by 2-3/4 inch in size. All lettering must be hot stamped in black and capable of withstanding outdoor use. Tag color must be yellow and stamped with zone valve number, double-sided.

2.21 BACKFILL MATERIALS

A. For backfill around all irrigation heads, use common builder's sand.
B. For suitable bedding material around all pipes and equipment as shown on the details, use native topsoil with no rocks or other debris more than 1 inch in diameter or common builder's sand per Section 31 00 00 – Earthwork.

PART 3 - EXECUTION

3.01 LAYOUT OF IRRIGATION SYSTEM

A. Stake the irrigation system following the design shown on the Plans before construction begins. Alterations and changes to the layout may be expected in order to conform to the site conditions and to obtain full and adequate coverage of area to be irrigated. It is understood that corrective measures in the system may become necessary, but no changes or alterations to the system as planned must be made without the prior authorization of the Engineer.
B. Before starting Work, determine that Work may proceed without disruption of the activities of other trades.
C. The Contractor must carefully check grades to ensure that the area is ready to begin Work.
D. The Contractor is responsible for taking all reasonable investigative actions and precautions when working around all utility systems.

3.02 TRENCHING

A. The Contractor may save and maintain any sod from the ditches and replace it after system installation. Sod must not be displaced for more than 72 hours. If the sod dries out or is otherwise improperly maintained or damaged during this period, it must be replaced with new sod at no additional cost to the Owner. Survival of the sod must be warranted as specified in the City of Seattle Standard Specifications (most recent edition).
B. Exercise care when excavating trenches near existing trees per Section 01 56 39 – Temporary Tree Vegetation and Soil Protection. Where roots are 2 inches and greater in diameter hand excavate and tunnel. When large roots are exposed, wrap with heavy burlap for protection and prevent excessive drying. Trenches dug by machines adjacent to trees having roots 2 inches and less in diameter must have the sides hand trimmed making a clean cut of the roots. Trenches having exposed tree roots must be backfilled within 24 hours unless adequately protected with moist burlap or canvas.
C. The top 6 inches of soil must be kept separate from subsoil and must be replaced as the top layer when backfill is made.
D. Trenches must be excavated for all pipe to provide the minimum depth of cover below finish grade of 24 inches for live lines (mains), and 18 inches for laterals and all others, no wider at any point than is necessary to lay the pipe or install equipment. Trenches must be excavated with vertical sides. Locate outside of paved areas wherever possible.
E. Materials unsuitable for bedding of pipe to be removed to a depth 4 inches below trench bottom, and replaced with suitable bedding material as directed by the Engineer. Suitable bedding material must be excavated trench material, free from rocks, roots, sticks, debris, or other sharp objects over 1 inch in diameter; or sand, as required.
F. All trenches must be straight, with appropriate pipefittings used to allow pipe to be laid without undue bending and not have abrupt changes in grade.
G. The trench bottom must be free of rocks or sharp-edged objects.

H. The use of an underground vibratory plow or similar device to pull pipe will not be permitted.

3.03 INSTALLATION

A. HDPE (PE) Pipe joining and installation methods:

1. Pipe and fittings must be installed using procedures recommended by the manufacturer.
2. Plain end pipe and fittings must be made using butt fusion. The butt fusion procedures must be in accordance with the manufacturer or the PPI. The fusion equipment operator must receive training using the recommended procedure. The Contractor must be responsible to verify that the fusion equipment is in good operating condition and that the operator has been trained within the past twelve months. Fusion beads must not be removed.
3. Heat Fusion Training. The supplier of the pipe and fittings must provide a person certified by the pipe manufacturer and the fusion equipment manufacturer to train Contractor fusion equipment operators and inspectors representing the Owner.
4. Mechanical Joining. Polyethylene pipe and fittings may be joined together using Flanges or Mechanical Joint (MJ) adapters. These fittings must be made from PE 4710 HDPE, with a Cell Classification of 345464C as determined by ASTM D3350-24. Flanged and MJ adapters must have a manufacturing standard of ASTM D3261-24. They must have a pressure rating equal to the pipe unless otherwise specified on the Plans. Mechanical saddles are not allowed.
5. Electrofusion couplings. Polyethylene pipe and fittings may be joined using approved electrofusion couplings. Fittings must be PE 4710 HDPE, Cell Classification of 345464C as determined by ASTM D3350-24. Electrofusion Fittings must have a manufacturing standard of ASTM F1055-16a(2022). Fittings must have a pressure rating equal to the pipe unless otherwise specified on the Plans. All electrofusion fittings must be suitable for use as pressure conduits, and per AWWA C906-00, have nominal burst values of three and one-half times the Working Pressure Rating (WPR) of the fitting.
6. Flange/MJ Adapter Installation. Flanges/MJ adapters must be attached to pipe and fittings using butt fusion. The flanges/MJ adapters must be aligned and centered relative to the pipe. Flanges/MJ adapters should be square with the valve or other flange before tightening of bolts. Bolts should not be used to draw flanges into alignment. Bolt threads must be lubricated, and flat washers must be used under flange nuts. Bolts must be tightened using a star tightening pattern. See the manufacturer's recommendations. Twenty-four hours after first tightening the flange bolts, they must be re-tightened using the same star tightening pattern used above. The final tightening torque must be as indicated by the manufacturer.

B. PEX-A:

1. PEX installation shall follow practices of the Plastic Pile Institute and Plastic Pipe and Fittings Association Design Guide, Residential PEX Water Supply Pluming Systems, Chapter 9 – Installation, Buried PEX Water Service Lines section.

C. Brass Pipe and Fittings:

1. Brass pipe must be installed in accordance with the local Plumbing Code and as shown on the Plans and Details.
2. Use Teflon tape on all male threads to prevent leaks and corrosion.
3. Wrap all brass pipes with black PVC tape where they pass through grouted openings in concrete vaults.

D. Solvent Welded PVC Pipe and Fittings:

1. The Contractor must exercise care in handling, loading, unloading, and storing to avoid damage. The pipe and fittings must be stored under cover, and must be transported in a vehicle with a bed long enough to allow the length of pipe to lay flat, so as not to be subject to undue bending or concentrated external load at any point. Any pipe that has been dented or damaged must be discarded until such damage has been cut out and the pipe is rejoined with a coupling.
2. PVC pipe ends must be cut to 90 degrees to the pipe length and cleaned of all cutting burrs prior to cementing. Use approved reaming tool. Pipe ends must be wiped clean with a rag and lightly wetted with PVC primer. Contractor must handle primer and cement in manner not to spill to the ground. Cement must be applied with a light coat on the inside of the fitting and heavier coat on the outside of the pipe. Pipe must be inserted into the fitting and given a quarter turn to seat the cement. Excess cement must be wiped from the outside of the pipe. Excess chemical product must be contained, and spills cleaned up. Pipe will be tested as indicated elsewhere in these Specifications. No back filling will be permitted other than at the centers of pipe lengths until the pressure test is completed.
3. Appropriate primer must be used with solvent glue. Solvent welded joints must be given at least 15 minutes set-up time before moving or handling. Pipe must be partially center loaded to prevent arching and slipping. No water must be permitted in pipe until a period of at least 10 hours has elapsed for solvent weld setting and curing.
4. Before pressure testing, soluble weld joints must be given at least 24 hours curing time.
5. No PVC pipe may be threaded or connected to a threaded fitting without an adapter. Use Teflon tape on all male threads.
6. Great care must be taken to ensure that the inside of the pipe is absolutely clean. Any pipe ends not being worked on must be protected and not left open.

7. Repairs or connections to existing PVC pipe must be approved equal fittings, as shown on SPR Standard Details No telescoping repair couplings will be allowed. An isolation valve is also required at that point of connection to allow for pressure testing of the new system.

E. By Exception Only - Gasketed PVC Pipe and Fittings:

1. Cut the pipe squarely and bevel the plain end of the pipe. Bevel should be approximately 15 degrees and 3/4 inches long. Remove any burrs and ridges on the pipe. Measure the bell depth and mark the pipe for reference. In cold weather allow 1/2-inch clearance between end of pipe and bell stop, to allow for later pipe expansion.
2. Clean all debris from the bell areas of the fitting or pipe. Check the position of the gasket so it's completely seated in the groove with no raised areas.
3. Lubricate the gasket and the plain end of the pipe with lubricant supplied by the pipe manufacturer.
4. Align the pipe with the bell end of the fitting or pipe and push together by hand or with pry bars on the end of the fitting or with pry bars using the lugs on the fitting. Insert until the reference line mark is even with the edge of the fitting bell.

F. Sleeves:

1. Pipe trenches located under areas of existing or new paving must have sleeves installed. Sleeves must extend 12 inches beyond the pavement on each side. Trenches must be backfilled with sand (6 inches above and 4 inches below the pipe) and compacted in layers to 95% compaction, using manual or mechanical tamping devices. Trenches for piping must be compacted to equal the compaction of the existing adjacent undisturbed soil and must be left in firm unyielding condition. All trenches must be left flush with the adjoining grade. The Contractor must set in place, cap and pressure test all piping under paving prior to paving work. For transverse installation (crossing the pathway), with vehicular loading and cover is less than 18 inches, use CDF or free draining structural fill as trench backfill. For longitudinal installation (along the pathway), install line in midway the width of the path (not along the wheel path), then standard trench backfill.
2. All sleeves installed by the Contractor prior to and during the installation of the rest of the irrigation system must be inspected by the Engineer and the SPR Plumbing Shop with at least two working days prior notice by calling the **SPR Inspection Request Line at (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov** .

G. Thrust Blocking: Thrust blocking must be installed on mainlines **4 inches O.D. and larger** according to City of Seattle Standard Specifications (most recent edition), or as otherwise indicated on the Plans.

H. Backflow Prevention Device Assembly:

1. A Water Service Line must be installed from the meter or the union at the property line to the Backflow Assembly. The Water Service Line installation must be inspected prior to backfilling by **Seattle Public Utilities Water Department's Water Service Inspectors at (206) 684-5803 (8:00-9:00AM) or (206) 684-5800 (9:00AM-12:00 noon - with same day inspection if before 12:00 noon)**.
2. Install the Backflow Prevention Device Assembly in accordance with the current local plumbing codes, and as shown on the details.
3. For proper maintenance, the Backflow Prevention Device Assembly must be located with sufficient clearance from other site features, not in paving and away from traffic patterns.
4. The Backflow Prevention Device Assembly must be installed in a specified and approved vault per the details.
5. Drain valves must be installed in accordance with current local plumbing codes and per the details.
6. All Backflow Prevention Device Assembly installations, including DCVA, require testing and certification by a Certified Backflow Assembly Tester (BAT), hired and paid for by the Contractor, prior to substantial completion and acceptance.
7. Once the device assembly is installed and certified, the Contractor must send report copies to ***SPU's Water Department Cross Connection Control Office. Call (206) 233-2635 for mailing address***. Email report to SPU_Backflow@seattle.gov. The certification report must include the serial number of the former device as well as the new serial number.
8. The device assembly must also be inspected by **SPR's Plumbing Shop**. To arrange for that inspection the Contractor must contact the **SPR Inspection Request Line at (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov with at least two working days' notice**. If an existing backflow prevention device is being replaced, the Contractor must return the removed assembly to Parks Plumbing Shop.

I. Irrigation Pump (if required): RESERVED

J. Manual Valves:

1. All manual (gate, isolation, lateral isolation, shut-off or drain) valves must be installed as shown in the SPR Standard Details.
   a. Gate, isolation, and lateral isolation valves must be installed in an adjustable two-piece cast-iron roadway box designed with tabs (lugs) on cover with 5 inches minimum inside diameter. The top section must be 18 inches minimum length with a valve cover marked "WATER."
   b. All gate valve assemblies must be installed at least 24 inches away from any other valve boxes, vaults, or other equipment or structures to

allow for ease of maintenance and replacement, as shown on the details.

K. Quick Coupling Valves:

1. Quick coupler valves must be located as shown on the Plans or at approximately 100-foot intervals, unless otherwise directed by the Engineer through the design review process. One additional quick coupling valve must be installed at the Point of Connection (POC) for use of compressed air for winterizing the system.
2. All quick coupling valves must be installed in a 10 inches diameter valve box as shown on the details.

L. Risers and Swing Joints:

1. All pop-up sprinkler heads and quick coupler swing joints must be constructed as shown on the details.
2. Minimum riser size must be the pipe size of the sprinkler head.
3. All threaded joints must have Teflon tape (approved for appropriate pipe type) applied to male threads only. No pipe dope is allowed.
4. Risers are to be capped after installation in preparation for pressure testing.
5. All pop-up sprinkler heads and quick couplers must have swing joints that allow the head or quick coupler to be set perpendicular and flush with finish grades.
6. In no case must the heads be set with swing joints at maximum extension, thus preventing future adjustment.

M. Pop-up Sprinkler Heads:

1. Install all sprinkler heads as shown on the Plans and Details.
2. Spacing of heads must not exceed spacing shown on the Plans for any reason.
3. Heads along curbs, walks, paving, etc., must be placed 1/2 inch above finish grade and no closer than 4 inches from paving edge.
4. All impact sprinkler heads located in athletic turf areas must be equipped with rubber covers.
5. All heads must be set perpendicular to finish grade unless otherwise designated on the Plans.
6. Backfill around heads with sand, as shown on the details.

N. Automatic Control Valves:

1. Install as shown on the Plans and Details.
2. Before installation of any automatic valves, the supply line must be thoroughly flushed.
3. All Automatic Control Valve Assemblies must be enclosed in jumbo valve boxes with valve box extensions as required, as shown on the details.

4. Install only one valve assembly per valve box.

O. Master Valve/Flow Sensors:

1. Install Master Valve/Flow Sensors per manufacturer's specifications.
2. Coordinate wiring with control equipment (blue and yellow wires required).
3. All Master Valves and Flow Sensors must be enclosed in valve boxes with valve box extensions as required, as shown on the details.

P. Wiring:

1. Control wires must be taped together at 5-foot intervals with black electrical tape; then this bundle must be taped to the bottom of the supply lines at 10-foot intervals with at least three wraps of electrical tape.
2. A tracer copper wire (#14 or greater, blue or purple jacket) must be installed on top of the irrigation main line for future detection with the wire ends clearly exposed in the valve boxes.
3. Tie a loose 24 inches long loop in all wiring at changes of direction greater than 30 degrees. Untie all loops after all connections have been made.
4. Splices are permitted only at junction boxes, valve boxes, or at control equipment and never between valves or valve and controller. A minimum of 24 inches of excess conductor must be left at all splices, terminal, and control valves to facilitate inspection and future splicing. All splices must be encapsulated with sealant in approved splice kit. The splice kit must be a 3M-DBY type water-proof wire splice. If a splice between the controller and valve is required due to damage to existing valve wires, the splice must include minimum 24 inches excess length of control wire added at the splice location. At the break location, two splices are required to complete the repair. The splices (two per break) must leave splice kits unburied, and must be housed in a separate rectangular valve box and brought to finish grade.
5. One unconnected Spare Wire (color Orange) for each of the four zones must be run from the controller through each intermediate control valve box. Provide at least a 24 inch long, tight loop for each wire in each box. Where control valves run in multiple directions from the controller, at least one separate spare wire must be run in each direction. The spare wire(s) must always be installed to the farthest valve(s) location(s) from the controller.
6. A schedule diagram (zone chart) must be posted in the controller to facilitate the selection of the valves to be operated.
7. Minimum size of wire is to be determined strictly by the following chart:

Number of Valves	Maximum Length of Common Wire			
	500 feet	1000 feet	2000 feet	3000 feet
1	14	14	14	14
2	14	14	14	10
3	14	14	10	8
4	14	14	10	8
5	14	10	8	6
6	14	10	6	6
7	14	8	6	4
8	14	8	6	4
9	14	8	4	4
10	10	6	4	2
11	10	6	4	-

8. The Flow Sensor Wire - PE-89 Shielded Communication Cablemust be installed with no splices accepted other than where the cable is attached to the flow sensor, unless as approved by the Engineer At least a 5-foot loop of excess cable must be left at the point of connection in the controller enclosure to ensure that enough slack is available for connection to the controller.

Q. Automatic Controllers:

1. Install irrigation Controllers per manufacturer's specifications and Shop Drawings.
2. Electrical wiring (120 V.A.C.) must be installed according to local code. A licensed electrician must perform hard wiring of controller, and the Work must be permitted per City of Seattle requirements. The cost of all electrical work necessary to make the automatic equipment operate properly must be included in this Contract.
3. Conduit for power supply wires must be installed as shown on Plans and Details and controller manufacturers Shop Drawings. The ends of all conduits, whether shop cut or field cut, must be reamed to remove burrs and rough edges. Cuts must be made square and true. Conduit bends, except factory bends, must have a radius of not less than six times the inside diameter of the conduit. A 3/16-inch polyethylene pull rope must be installed in all conduits with two feet of pull rope extended beyond the conduit openings and then secured. All conduits must be free of debris. All conduit openings must be sealed with duct tape to prevent fouling.
4. The controller enclosure must be properly grounded per the details.
5. A diagram of schedule (zone chart) must be posted in the controller to facilitate the selection of the valves to be operated.
6. Install decoders, transmitter, and all control equipment in controller housing per manufacturer's specifications.

7. Cellular Communication and other required equipment: The Contractor must notify the Engineer when the Maxicom controller panel is installed so that Parks staff can obtain the modem IP address and then program the modem for the Functionality Test. The Contractor must also provide the Engineer with the keys and/or other tools necessary to operate/drain/activate the system and spend sufficient time with the Engineer to ensure that the system operation/maintenance/winterizing can continue after departure of the Contractor.
8. The Contractor must be liable for all damage or loss resulting from failure to comply with the provisions of this paragraph. All of the above procedures must be done before the Functional Test can occur, as described below.

R. Backfilling:

1. Backfilling must be done when pipe is not in an expanded condition due to heat or pressure. Cooling of the pipe can be accomplished by operating the system for a short time before back-fill, or by back-filling in the early part of the morning before the heat of the day.
2. While backfilling the trenches fill and tamp around, 4 inches below and 6 inches above the pipe and fittings with approved suitable bedding material, or sand as required. The remainder of the backfill must contain no lumps or rocks larger than 3 inches. A 6-inch separation is required between all pipes when more than one pipe occupies the trench. If no sodding is required, the top 6 inches of backfill must be replaced by topsoil where it exists (free of rocks over 1 inch, subsoil, or trash) or by selected fill soil or sand if soil conditions are rocky.
3. All roots, rocks and surplus excavation must be removed from the site unless otherwise directed. Any turf areas buried under ditch excavation must be raked clean of any excavated material.
4. Trenches under roads or paved areas must be backfilled and tamped with a mechanical tamper in successive 6-inch lifts. Paving must be replaced to the satisfaction of the Engineer.
5. Prior to completing backfill, place detection tape 6 inches below finished grades and directly above the installed lateral and supply mains for future line detection. Provide extra length to clearly expose ends in the valve boxes.
6. Before complete back-filling, all underground appurtenances including risers, valves, double check valve assembly, drain valves, and joints must remain exposed so that they can be viewed during testing.
7. The location, inspecting and testing provisions of these Specifications will be strictly adhered to. If, for any reason, any part of the sprinkler system is backfilled before approved location, testing, or inspection is authorized, it must be completely uncovered and exposed until approved for back-filling by the Engineer.

3.04 CLEAN-UP

A. Upon completion of operations and prior to watering, clean all adjoining areas such as paving, curbs, and lawns of debris caused by the Work on this project, or any part of this project. All hard surfaced areas must be washed clean. Daily clean-up is required in all areas used for circulation, parking, or other daily use.

3.05 TESTING AND INSPECTIONS

A. Pressure Testing:

1. Make hydrostatic tests in the presence of the Engineer and SPR's Plumbing Shop. No pipe must be backfilled until it has been inspected, tested, and approved.
2. Furnish necessary pump, gauges, and all other test equipment.
3. All PVC main lines with gate (isolation) valves installed and closed must be flushed and pressure tested with all joints exposed to 150 psi until watertight. Maximum psi loss in a 30-minute test period must be 5 psi.
4. Similarly, all PVC lateral lines with risers installed and capped must be flushed and pressure tested with all joints exposed to service line pressure required for design for 30 minutes. If the system requires a pump, the service line pressure is required with the pump in operation. Maximum psi loss allowed must be five 5 psi. The Engineer and SPR's Plumbing Shop must visually inspect all lateral lines, joints, and swing joints for leakage.
5. To be valid, all tests must be witnessed and approved by the Engineer and SPR's Plumbing Shop. The Contractor must give at least two working days' notice prior to the anticipated date of inspection by calling the **SPR Inspection Request Line at 684-7034 or contacting by email at parksconstruction.inspection@seattle.gov.**
6. All gauges used in the testing of water pressures must be certified correct by an independent testing laboratory immediately prior to use on the project. Gauges must be re-tested when directed by the Engineer and SPR's Plumbing Shop.
7. An Inspection Report must be made and submitted by the Engineer and SPR's Plumbing Shop immediately after the completion of testing.

3.06 WIRE INSPECTION

A. Prior to backfill of any trenches that include wiring, all wiring must be inspected in the presence of the Engineer and SPR's Electrical Shop. No trenches with wiring must be backfilled until it has been inspected and approved. The Contractor must give at least two working days' notice prior to the anticipated date of inspection by calling the **SPR Inspection Request Line at 684-7034 or contacting by email at parksconstruction.inspection@seattle.gov**.

B. Equipment Surveying: Upon the Engineer's approval of the Pressure Test, the Contractor must locate main lines and lateral lines and transfer that information onto the red-lined Plan, to be passed along to the Consultant for final As-Built Record Document preparation. The Contractor must provide that service at their cost or can

request that the Engineer provide survey services (if agreed to by the Engineer, in advance) before the backfilling of trenches can be completed.

C. Coverage Test:

1. Before the irrigation system will be accepted, the Contractor, in the presence of the Engineer, must perform a water coverage test for each zone of the system. This test must be performed using only the power supplied from the metered power drop supplied by Seattle City Light. Never perform this or any other testing of the irrigation system equipment using power supplied by a portable generator. The Contractor must be responsible for changing nozzles, etc., at the discretion of Engineer, in order to obtain full coverage with minimum over spray. The Contractor will be required to adjust and/or replace nozzles, etc., as necessary to meet this requirement. Prior to arrival of the Engineer, the Contractor must accomplish the following: Complete all Work including balancing, adjusting the system (pressure reducing valves, flow adjustment keys, nozzles, etc.) to provide optimum coverage without fogging.
2. Notify the Engineer at least two working days in advance of coverage test by calling the **Request Line @ (206) 684-7032 or by email at parksconstruction.inspection@seattle.gov**.

D. Functionality Test:

1. A functionality test of the control/communication systems must be performed and demonstrate that all parts of the system function as specified or intended.

E. Complete System Inspection (Preliminary Punch List):

1. Upon approved completion of the Coverage Test, trenching and installation of all equipment, the Contractor must request a Complete System Inspection of the entire irrigation system including backfilling, irrigation heads, valves, valve boxes, controller, and all other equipment.
2. From this inspection, a punch list must be prepared by the Engineer and presented to the Contractor for completion. The Engineer must give a date for completion of the punch list, not to exceed 10 working days.

F. Substantial Completion:

1. Contractor must write a letter to the Engineer requesting substantial completion of the irrigation system.
2. Refer to Division 1 Specifications for information about how the irrigation system must be determined to be substantially complete.

G. System Operation Orientation Session:

1. A training and orientation session must be required. The Contractor, the irrigation Sub-Contractor, the Consultant and the Engineer must be present. The date and time of the session must be subject to the approval of the Engineer.

H. Record Documents:

1. It is the Consultant's responsibility to ensure that the following steps are taken to record the As-built information of all underground utilities.
    a. The Contractor must keep a current working set of Drawings with all As-built changes or actual conditions as Work proceeds, to be submitted to the Consultant at completion of irrigation system installation.
    b. The Contractor must perform all required tests, audits, etc., with adequate notice as described in Section 01 78 39 – Record Documents.
    c. The Consultant must prepare AutoCAD Record Documents with the Contractor's and/or SPR Surveyor's As-built information included, to be submitted to the Engineer in digital format as specified in the Consultant Contract, along with all other required information, O&M manuals, etc. The submittal must also include .pdf, .jpg or .tif format files of the Record Documents, along with Mylar hard copies of the Record Documents to be submitted to the Engineer at Physical Completion of the project.
        1) The As-built Plans must be reviewed and all features explained. The As-built Plans must consist of red-lined corrections, notes, comments, etc., on a clean bond paper copy. Any major deviations from the original design (as previously approved) must be documented on the As-builts and explained at the session. All critical dimensions must be shown.
        2) The Consultant must review and approve the As-built Plans submitted by the Contractor.
        3) A complete O&M Manual must be prepared by the Contractor and three copies of the manual must be turned over to the Engineer at the final inspection. The manuals must consist of:
            a) Catalogs of all Materials used,
            b) A complete parts list of all Materials,
            c) A written summary of all operations data including spring start-up and winterization techniques, controller programming, valve cleaning, irrigation adjustments, backflow preventer operation and any other information required to operate and maintain system,
            d) Two local distributors.
    d. Controller Charts:

1) The Record Documents must be approved by the Engineer before charts are prepared. The chart must be a reduction of the actual Record Documents prepared by the Consultant.
2) Provide two controller charts per controller. Controller charts must fit in behind controller door.
3) The Chart must be a bond copy print with a different pastel transparent color to show each separate zone. Verify that the zone number as shown on the Controller Chart matches the number on the actual control valve identification tag. Numbering of zones must be done as specified above in this Section.
4) When completed and approved, laminate the chart.
5) The charts must be completed before the project can be considered Physically Complete.

e. The Contractor must provide the Engineer with the necessary keys and/or other tools necessary to operate/drain/activate the system and spend sufficient time with the Engineer to ensure that the system operation/maintenance/winterizing can continue after departure of the Contractor. The Contractor must also provide the two TRC Remotes to the Engineer at this stage. The Contractor must be liable for all damage or loss resulting from failure to comply with the provisions of this paragraph.

I. Physical Completion:

1. Upon completion and approval of all tests, inspections, training, manuals, As-built Drawings, and other requirements of this Section, the Engineer must write a letter to the Contractor transferring the project to the Owner's Maintenance and Operation personnel.
2. Physical Completion of the system will be contingent upon the Contractor providing signed and approved irrigation/plumbing/health/electrical permits as may be applicable.

J. Irrigation System Warranty:

1. The project must include one complete winterization and one complete de-winterization of the irrigation system, and this may occur during the Warranty Period.

K. Term of Warranty:

1. The Contractor must be responsible for all Work showing defects in Materials or workmanship, at no cost to the Owner, for a period of **One Year** from date of Physical Completion or one year from date of de-winterization, whichever is latest. The Warranty must include restoration of planted or paved areas due to settlement of trenches.

a. A final site meeting must take place eleven months after the date of Substantial Completion or de-winterization, whichever is later. The system must be examined by the Engineer to determine if the system requires alterations or replacements.

END OF SECTION 32 80 00

PART 1 - GENERAL

1.01 Description: The work includes the furnishing and installation of soil and/or amendments for lawn areas, athletic fields, or landscape planting areas.

1.02 Reference Sections:

Section 31 00 00 - Earthwork
Section 32 93 00 - Landscape Planting

1.03 Quality Assurance: All products supplied shall comply with applicable state and local codes.

1.04 Submittals:

A. Submittal Procedure

At least 10 Working Days prior to placement of any soils specified in this Section, the Contractor shall submit to the Engineer the following. All test results shall be from samples sampled and tested less than 90 days prior to date of submittal.

1. **Aggregate and Loam Analysis.** Grain size analysis results of the Mineral Aggregate or Sandy Loam portion of each soil mix, performed by an accredited laboratory in accordance with ASTM D 422, Standard Test Method for Particle Size Analysis of Soils.
2. **Compost Analysis.** Quality analysis results for the compost portion of each soil mix performed in accordance with STA standards, as specified in this Section.
3. **Mix Analysis.** Test results from an accredited soil laboratory, including the following parameters:
    a. Total Nitrogen and Soluble Nitrogen (NO3 + NH3)
    b. Phosphorous
    c. Potassium
    d. pH
    e. Organic Matter % (Loss on Ignition method)
    f. Conductivity
    g. Calcium
    h. Sulfur
    i. Boron
    j. Weed seed (for General Turf Area Soil and High Performance Turf Mixes)
4. **Recommendations.** Fertilizer and amendment recommendations for the specified plant type (turf, shrubs/groundcovers, or annuals: with special provisions for Bioretention applications) and soil application depth; from the accredited laboratory, an accredited Soil Scientist or Agronomist.
5. **Mix Samples (see below)**
6. **Manufacturer.** The Manufacturer's Certificate(s) of Compliance from the Supplier of the soil mix, and (if different) the Suppliers of the compost, including their name(s) and address(es).
7. **Laboratory Information.** Include the following information about the testing laboratories:

a. name of laboratory(ies) including contact person(s),
b. address(es),
c. phone contact(s),
d. e-mail address(es),
e. qualifications of laboratory and personnel including date of current certification by STA, ASTM, AASHTO, or approved equal.

Note: Soil analysis tests shall be current (no more than 90 days old), shall be performed by a local (Puget Sound Region) testing lab and shall be done for the final soil mix, not individual components. Soil mix samples shall meet or exceed the Specifications prior to delivery to the job site and shall not require on-site mixing or substantial chemical alteration after delivery unless otherwise approved by the Engineer.

B. Sample submittals:

1. One ten (10) pound bag of each soil mix or one five (5) gallon container of each soil type used on the project.
2. One ten (10) pound bag or five (5) gallon of compost sample.

C. Acceptance:

1. Acceptance of Soils Prior to Placement. The Contractor shall not place any soils or soil mixes specified in this Section until the Engineer has reviewed and confirmed the following:
2. Soil mix delivery ticket(s). Delivery tickets shall show that the full delivered amount of soil matches the product type, volume and Manufacturer named in the submittals.
3. Visual match with submitted samples. Delivered product will be compared to the submitted sample, to verify that it matches the submitted sample. The Engineer may inspect any loads of soil on delivery and stop placement if it is determined that the delivered soil does not appear to match the submittals; and require sampling and testing of the delivered soil, before authorizing soil placement. All testing costs shall be the responsibility of the Contractor.

1.05 Project Conditions:

A. The existing site soils shall be amended for lawn, planting beds, bioretention cells, or as otherwise shown on the drawings.

B. Keep streets, sidewalks and site clean, free from debris and affected drains open and free flowing at all times. Protect drains with filter fabric covers during construction. Appropriate erosion control measures shall be employed.

PART 2 - PRODUCTS

2.01 Soil Materials:

The following soils and soil mixes are specified on the Drawings or by the Engineer, according to project needs, and are all subject to the General Testing and Submittal Requirements of the City of Seattle Standards:

A. Topsoil Type A (for projects on WSDOT property)
A general purpose mix of Sandy Loam and compost as needed to meet minimum organic matter content requirements. Similar to Washington State Department of Transportation's Topsoil Type A specification.

1. **Source.** Topsoil Type A shall consist of an imported Sandy Loam as defined by the United States Department of Agriculture Classification System, and documented by a Particle Size Analysis performed by an accredited laboratory.
2. **Organic Content.** Topsoil Type-A shall have an organic matter content of at least 5% by dry weight where turf will be installed, and at least 10% by dry weight for all other landscape areas. Organic matter shall be determined by Loss-on-Ignition test (ASTM D2974, or TMECC 05.07A). If additional organic content is needed meet these requirements, soil shall be amended with Compost. Compost amendment requirements may be added at default rates of 22% by volume for turf or 38% for planting beds (1.75" amendment tilled to 8" depth for turf, 3" amendment tilled to 8" depth for beds); or calculated based on tests of the soil and compost, using the Soil Amendment Rate Calculator at http://your.kingcounty.gov/solidwaste/compost-calculator.htm or similar calculator available at http://www.soilsforsalmon.org/excel/Compost_Calculator.xls.
3. **Sieve.** In addition to meeting the particle size requirements of USDA Sandy Loam, Topsoil Type-A shall meet the following sieve specifications:

Sieve Size	Percent Passing (weight)
1"	100%
1/2"	>90%
No.10	>70%

4. **Contaminants.** Topsoil Type-A shall be free from: Materials toxic to plant growth; visible seeds, rhizomes or roots; any King County-listed noxious weeds, or invasive root-propagating plants including but not limited to horsetail, ivy, clematis, knotweed, etc. Soil found to contain these prohibited viable plant materials shall be removed and replaced at the Contractor's expense
5. **Testing and Submittals.** Testing and submittals shall comply with all provisions of this Section.

B. Reused Amended Site Soil
Soil from the Project Site that is either, amended in place, or moved/stockpiled during grading operations and then amended with compost as needed to meet minimum organic matter content requirements.

1. **Source.** Reused Amended Site Soil shall be native topsoil taken from within the Project Site, either from areas where construction excavation is to be performed;

from borrow, pit, or quarry sites strippings; or other designated sources. The general limits of the Material to be utilized for topsoil will be indicated in the Contract. The Engineer will make the final determination of the areas where the most suitable Material exists within these general limits, and depth of excavation. The Contractor shall reserve this Material for the specified use.

2. **Unwanted Vegetation.** In the production of Reused Amended Site Soil, all vegetative matter shall become a part of the topsoil, except large brush and trees over 4 feet in height, Prior to removal, the Contractor shall mow or otherwise reduce the height of the native vegetation such to a height not exceeding 1 foot. Plants on the King County Noxious Weed Lists or invasive root-propagating plants including but not limited to horsetail, ivy, clematis, knotweed, etc., shall not be incorporated in the topsoil. Such plants shall be removed and disposed.
3. **Organic content.** The final Reused Amended Site Soil shall have a minimum organic matter content by dry weight of 5% for areas where turf will be installed, and 10% for all other landscape areas. Organic matter shall be determined by Loss-on-Ignition test (ASTM D2974, or TMECC 05.07A). Native site topsoil shall be amended with Compost if more organic content is needed to meet these requirements. Compost amendment requirements may be added at default rates of 22% by volume for turf or 38% for planting beds (1.75" amendment tilled to 8" depth for turf, 3" amendment tilled to 8" depth for beds); or calculated based on tests of the soil and compost, using the Soil Amendment Rate Calculator at http://your.kingcounty.gov/solidwaste/compost-calculator.htm or similar calculator available at http://www.soilsforsalmon.org/excel/Compost_Calculator.xls.
4. **Stockpiling.** Designated Material shall be placed at locations approved by the Engineer that do not interfere with the construction of the Project. The Contractor shall take all precautions to avoid disturbing the existing ground beyond the Project Site or other areas designated by the Engineer.
5. **Testing and Submittals.** Testing and submittals shall comply with all provisions of this Section.

C. Bioretention Soil

An imported mix made of Mineral Aggregate and compost specified to meet the infiltration and filtration requirements of stormwater management structures. For Project Sites located within the City limits of Seattle; Bioretention Soil shall be procured only from approved sources as specified by the City of Seattle, City Purchasing and Contracting Services (http://www.seattle.gov/contracting/construction.htm).

1. **Procurement.** For Project Sites located within the City limits of Seattle; the Contractor shall procure bioretention soil Materials from only approved sources as specified by the City of Seattle, City Purchasing and Contracting Services (http://www.seattle.gov/contracting/construction.htm).
2. **Mix Components.** Bioretention Soil shall be a well-blended mixture of Mineral Aggregate and compost measured on a volume basis. Bioretention Soil shall consist of approximately two parts fine compost (approximately 35 to 40 percent) by volume meeting the requirements of this Section and three parts

Mineral Aggregate (approximately 60 to 65 percent), by volume meeting the requirements of City of Seattle Standard Section 9-03.2(2) as follows.

Sieve Size	Percent Passing
3/8" square	100
U.S. #4	60-100
U.S. #10	40-100
U.S. #40	15-50
U.S. #200	2-5

The mixture shall be well blended to produce a homogeneous mix, and have an organic matter content of 4% to 8% determined using the Loss on Ignition Method.

D. Planting Soil

An imported soil mix for planting beds, planted medians and planting strips.

1. **Mix.** Planting soil shall consist of a mix of 2 to 3 parts Sandy Loam soil and 1 part compost by volume. The resulting mix shall contain approximately 8-15% organic matter by weight, tested by the Loss on Ignition method.
2. **Sandy Loam.** Shall be imported and shall be as defined by the United States Department of Agriculture Classification System, and documented by a Particle Size Analysis performed by an accredited laboratory. The sandy loam fraction of mix shall be screened through a ½" mesh, to remove all rocks, plant parts and other debris.
3. **Compost.** Compost used shall meet the definition of Compost in this Section.
4. **Contaminants.** Sandy Loam shall be free from: Materials toxic to plant growth; visible seeds, rhizomes or roots; for any King County-listed noxious weeds, or invasive root-propagating plants including but not limited to horsetail, ivy, clematis, knotweed, etc.
5. **Testing and Submittals.** Testing and submittals shall comply with all provisions of this Section.

E. General Turf Area Soil

An imported soil mix for passive-recreation turf areas.

General Turf Area Soil is for general-use and passive recreation lawn areas, in areas where year-round maintenance and positive drainage are important. For sports fields or high-traffic lawn areas such as Seattle Center, the Contractor shall use High Performance Turf Mix.

1. **Mix.** General Turf Area Soil shall consist of 2 parts sand meeting the requirements below, and 1 part Compost by volume. The resulting mix shall contain approximately 4-6% organic matter by weight, tested by the Loss on Ignitions method.
2. **Sand.** Sand used shall meet the following particle distribution.

Screen Size	Percent Retained
3/8 inch	0
#4	<3%

#6	<5%
#10	<20%
#18	<20%
#20	25-50%
#30	
#35	
#40	>20%
#60	
#100	<10%
#200	<5%
#270	<5%
2um	<5%
<2um	<3%

3. **Compost.** Compost used shall meet the definition of Compost in this Section 2.02 and be certified in compliance with the US Composting Council STA program.
4. **Testing and Submittals.** Testing and submittals shall comply with all provisions of this Section.
5. **Weed Seeds and Propagules.** General Turf Area Soil shall not contain any viable seeds or roots capable of sprouting of any State-listed noxious weed, or invasive root-propagating plants including but not limited to horsetail, ivy, clematis, knotweed, etc. Soil found to contain these prohibited viable plant materials shall be removed and replaced at the Contractor's expense.

F. High Performance Turf Soil

An imported soil mix for intensive-use turf areas, used for athletic fields or high traffic lawn areas such as those used for events, with sub-surface drainage and in-ground irrigation. These soils include three different mixes of sand and compost to optimize drainage and fertility in different sites and uses.

1. **Mixes.** High Performance Turf Soil shall consist of 80% - 95% quartz based sands, uniformly blended with 5% - 20% compost by volume. The ratio of sand to organic amendment shall be determined by the Engineer, depending on the intended turf use:
   a. High Performance - Standard Mix: 90% sand plus 10% compost
   b. High Performance - Fertility Mix: 80% sand plus 20% compost
   c.. High Performance - Drainage Mix: 95% sand plus 5% compost

2. **Mineral Aggregate.** Sand shall be free of weed seeds and propagules; and meet the following particle size distribution with a Coefficient of Uniformity between 2.5 and 4.5:

Size Fraction	**Particle Size Range**	**Screen**	**Incremental % retained**	
Gravel	3/8"	3/8"	0%	
Gravel	>4.75 mm	#4	<3%	<30% combined
Gravel	3.4 to 4.75 mm	#6	<5 %	
Fine gravel	2.0 to 3.4 mm	#10	<20 %	

Very coarse sand	1.0 to 2.0 mm	#18	<20 %	
Coarse sand	0.5 to 1.0 mm	#35	25 to 50 %	>60% of sand
Medium sand	0.25 to 0.5 mm	#60	>20 %	
Fine sand	0.15 to 0.25 mm	#100	<10 %	<15% combined
Very fine sand	0.05 to 0.15 mm	#270	<5 %	
Silt	0.002 to 0.05 mm	By Hydrometer	<5 %	
Clay	<0.002 mm		<3 %	

3. **Compost Amendment.** Compost used shall be free of weed seeds and propagules, and meet the definition of Compost in this Section 2.02.
4. **Offsite Blending.** Sand and organic amendment shall be thoroughly blended off site, after samples of sand and amendment have been submitted for testing and approval.
5. **Test Submittals.** At least 10 Working Days prior to placement of High Performance Turf Soil, the Contractor shall submit to the Engineer the following in accordance with City of Seattle Standard Section 1-05.3:
   a. **Compost.** Analysis performed in accordance with STA standards, as specified in this Section 2.02;
   b. **Sand.** Grain size analysis results of the Mineral Aggregate performed by an independent laboratory in accordance with ASTM D 422, Standard Test Method for Particle Size Analysis of Soils.
   c. **Mix.** Report the following parameters, from an accredited independent lab. Testing and recommendations shall be at the Contractor's expense.
      i. pH
      ii. **Organic Matter.** Using the Walkley-Black Method.
      iii. **Nutrients:** Total Nitrogen, NO-3 and NH-3; Phosphorus, Potassium, Calcium, Sulfur, Magnesium, Boron.
      iv. **Conductivity.**
      v. **Weed Seeds.** High Performance Turf Mixes shall be free of viable weed seeds or propagules, as determined by bioassay using TMECC 05.09-A, Shields Rinse Method**.**
      vi. **Amendment Recommendations.** Fertilizer and amendment recommendations for turf, from an accredited Agronomist or Soil Scientist.
      vii. **Laboratory Information.** Name, address, phone and e-mail contact information; and qualifications of laboratory and personnel including a copy of current certification by STA, AAHTO, or approved equal.

6. **Mix Samples.** At least 10 Working Days prior to placement of High Performance Turf Soil, the Contractor shall submit to the Engineer one five (5) gallon sample of the High Performance Turf Mix, along with the following information:
   a. The Manufacturer's Certificate(s) of Compliance per City of Seattle Standard Section 1-06.3 accompanying the test results from the Supplier of the High Performance Turf Mix, and (if different) the Suppliers of the mineral aggregate and compost components, including their name(s) and address(es);

b. A description of the equipment and methods to mix the Mineral Aggregate and compost to produce High Performance Turf Mix.

7. **Acceptance of Mix Prior to Placement.** The Contractor shall not place High Performance Turf Soil until the Engineer has reviewed and confirmed the following:
   a. **Soil mix delivery ticket(s).** Delivery tickets shall show that the full delivered amount of High Performance Turf Soil matches the product and Manufacturer named in the submittals.
   b. **Visual match with submitted samples.** Delivered product will be compared to the submitted 5-gallon sample, to verify that it matches the submitted sample.
   c. The Engineer may inspect the High Performance Turf Soil on delivery and stop placement if (s)he determines that the delivered soil does not appear to match the submittals; and require sampling and testing of the delivered soil, before authorizing soil placement. All testing shall be conducted at the Contractor's expense.

2.02 Compost

A. General

1. Procurement. For Project Sites located within the City limits of Seattle; the Contractor shall procure compost Materials from only approved sources as specified by the City of Seattle, City Purchasing and Contracting Services (https://seattle.gov/purchasing-and-contracting/construction-contracting#compost)
2. Quality. Compost production and quality shall comply with Chapter 173-350 WAC, and meet the criteria below:
3. Regulatory Standards. Compost products shall be the result of the biological degradation and transformation of feedstocks as specified below, under controlled conditions designed to promote aerobic decomposition, per WAC 173-350-220, which is available at http://apps.leg.wa.gov/wac/default.aspx?cite=173-350-220

B. Submittals. The Contractor shall submit the following information to the Engineer for approval:

1. A copy of the Solid Waste Handling Permit issued to the supplier by the Jurisdictional Health Department as per WAC 173-350 (Minimum Functional Standards for Solid Waste Handling).
2. The Supplier shall verify in writing, and provide lab analyses that the Materials comply with the processes, testing, and standards specified in WAC 173-350 and these Specifications. An independent STA Program certified laboratory shall perform the analysis.
3. A list of the feedstock by percentage present in the final compost product.
4. A copy of the producer's current STA certification as issued by the U.S. Composting Council.

5. Acceptance shall be based upon a satisfactory Test Report from an independent STA program certified laboratory and the sample(s) submitted to the Engineer.

C. Testing Requirements. The compost Supplier shall test all compost products within 90 Calendar Days prior to application, at the Suppliers expense. Samples shall be collected using the Seal of Testing Assurance (STA) sample collection protocol, available from the U.S. Composting Council, Phone: 631-737-4931, www.compostingcouncil.org. The sample shall be tested by an independent STA Program certified laboratory. A copy of the approved independent STA Program laboratory test report shall be submitted to the Engineer prior to initial application of the compost.

D. Gradation. Compost shall meet the following size gradations when tested in accordance with the U.S. Composting Council "Testing Methods for the Examination of Compost and Composting" (TMECC) Test Method 02.02-B, "Sample Sieving for Aggregate Size Classification":

1. Fine Compost. Fine Compost, typically used for soil amendment, shall meet the following gradation by dry weight:

	Min.	Max.
Percent passing 2"	100%	
Percent passing 1"	99%	100%
Percent passing 5/8"	90%	100%
Percent passing 1/4"	75%	100%

2. Coarse Compost. Coarse Compost, typically used for erosion control or surface mulching, shall meet the following gradation by dry weight:

	Min.	Max.
Percent passing 3"	100%	
Percent passing 1"	90%	100%
Percent passing 3/4"	70%	100%
Percent passing 1/4"	40%	60%

E. Other Physical Properties

1. **pH.** The pH shall be between 6.0 and 8.5 when tested in accordance with TMECC 04.11-A; "1:5 Slurry pH".
2. **Physical Contaminants.** Manufactured inert material (concrete, ceramics, metal, etc.) shall be less than 1.0 percent by weight as determined by TMECC 03.08-A "percent dry weight basis". Film plastics shall be 0.1% or less, by dry weight.
3. **Organic Content.** Minimum organic matter content shall be 40 percent by dry weight basis as determined by TMECC 05.07A; "Loss-On-Ignition Organic Matter Method".
4. **Salinity.** Soluble salt contents shall be less than 5.0 mmhos/cm tested in accordance with TMECC 04.10-A; "1:5 Slurry Method, Mass Basis".

5. **Maturity.** Maturity shall be greater than 80% in accordance with TMECC 05.05-A; "Germination and Vigor". The Engineer may also evaluate compost for maturity using the Solvita Compost Maturity Test at time of delivery. Fine Compost shall score a number 6 or above on the Solvita Compost Maturity Test. Coarse Compost shall score a 5 or above on the Solvita Compost Maturity Test.
6. **Stability,** Stability shall be 7 or below in accordance with TMECC 05.08-B; "Carbon Dioxide Evolution Rate".
7. **Feedstocks.** The compost product shall contain a minimum of 65 percent by volume from recycled plant waste as defined in WAC 173-350-100 as "Yard waste", "Crop residues", and "bulking agents". A maximum of 35 percent by volume of" post-consumer food waste" as defined in WAC 173-350-100 may be substituted for recycled plant waste. A minimum of 10% food waste in compost is required. The Engineer may approve compost products containing up to 35% biosolids or manure feedstocks for specific projects or soil blends, but these feedstocks are not allowed unless specified, and not allowed in compost used for Bioretention Soils.
8. **C:N.** Fine Compost shall have a carbon to nitrogen ratio of less than 25:1 as determined using TMECC 04.01 "Total Carbon" and TMECC 04.02D; "Total Kjeldhal Nitrogen". The Engineer may specify a C:N ratio up to 35:1 for projects where the plants selected are entirely Puget Sound native species. Compost may be mixed with fir or hemlock bark meeting requirements of 9-14.4(3) to raise the C:N ratio above 25:1. Coarse Compost shall have a carbon to nitrogen ratio between 20:1 and 45:1.

2.03 Additional Fertilizers and Soil Amendments: Materials shall be as follows:

A. Soil Amendment – Dolomite Lime
   1. Fine ground Dolomite Lime
      Shall be retained by Taylor Standard Sieves as follows:
      No. 20 sieve - retains 0%
      No. 100 sieve - retains 25%

B. Fertilizer

   1. Lawn Starter Fertilizer: Use (10-20-20) (or, approved equal) with the following characteristics:

Total Nitrogen* (N)	10.0%
(10.0% Ammoniacal Nitrogen)	
Available Phosphate (P205)	20.0%
Soluble Potash (K20)	20.0%
Sulfur (S)	7.0%

      *Nitrogen shall be derived from: Ammonium Sulfate, Potassium Chloride, and Monoammonium Phosphate and Urea.

   2. Lawn Maintenance Fertilizer: Use (16-16-16) (or, approved equal) with the following characteristics:

Total Nitrogen* (N)	16.0%
(8.5% Ammoniacal Nitrogen)	
(7.5% Urea Nitrogen)	
Available Phosphate (P205)	16.0%
Soluble Potash (K20)	16.0%
Sulfur (S)	7.6%

*Nitrogen shall be derived from: Ammonium Sulfate, Potassium Chloride, Monoammonium Phosphate, and Urea.

4. Landscape Planting Fertilizer: Use (20-10-5+ minors) TURFGRO, "GROPACS" Fertilizer Packets (or, approved equal) with the following characteristics:

Total Nitrogen* (N)	20.0%
(18% Urea Nitrogen)	
(2.0% Ammoniacal Nitrogen)	
Available Phosphate (P205)	10.0%
Soluble Potash (K20)	5.0%
Calcium (Ca)	3.0%
Magnesium (Mg)	2.0%
Sulfur (S)	3.0%
Boron (B)	0.04%
Copper (Cu)	0.20%
Iron (Fe)	1.0%
Manganese (Mn)	0.10%
Zinc (Zn)	0.10%

*Nitrogen shall be derived from: Ammonium Sulfate, Potassium Chloride, Monoammonium Phosphate, and Urea.

PART 3 - EXECUTION

3.01 Preparation of Sub-grade:

Subgrade work shall proceed only under dry weather conditions or by approval of the Engineer.

A. Rip, disc, or scarify undisturbed or compacted sub-grade soils to a minimum depth of 12 inches. Sub-grade elevations shall be as follows:

1. For Lawn Areas – Establish sub-grade elevation 4 inches below finished grade. After establishing subgrade, rip subgrade with minimum 13 inch long shank ripper attachment pulled behind a tractor with minimum 20 horse power.
2. For Landscape Planting Areas – Establish sub-grade elevation 6 inches below finished grade. After establishing subgrade, rip subgrade with minimum 13 inch shank ripper attachment pulled behind a tractor with minimum 20 horse power.

3.02 Placing Soil and Soil Amendments:
The placement of soils and soil amendments shall proceed only under dry weather conditions or by approval of the Engineer.

A. For General Lawns Areas:

1. Place 4 inches of specified General Turf Area Soil and rototill soil thoroughly into top 6 inches of prepared sub-grade using a rototiller with minimum 8 inch

long tines. The soil profile shall be a minimum of ten (10) inches deep of thoroughly homogenized mix of imported soils and site soils.

2. Incorporate specified Lime and Fertilizers by broadcasting over entire the seeded area at an even distribution and rate, then broom rake the fertilizer into the top inch of specified or amended soil at rates as follows.

   a. Dolomite Lime: Recommended application Rate: Incorporate fifty (50) pounds of Dolomite Lime per 1,000 square feet in direct broadcast application.
   b. Starter Fertilizer: Recommended Application Rates: For (10-20-20): (Bag size = 50lbs.)
      For Hand or Mechanical seeding apply at 1lb. of (N)/1000s.f. (10lbs. blended material/1000 s.f.) in direct broadcast applications.
      For Hydroseeding areas, see Section 32 92 19.16.
   c. Maintenance Fertilizer: Recommended Application Rates: For (16-16-16): (Bag size = 50lbs.)
      For all seeded areas apply at 1lb. (N)/1000s.f. (5.3lbs./1000s.f. of blended material) in seeded areas.

B. For Landscape Planting Areas:

1. Place 6 inches of Planting Soil and thoroughly rototill soil into top 8 inches of prepared sub-grade using a rototiller with minimum 12 inch long tines.
2. Broadcast Planting Fertilizer at a rate of one-half pound (1/2#) of nitrogen per 1,000 square feet after placement and before rototilling of planting soils.

3.03 Fine Grading:

A. Perform fine grading to attain finish grades as shown on the Plans.

B. Rake out all rocks, roots, sticks and other debris larger than 1-inch diameter or sticks longer than 3 inches long. Leave surface even and readily able to accommodate lawn or planting installation.

C. Compact prepared soil with water filled drum or equal compactor to reach compaction levels between 85 to 95 percent density. Do not over –compact soil by over working or driving vehicles over the prepared soil.

3.04 Inspections: The Contractor shall notify the Engineer least 48 hours in advance of the time of inspection required for completion of soil preparation before seeding of lawn and landscape planting can occur by calling the **SPR Inspection Request Line @ (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov** to make arrangements for inspections.

END OF SECTION

PART 1 - GENERAL

1.01 Description: Provide planted trees, shrubs and ground covers as shown and specified. The work includes but is not limited to:

A. The work includes the following:

1. Soil Preparation and/or Installing Specified Planting Soils.
2. Plant Materials and Planting
3. Fertilizing and Mulching.
4. Tree Staking.
5. Maintenance and Establishment.
6. Plant Warranties.

1.02 Related Sections: All work of the Contract shall be performed in coordination with the requirements of the following sections:

Section 31 00 00 - Earthwork
Section 32 91 13 - Soil Preparation

1.03 References:

A. All construction shall be in accordance with the City of Seattle (COS) Standard Plans and Specifications (2023).

B. The Seattle Parks & Recreation (SPR) Standard Specifications and Details (most recent edition).

C. Comply with sizing and grading standards of the "American Standards for Nursery Stock" (most recent edition).

D. Nomenclature shall conform to “Hortus Third”, compiled by the L. H. Bailey Arboretum, Cornell University, 1976.

1.04 Quality Assurance:

A. All plants shall be nursery grown or collected materials that has been held in a nursery for at least one year. Nursery climatic conditions must be similar to those in the locality of the project. All plants shall be weed free at the time of planting.

B. Stock furnished shall be at least the minimum size indicated. Larger stock is acceptable at no additional cost, and providing that the larger plants will not be cut back to size indicated. Provide plants indicated by two (2) measurements so that only a maximum of twenty-five percent (25%) are of the minimum size indicated and seventy-five percent (75%) are of the maximum size indicated.

1.05 Submittals:

A. Submit the following material samples:

1. Topsoil submittals in accordance with Section 32 91 13.
2. Fertilizers for planting submittal in accordance with Section
3. Mulch submittal in accordance with this Section.

B. Submit the following material certifications:

1. Planting fertilizer.
2. Plant material sources.

1.06 Delivery, Storage and Handling:

A. Deliver fertilizer materials in original, unopened, and undamaged containers showing weight, analysis, and name of manufacturer. The Contractor shall store fertilizer in such a manner as to prevent wetting and deterioration.

B. Dig, pack, transport, and handle plants with care to ensure protection against injury. Inspection certificates required by law shall accompany each shipment invoice or order to stock. On arrival, the certificate shall be filed with the Engineer. Protect all plants from desiccation. "Wiltproof" or another antidesicant shall be applied only with approval of the Engineer. If plants cannot be planted immediately upon delivery, properly protect them with soil, wet peat moss, or in a manner acceptable to the Engineer. Water heeled-in plantings daily. No plant shall be bound with rope or wire in a manner that could damage or break the branches.

C. Cover plants transported on open vehicles with a protective covering to prevent wind-burn.

D. Provide dry, loose soils for planting. Frozen or muddy soil is not acceptable.

E. Stock shall be handled by root ball only, not the trunks, stems or tops.

1.07 Project Conditions:

A. Work Notification: Notify the Engineer at least 5 working days prior to the installation of plant materials by calling the **SPR Inspection Request Line @ (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov** to make arrangements for inspection.

B. Protect existing utilities, paving, and other facilities from damage caused by planting operations.

C. Do not install plant material when ambient temperatures may drop below 35^{o}F or above 80^{o}F.

D. Do not install plants when wind velocity exceeds 30 MPH.

E. Confine work to designated areas. Do not disturb existing vegetation outside project limits and protect all trees, shrubs and ground covers within project limits not designated to be removed. Do not permit vehicular traffic or materials storage under or around new or existing trees.

PART 2 - PRODUCTS

2.01 Plant Materials:

A. Plants: Provide plants typical of their species or variety; with normal, densely developed branches and vigorous, fibrous root systems. Provide only sound, healthy, vigorous plants free from weeds, defects, disfiguring knots, sunscald injuries, and abrasions of the bark, plant diseases, insect eggs, borers, and all forms of infestation. All plants shall have a fully developed form without voids, open spaces, broken branches, flush cuts or stubs.

1. Dig balled and burlapped plants with firm, natural balls of earth of sufficient diameter and depth to encompass the fibrous and absorbing root system necessary for full recovery of the plant. Provide ball sizes complying with the latest edition of the "American Standard for Nursery Stock." Cracked or mushroomed balls are not acceptable.
2. Bare-root plants: Dug with adequate fibrous roots, covered with a uniformly thick coating of mud by being puddled immediately after they are dug, or packed in moist straw, sawdust or peat moss.
3. Container-grown stock: Grown in a container for sufficient length of time for the root system to have developed to hold its soil together, firm and whole.
   a. No plants shall be loose in the container.
   b. Container stock shall not be pot bound.
4. No pruning wounds shall be present with a diameter of more than one (1) inch and such wounds must show vigorous callous on all edges. Trees shall not be pruned within six (6) months prior to delivery.

2.02 Soils:

B. Planting Soil Native Soil Mix: All planting shall be done with a mix of 50% native soil and 50% specified Planting Soil or Organic Amendment when the existing native soil is determined to require amending per Section 32 91 13.

2.03 Planting Fertilizers:

A. Fertilizers shall be according to the following:

1. Commercial Fertilizer: Use (20-10-5+ minors) Fertilizer Packets with the following characteristics:

Total Nitrogen (N)	20.0%
(18% Urea Nitrogen)	
(2.0% Ammoniacal Nitrogen)	
Available Phosphate ($P_2 0_5$)	10.0%
Soluble Potash ($K_2 0$)	5.0%
Calcium (Ca)	3.0%
Magnesium (Mg)	2.0%
Sulfur (S)	3.0%
Boron (B)	0.04%
Copper (Cu)	0.20%
Iron (Fe)	1.0%
Manganese (Mn)	0.10%
Zinc (Zn)	0.10%

2. Organic Fertilizer: Use Planting Fertilizer (7-4-9) Blend, shall be 100% Organic Fertilizer and shall be composed of the following:

Total Nitrogen* (N)	7%
(0.5% nitrate nitrogen (N))	
(6.5% water insoluble nitrogen (N))	
Available Phosphoric Acid (P_2O_5)	4%
Soluble Potash (K_2O)	9%
Calcium	7%

*Shall be derived from fish meal, crab meal fines, kelp meal, fish bone meal, and agricultural gypsum.

B. Recommended Sources for Planting Fertilizers:

1. WILCO, 922 Valley Avenue East, Suite 103, Puyallup, WA 98371, Ph. (253) 841-3378, Fax. (253) 841-8549.
2. HORIZON DISTRIBUTION, Bellevue, WA, Ph. 425-828-4554, Fax 425-822-0419.
3. WILBUR-ELLIS, 16300 Christensen Road, Tukwila, WA 98188-3418, Ph. (206) 439-9950.
4. Or, approved equal. (Provide manufacturer's written analysis by way of substitution request, for approval by the Engineer, prior to delivery).

2.04 Supplemental Mycorrhizal Amendment (3-3-4), shall be 100% Organic and shall be composed of the following:

Total Nitrogen* (N)	3.0%
(0.5% water soluble nitrogen (N))	
(2.5% water insoluble nitrogen (N))	
Available Phosphate (P_2O_5)	3.0%
Soluble Potash (K_2O)	4.0%
Calcium (Ca)	9.0%
Magnesium (Mg)	0.8%
(0.8% water soluble Magnesium (Mg))	

Sulfur (S) 1.5%
(1.5% combined Sulfur (S))
Iron (Fe) 1.0%
*Shall be derived from composted poultry manure, ferrous sulfate, and potassium sulfate. Non-plant food ingredients: Kelp meal, humus, vitamins, amino-acids, and Mycorrhiza spores.

2.05 Root Barriers: In locations as shown on the plans and details, root barrier material shall be installed at 18 inch deep, interlocking reinforced polypropylene panels, or approved equal. Recommended sources for root barriers are as follows:

A. "RP" Series - Root Barrier Panels, as manufactured by NDS, and distributed locally by Frank J. Martin Company, Lynnwood, WA, Ph. 206-523-7665, toll free 1-800-654-1786 or www.fjmartin.com.
B. "DeepRoot", as manufactured by Deep Root, Inc., and distributed locally by Berkey Supply, Inc., Woodinville, WA, Ph. 425-487-3310 or www.berkeysupply.com.
C. "Biobarrier", as manufactured by BBA Nonwovens Reemay, Inc., and distributed locally by Wilber Ellis, Auburn, WA, Ph. 253-351-6591 or www.wilberellis.com.

2.06 Erosion Control Fabrics

A. Jute Matting

1. **Jute matting for slopes and non-stream applications**.
Jute matting shall be of a uniform open plain weave of unbleached, single jute yarn treated with a fire retardant chemical. The yarn shall be of a loosely twisted construction and shall not vary in thickness by more than 1/2 of its nominal diameter. Jute matting shall be furnished in rolled strips approximately 50 yards in length. Matting width shall be 48 inches with an average weight of 0.92 pound per square yard. A tolerance of ±1 inch in roll width and ±5 percent in weight per square yard will be allowed.

2. **Jute matting for in-stream applications**:
Quality. Jute matting shall be of a uniform open plain weave of unbleached 100% jute yarn. Plastic, or any geosynthetic netting shall not be used for stream bank construction or restoration.

Application. Jute matting shall meet and be installed in accordance with the following table:

Slope	**Minimum Criteria**	**Test Method**
Slope ≥ 1:1	25 oz/sy <40% open area	ASTM D-3776 Corp of Engineers COE CW002215
3:1 < slope < 1:1	14 oz/sy <60% open area	ASTM D-3776 Corp of Engineers COE CW002215

4:1 < slope < 3:1	9 oz/sy <65% open area	ASTM D-3776 Corp of Engineers COE CW002215
Slope < 4:1	No matting required unless otherwise specified in the Contract.	

B. Coir Matting

1. **Quality.** Coir matting shall be of a uniform open plain weave of unbleached 100% coir fabric from coconut husk. Plastic, or any geosynthetic netting shall not be used for stream bank construction or restoration.
2. **Application.** Coir matting shall meet and be installed in accordance with the following table:

Slope Application	**Minimum Criteria**	**Test Method**
Slope ≥ 1:1	25 oz/sy <40% open area	ASTM D-3776 Corp of Engineers COE CW002215
3:1 < slope < 1:1	14 oz/sy <60% open area	ASTM D-3776 Corp of Engineers COE CW002215
4:1 < slope < 3:1	9 oz/sy <65% open area	ASTM D-3776 Corp of Engineers COE CW002215
Slope < 4:1	No matting required unless otherwise specified in the Contract	

C. Excelsior Matting

1. **Quality.** Excelsior matting shall be a machine produced mat of wood excelsior covered on one side with a biodegradable plastic netting or twisted paper composition. The excelsior matting shall have a wood fiber minimum dry weight of 0.8 pound per square yard ± 5 %, and shall be of uniform thickness with the fiber evenly distributed over the entire area of the mat. The width of a single roll of matting and net shall be a minimum 36 inches, and the length of the roll shall be approximately 150 feet.
2. **Approval.** The Contractor shall submit to the Engineer for approval at least 10 Working Days in advance of proposed Material application, Manufacturer's Certificate of Compliance stating that the excelsior matting) is environmentally safe and acceptable. This submittal shall be accompanied by a sample at least 3 square

D. **Stakes.** Stakes may be wire staples, steel pins, steel spikes, or wooden stakes.

Stakes for securing erosion control matting to earth surfaces shall be a minimum 12 inches in length, and shall have sufficient strength to withstand pounding the stakes into soil flush with the surface.

2.07 Mulches:

A. Mulches shall be according to the following:

1. **Arborist Wood Chip Mulch**

Used for most general shrub beds, all native plantings and all Natural Areas restoration plantings:

a. Procurement. For Project Sites located within the City limits of Seattle; the Contractor shall procure arborist wood chip mulch Materials from only approved sources as specified by the City of Seattle, City Purchasing and Contracting Services (http://www.seattle.gov/contracting/construction.htm).

b. Arborist Wood Chip Mulch shall be coarse ground wood chips (approximately 1/2" to 6" along the longest dimension) derived from the mechanical grinding or shredding of whole trees or portions of trees. It may contain wood, wood fiber, roots, bark, branches, and leaves, but may not contain visible amounts of soil. It shall be free of weeds and weed seeds, and may not contain more than 1% by weight of manufactured inert material (plastic, concrete, ceramics, metal, etc.). Arborist wood chip mulch, when tested, shall meet the following loose volume gradation:

	Percent Passing	
Sieve Size	Minimum	Maximum
2"	95	100
1"	70	100
5/8"	0	50
¼"	0	40

c. Acceptable substitutes, subject to the engineer's approval, include chipped or shredded woody material, meeting the above size and inert material requirements, derived from composting operation screening ("overs"), or derived from recycling of clean dimensional lumber (e.g. pallets or framing lumber) that has passed through a metal removal process to meet the 1% manufactured inert standard above.

2. Bark Mulch for specific Ornamental Shrub Bed plantings:
Bark Mulch shall be <u>fine</u> ground fir or hemlock bark.

3. Compost Mulch for Annual & Perennial plantings only:
Coarse Compost See Section 32 91 13 2.02 D(2).

4. Submittals. At the Engineer's request, prior to delivery the Contractor shall provide the following:

   a. The source of the product and species of trees included in it;

   b. A sieve analysis verifying the product meets the above size gradation requirement;

   c) A 5 gallon sample of the product, for the Engineer's approval.

PART 3 - EXECUTION

3.01 Inspections:

A. Finish grading shall be inspected and approved by the Consultant and the Engineer prior to any planting.

B. Plant material shall be inspected and approved by the Consultant and the Engineer at the nursery or site prior to installation. The Contractor shall remove all unsatisfactory material from the site immediately and his/her own expense.

3.02 Preparation: Contractor shall locate plants by staking with stakes and flags as indicated on the Drawings or as approved in the field. If obstructions are encountered that are not shown on the drawings, do not proceed until the Consultant and the Engineer have approved the locations or selected alternate plant locations.

3.03 Installation Procedures:

A. Plants brought to the planting site shall be bare root, balled and burlapped, or in containers, depending on how specified in the planting schedule in the Contract for the particular type of planting Material. Plants shall not be planted during freezing weather or when the ground is frozen. Plants shall not be planted during excessively wet conditions. Plants shall not be placed on any day in which temperatures are forecast to exceed 80 degrees unless the Engineer approves otherwise. Plants shall not be placed in areas that are below finished grade.

B. Dates to plant: Planting trees, shrubs, and groundcovers within an SPR project site shall be performed during the period between **October 1 and April 30**. **Planting at other times shall only by done by approval of the Engineer.**

C. Plants shall be removed from containers in a manner that prevents damage to the root system. Containers may require vertical cuts down the full depth of the container to accommodate removal. All circling roots shall be loosened to ensure natural directional growth after planting.

D. Excavate circular plant pits with scarified vertical sides, except for plants specifically indicated to be planted in beds. Provide planting pits at least twice the diameter of the root system or container. Depth of pit shall accommodate the entire root system. Scarify the bottom and sides of the pit to a depth of four inches. If groundwater is encountered upon excavation of planting holes, the Contractor shall promptly notify the Engineer.

E. Place specified planting soil for use around the balls and roots of the plants.

F. Set plant material in the planting pit to proper grade and alignment. Set plants upright, plumb, and faced to give the best appearance or relationship to each other or adjacent structure. Set crown of plant material at the finish grade. No filling will be permitted around trunks or stems or above grafts on grafted trees. Backfill the planting pits with specified soil or amendment. Do not use frozen or muddy mixtures for backfilling. Form a ring of soil around the edge of each planting pit to retain water.

G. After balled and burlapped plants are set, water in soil mixture around bases of balls and fill all voids.

1. Remove at least the top 2/3 of the burlap. If burlap has been chemically treated (green color), remove from the planting pit.
2. Remove completely all plastic wrapping materials, twine, and wires, and wire baskets from root balls.

H. Space ground cover plants using triangular spacing in accordance with indicated dimensions. Adjust spacing as necessary to evenly fill planting bed with indicated quantity of plants. Always plant ground covers to within eighteen inches (18") of the trunks of trees and shrubs within planting bed and to within twelve inches (12") of edge of bed.

I. Spread and arrange roots of bare-rooted plants in their natural position. Work in specified planting soil. Do not mat roots together. Cut all broken and frayed roots before backfilling with remaining specified planting soil.

J. Fertilizer Application Rates:

1. Fertilizer Packets - Place fertilizer packets in the planting pits at the rate of one packet per gallon sized plant container.
2. ‘Rainy Pacific NW Blend’ - Broadcast at a rate of 20lbs. per 1000 square feet. Apply once a month for the first four months of the growing season.

K. Other Amendments Application Rates:

1. Optional Supplemental Mycorrhizal Amendment - Broadcast at a rate of lbs. per 1000 square feet.

L. Mulching:

1. Mulch tree and shrub planting pits and shrub beds with required mulching material at least 2" deep (settled) immediately after planting. Thoroughly water mulched areas. After watering, rake mulch to provide a uniform finished surface.
2. Mulch ground cover beds with at least 2" deep (settled) immediately after planting is completed.

M. Staking: Stake all deciduous and coniferous trees immediately after planting per SPR Standard Details.

N. Pruning: Prune all trees only to remove broken or damaged branches, or for aesthetic purposes as directed by the Engineer. Branches shall be pruned at the branch collar. Neither stubs nor flush cuts will be acceptable.

3.04 Root Barrier Installation: Install root barrier panel per manufacturer's recommendations and specifications in locations as shown on the contract drawings and as shown on SPR's standard details for tree planting. Install panels immediately adjacent to paving with ribs facing towards the tree roots. Trenches shall be deep enough so that sod or mulch completely covers the top of the barrier panels without causing the surrounding grades to be uneven.

3.05 Maintenance and Establishment:

A. Maintain plantings for a period of at least 30 days after substantial completion of planting operations or until all plants are sufficiently recovered from transplanting and in a healthy growing condition acceptable to the Engineer.

B. Maintenance shall include regular (at least twice weekly) cultivating, weeding, watering, pruning (only as directed), and application of appropriate insecticides and fungicides necessary to maintain plants free of insects and disease.

1. Re-set settled plants to proper grade and position. Restore planting saucer and adjacent material and remove dead material.
2. Straighten, repair and adjust guy wires and stakes as required.
3. Correct defective work, as soon as possible, after deficiencies become apparent and weather and season permit.
4. Water trees, plants, and ground cover beds within the first 24 hours of initial planting, and not less than twice per week (including rain) until Physical Completion.

3.06 Substantial/Physical Completion:

A. Inspection to determine Substantial Completion of planted areas will be made by the Engineer, upon the Contractor's request. Provide notification at least 5 working days before requested inspection date.

1. Planted areas will be accepted provided all requirements, including the maintenance period have been complied with and plant materials are alive and in a healthy, vigorous condition.

B. Upon Physical Completion, the Owner shall assume all plant maintenance.

3.07 Clean Up: Perform cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, soil, debris, and equipment. Repair damage resulting from planting operations.

3.08 Warranty and Replacement:

A. Warranty plant material to remain alive and be in healthy, vigorous condition for a period of 1 year after the date of Substantial Completion. Inspection of plants will be made by the Engineer at the completion of planting.

B. Replace, in accordance with the drawings and specifications, all plants that are dead or, as determined by the Engineer, are in an unhealthy or unsightly condition, and have lost their natural shape due to dead branches, or other causes due to the Contractor's negligence. The cost of such replacement(s) is at the Contractor's expense. Warrant all replacement plants for 1 year after Physical Completion, unless otherwise specified.

C. Warranty shall not include damage or loss of trees, plants, or ground covers caused by fires, floods, freezing rains, lightning storms, or winds over 75 MPH, winter kill caused by extreme cold and severe winter conditions not typical of planting area; acts of vandalism or negligence on the part of the Owner.

D. Remove and immediately replace all plants, as determined by the Engineer, to be unsatisfactory during the initial planting installation.

E. This warranty also applies to existing trees, shrubs and ground covers that are to be removed and heeled-in for later replanting on-site.

END OF SECTION

DIVISION 33

Utilities

PART 1 - GENERAL

1.01 Description: This section includes information related to installation of Potable Water Systems with associated equipment and furnishings, especially water systems associated with exterior Drinking Fountains (installed in park settings) and P-Patch Water Systems (see SPR Design Standard 33 10 00 - P-Patch Water System Design for more information).

1.02 Reference Sections:

Section 32 80 00 - Irrigation Systems

1.03 Quality Assurance:

A. Basic Qualifications - The Contractor must be a Washington State Licensed Plumber and all testing of the backflow prevention equipment shall be done by a Washington State Certified Backflow Assembly Tester (BAT) certified to work in buildings.

B. The Contractor shall also comply with all applicable local codes including but not limited to:

1. Seattle/King County Health Department and Washington State RCW 18.106.020.
2. The requirements of the IBC and the Seattle Building Code as it pertains to plumbing for potable water systems, except as supplemented and/or modified herein.

1.04 Submittals:

A. General: Submit complete materials list prior to performing any work. Submit manufacturer catalog data and full descriptive literature, including current manufacturer's price list.

B. Any equipment or materials installed or furnished without prior approval of the Engineer will be rejected and such materials will be required to be removed and replaced with approved materials at the complete expense of the Contractor.

C. Submit shop drawings for review and approval prior to beginning work.

PART 2 - PRODUCTS

2.01 Pipes and Tubing:

A. General: The application of the following pipe, tube, and fitting materials and joining methods required for plumbing piping systems are indicated in Part 3 Article "Pipe and Fittings Applications."

B. Copper Tubing: ASTM B 88, Type 'K' water tube. For tubing up to 2" diameter, use 'soft' copper (annealed temper). For tubing with diameters larger than 2", use 'hard' copper.

2.02 Pipe and Tubing Fittings:

A. Cast-Copper-Alloy, Solder-Joint Pressure Fittings: ASME B16.18.

B. Copper Unions: ASME B16.18, cast-copper-alloy body, hexagonal stock, with ball-and-socket joint, metal-to-metal seating surfaces, and solder-joint, threaded, or solder-joint and threaded ends.

C. Threaded Ends: Threads conforming to ASME B1.20.1.

2.03 Pipe and Fittings Application:

A. General: Use pipe, tubing, fittings, and joining methods for piping systems according to the following applications.

B. Water Distribution Piping below Ground: Use the following:

1. Copper Pipe/Tubing:
   a. Copper pipe/tubing (2 inches and smaller) shall be Type K, cast-copper alloy solder-joint pressure fittings, and soldered joints with Alloy Sn95 solder.
   b. Any copper pipe/tubing installed under concrete slabs must be braised at each joint, per UPC Building Codes.

2.03 Gate Valves: All gate valves shall be Class 150 rated at 150 psi (min.) for steam - 300 psi (min.) for water, oil, or gas. Ohio Brass, Nibco, Wolverine, or approved equal.

2.04 Drinking Fountains: The SPR Standards for Drinking Fountains shall be one of the following depending on site conditions:

A. ADA Free Standing Models:

1. Haws Model #3300 (New SPR Standard, preferred for new projects)3612BFA, ADA Hi-Lo Drinking Fountain and Bottle filler, preferred color: Powder coated Dark Green.
2. Haws Model #3380 (Old SPR Standard ADA Drinking Fountain, preferred color: Powder coated Dark Green.
3. Haws Model #3511 (Optional for Historic or Olmstead Sites only) ADA Drinking Fountain, preferred color: Powder coated Dark Green.

B. All drinking fountains not located in or attached to building structures shall have waste outlets that must comply with local health codes and be connected thru a CB 15, with trap to a Sanitary Sewer system as shown in SPR Standard Details for Drinking Fountains.

C. All drinking fountains attached to building structures shall be inspected by SDCI inspectors per local building codes and shall also be inspected by the SPR Plumbing Shop. All free-standing drinking fountains shall be inspected by the SPR Plumbing Shop. Call for inspections at least two (2) working days in advance by calling the **SPR Inspection Request Line @ (206) 684-7034** or by email at **parksconstruction.inspection@seattle.gov.**

PART 3 - EXECUTION

3.01 Piping Systems - General:

A. General Locations and Arrangements: Drawings (plans, schematics, and diagrams) indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated, except where deviations to layout are approved on coordination drawings.

B. At a minimum, all plumbing work on potable water systems shall be executed by a certified journeyman plumber.

3.02 Preparation of Foundation for Buried Piping:

A. Grade trench bottoms to provide smooth, firm, stable, and rock-free foundation throughout length of piping.

B. Remove unstable, soft, and unsuitable materials at surface on which piping is to be laid and backfill with clean sand to indicated level.

C. Lay pipe in irrigation trenches whenever feasible and backfill, per Section 32 80 00 - Irrigation Systems.

3.03 Piping:

A. General:

1. Install components having pressure rating equal to or greater than system operating pressure.
2. Install piping free of sags and bends.
3. Install couplings according to manufacturer's printed instructions.

B. Sleeves: Install sleeves for pipes passing under or through paving and walls, and also where indicated and per Section 32 80 00 - Irrigation Systems.

3.04 Piping Joints:

A. Piping Joint Construction:

1. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
2. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
3. Soldered Joints: Construct joints according to AWS "Soldering Manual", Chapter 22 "The Soldering of Pipe and Tube".
4. Brazed Joints: Construct joints according to AWS "Brazing Manual, Chapter 28 "Pipe and Tube".
5. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full inside diameter. Join pipe fittings and valves as follows:
   a. Note the internal length of threads in fittings or valve ends, and proximity of internal seat or wall, to determine how far pipe should be threaded into joint.
   b. Apply appropriate tape or thread compound to external pipe threads (except where dry seal threading is specified).
   c. Align threads at point of assembly.
   d. Tighten joint with wrench. Apply wrench to valve end into which pipe is being threaded.
   e. Damaged Threads: Do not use pipe or pipe fittings having threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.

3.05 Connections:

A. Connect to existing drinking fountain valves and fixtures with pipe sizes indicated, but not smaller than required by plumbing code.

B. Inspect condition of existing valves and drinking fountain to determine condition. Notify the Engineer of any conditions that would require replacement of additional equipment or fixtures before making connections.

3.06 Field Quality Control:

A. Inspect water distribution piping:

1. Do not enclose, cover, or put into operation water distribution piping system until it has been inspected and approved by the appropriate authority having jurisdiction.

2. During progress of the installation, notify the plumbing official having jurisdiction at least two (2) working days prior to the time inspection must be made. Perform tests specified below in the presence of the Plumbing Inspector.
   a. Ground work Inspection: Arrange for inspection of all plumbing systems located beneath any poured concrete slabs or foundations.
   b. Roughing-In Inspection: Arrange for inspection of piping system before concealed or closed-in after system roughing-in and prior to setting fixtures.
   c. Final Inspection: Arrange for final inspection by plumbing official to observe tests specified below and to ensure compliance with requirements of plumbing code.
3. Re-inspections: When a Plumbing Inspector finds that piping system will not pass test or inspection, make required corrections and arrange for re-inspection by the Plumbing Inspector.
4. Reports: Prepare and submit inspection reports signed by the Plumbing Inspector.

B. Testing water distribution system:

1. Test for leaks and defects in new water distribution piping systems and parts of existing systems that have been altered, extended, or repaired. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of system tested.
2. Leave uncovered and unconcealed in new, altered, extended, or replaced water distribution piping until it has been tested and approved. Expose work that has been covered or concealed before it has been tested and approved for testing.
3. Cap and subject the piping system to a static water pressure of 50 psi above the operating pressure without exceeding pressure rating of piping system materials. Isolate test-source and allow it to stand for 4 hours. Leaks and loss in test pressure constitute defects that must be repaired.
4. Repair leaks and defects with new materials and retest system or portion thereof until satisfactory results are obtained.

3.07 Cleaning:

A. Clean and disinfect water distribution piping:

1. Purge new potable water distribution piping systems and parts of existing potable water systems that have been altered, extended, or repaired prior to use.
2. Use purging and disinfecting procedure prescribed by authority having jurisdiction or, if a method is not prescribed by that authority, the procedure described in either AWWA C651 or AQQA C652 or as described below:
   a. Flush piping system with clean, potable water until dirty water does not appear at outlets.

b. Fill system or part thereof with water/chlorine solution containing at least 50 parts per million of chlorine. Isolate (valve off) and allow it to stand for 24 hours.
c. Drain system or part thereof of previous solution and refill with water/chlorine solution containing at least 200 parts per million of chlorine. Isolate and allow it to stand for 3 hours.
d. Flush system with clean, potable water until chlorine does not remain in water coming from system following allowed standing time.
e. Submit water samples in sterile bottles to authority having jurisdiction. Repeat procedure if biological examination made by authority shows evidence of contamination.

B. Prepare and submit reports for purging and disinfecting activities.

C. Clean interior of piping system. Remove dirt and debris as work progresses.

3.08 Commissioning:

A. Fill water systems.

B. Before operating systems, perform these steps:

1. Close drain valves, hydrants, and hose bibs.
2. Open shutoff valves to full open position.
3. Remove plugs used during testing of piping systems and plugs used for temporary sealing of piping during installation.
4. Check plumbing equipment and verify proper settings, adjustments, and operation.
5. Do not operate water heaters before filling with water.
6. Check plumbing specialties and verify proper settings, adjustments, and operation.
7. Energize pumps and verify proper operation.

END OF SECTION

PART 1 - GENERAL

1.01 Description: Work includes sanitary sewer lines, fittings, cleanouts, accessories, bedding, and connections to existing sewer lines.

1.02 Related Sections:

Section 01 56 39 - Temporary Tree, Vegetation, and Soil Protection
Section 02 41 13.23 - Site Utility Removal
Section 31 00 00 - Earthwork
Section 32 11 23 - Mineral Aggregates

1.03 References:

A. The City of Seattle Standard Plans and Specifications for Road, Bridge, and Municipal Construction, (2023).

B. The City of Seattle Stormwater Code, (2021).

1.04 Quality Assurance:

A. The contractor responsible for the work of this section shall be a obtain a side sewer permit through Seattle Public Utilities (SPU). Prior to the commencement of the work, verify the accuracy of horizontal and vertical layout, and dimensions of excavations to receive the work of this section.

B. Permits, Inspections and Testing:

1. Permits: Permits are required by SPR SPU for all sanitary sewer work. For side sewer permits refer to the following website for permitting requirements: https://www.seattle.gov/utilities/construction-resources/sewer-and-drainage/side-sewer-permits
2. Inspections: 48 hours prior to the back-filling of any pipe, structures, or appurtenances, notify the Engineer for approval. Anticipate inspections to allow sufficient time for inspections to take place without affecting the work of other trades. Call the **SPR Inspection Request Line @ (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov** to make arrangements for inspections.
3. Testing will consist of air or water pressure testing to verify the function of the installation. In cases where long runs of tight line are to be tested to allow backfill, and that work is not connected to the terminal downstream end of the work, verification of slope will be performed by surveying the crown or invert.

1.05 Submittals:

A. Submit the following for approval prior to delivery to the site and commencement of the work:

1. Manufacturer's product data for pipe, concrete and metal castings.
2. Manufacturer's installation instructions.

1.06 Project Record Documents:

A. Submit documents under provisions of Division 01. Record location of pipe runs, connections, structures, and invert elevations. Identify and describe unexpected variations to the designed plan.

B. Provide a record of inspection of internal conditions of the existing sewers using television cameras.

1.07 Coordination: Coordinate Sanitary Sewerage Utility work with the work in other sections of these specifications.

PART 2 - PRODUCTS

2.01 General: All materials and equipment listed herein shall be new and of the type specified. Comply with Specifications and manufacturer's data. Where these may be in conflict, the more stringent requirements govern, at the direction of the Engineer.

2.02 Pipe and Fittings:

A. Sanitary Sewer Solid/Tight Line Pipe shall be PVC pipe, which meets or exceeds ASTM 3034, minimum 6-inch diameter or greater as sized per the contract drawings, conforming to the City of Seattle Standard Plans and Specifications for Road, Bridge, and Municipal Construction (most recent edition). Joints for PVC pipe conform to ASTM D3212 using restrained gasket conforming to ASTM F477.

B. Fittings: Fittings shall be injection molded PVC, conforming to ASTM 3034.

2.03 Pipe Bedding (for Rigid Pipe):

A. Pipe bedding material shall be mineral aggregate Type 9 (or Type 22 for PVC pipe) per City of Seattle Standard Specifications (most recent edition).

2.04 Identification Tape:

A. Utility pipe tracer tape shall be detectable below ground surface, color coded, with utility name printed on tape. Conductive warning tape required over all water, sewer, drainage, and irrigation pipe at 6” below finished grades. Underground - Type Plastic Line Markers: Permanent, bright-colored, continuous-printed plasticized aluminum tape, intended for direct-burial service; not less than 3" wide x 5 mils thick. Detectable Marking Tape colors shall be as follows:

Tape Schedule:	Piping	Color	Wording
	Sanitary Sewers	Green	Caution Sanitary Sewer
	Storm Drains	Green	Caution Storm Drainage

2.05 Fittings, Couplings and Jointing:

A. All Fittings shall be made of the same material as the pipe.

B. All Tees on existing pipe installations shall be connected by core drilling and installing flexible connections.

C. Pipe to pipe connections (between pipes of differing materials) shall be made with a flexible gasketed coupling, adaptor or coupling-adaptor which shall make a watertight joint. Couplings shall be as manufactured by Romac, Omni, Caulder, or approved equal.

D. Jointing and/or Break-out & Reconnect of mismatched pipe wall thicknesses shall be installed per City of Seattle Standard Plans and Specifications (most recent edition).

2.06 Grout: Grout material for pipe penetrations and sediment trap hook installation at Pre-cast Concrete Structures shall be non-shrink cement sand grout only. **"Jet Set" or equivalent products are not acceptable.**

PART 3 - EXECUTION

3.01 General:

A. Verify that excavation base is ready to receive work and excavations, dimensions, and elevations are as indicated on the Drawings.

B. Excavation tolerance of sub-grade shall be +/- 0.05 feet. Sub-grade must be in a smooth, even condition prior to placement of any permeable material. All depths shown are to be compacted depths. Where material is placed as fill, the Contractor shall compact the material as required by Section 31 00 00 - Earthwork. If excavated material exceeds the quantity needed as on-site common fill, excess materials shall be removed from the site.

3.02 Trenching:

A. Trenches shall be cut with smooth sides, no less width than as shown on the Drawings. In the event that the trench has been over-excavated, the Contractor shall correct by use of the gravel filter material, as long as the invert elevations of the pipe and the minimum gravel filter material and fabric are per the Plans. Trench bottom shall be smooth and compact and to the grade specified. Also, refer to Section 31 00 00 - Earthwork for backfilling information.

B. All trenches shall be maintained with vertical sides and without loose or sloughed materials therein; care shall be taken in placement of gravel to insure no sloughing of trench sides or contamination of the gravel. The Contractor shall not drive construction vehicles across excavated or back-filled trenches but shall use alleys between trenches for travel ways. Exception will be granted only when the Contractor can show evidence that the bridging scheme he proposes will ensure conformance with the foregoing.

3.03 Bedding: Place bedding material at trench bottom, level materials in continuous layers not exceeding 6 inches of compacted depth. The Contractor shall compact the bedding to 95% of the maximum dry density. Maintain optimum moisture content of bedding material to attain required compaction density.

3.04 Pipe Laying:

A. Install pipe, fitting, and accessories in accordance with City of Seattle Standard Plans and Specifications, (most recent edition).

B. Lay pipe to slope gradients noted on Drawings, with maximum variation from true slope of 1/8 inch in 10 feet (maximum).

C. Install bedding at sides and over the top of pipe to minimum compacted thickness of 12 inches compacted to a minimum of 95% of the maximum dry density.

D. Refer to Section 31 00 00 - Earthwork for additional backfilling information.

3.05 Detection Tape: Install detection tape in all pipe trenches located above the top of all pipes at 6” below finished grades.

3.06 Tie In: Connect new sanitary sewer line to existing sewer line with “Romac” type fittings (or approved equal) and per the requirements of the Seattle Public Utilities (Drainage and Wastewater Division). Provide shoring and de-watering per the requirements of the City of Seattle Standard Plans and Specifications (most recent edition).

3.07 Bedding Inspections:

A. Contractor shall request inspection by the Engineer prior to and immediately after placing bedding. Minimum 48 hours notice is required.

B. Compaction testing will be performed in accordance with the City of Seattle Standard Specifications and ASTM D1557. If tests indicated work does not meet specified requirements, remove work and replace and retest at no additional cost to the Owner.

3.08 Cleaning, Testing and Inspections: All new pipe and structures shall be cleaned and tested per City of Seattle Standard Specifications (most recent edition) or as directed by the Engineer. Testing shall be conducted under the direction of the Engineer, by calling the

SPR Inspection Request Line @ (206) 684-7034 or by email at **parksconstruction.inspection@seattle.gov** to make arrangements for inspections.

END OF SECTION

PART 1 - GENERAL

1.01 Description: Furnish all material, labor, services and related items required to complete work indicated on Drawings and specified herein. The items of work to be performed shall include but may not be limited to: installation of maintenance holes, drainage pipes, catch basins and connections to existing control structures.

1.02 Related Sections: In addition to the Sections listed below, all Work of the Contract shall be performed in compliance with the requirements of this Section.

Section 01 56 39 - Temporary Tree, Vegetation, and Soil Protection
Section 02 41 13.23 - Site Utility Removal
Section 31 00 00 - Earthwork
Section 32 11 23 - Mineral Aggregates

1.03 References:

A. The City of Seattle Standard Plans and Specifications for Road, Bridge, and Municipal Construction, (2023).

B. The City of Seattle Stormwater Code, (2021).

1.04 Quality Assurance:

A. Prior to the commencement of the work, verify the accuracy of horizontal and vertical layout, and dimensions of excavations to receive the Work of this Section.

B. Permits, Inspections and Testing:

1. Permits: Permits are required by SPR and SPU for all sanitary sewer work. For side sewer permits refer to the following website for permitting requirements: **https://www.seattle.gov/utilities/construction-resources/sewer-and-drainage/side-sewer-permits**
2. Inspections: 48 hours prior to the back-filling of any pipe, structures or appurtenances, notify the Engineer by calling the Call the **SPR Inspection Request Line @ (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov** to make arrangements for inspections. Anticipate inspections to allow sufficient time for inspections to take place without affecting the work of other trades.
3. Testing will consist of water flooding to verify the function of the installation. In cases where long runs of tight line or perforated interceptor drainage is to be tested to allow backfill, and that work is not connected to the terminal downstream end of the work, verification of slope will be performed by surveying the crown or invert.

1.05 Submittals:

A. Submit the following for approval prior to delivery to the site and commencement of the work:

1. Manufacturer's product data for pipe, concrete and metal castings.
2. Manufacturer's installation instructions.

1.06 Project Record Documents:

A. Submit documents under provisions of Division 01 Specifications for recording of all pipe runs, connections, structures, and invert elevations. Identify and describe any unexpected variations from the designed plans.

B. Provide a record of inspection of internal conditions of existing sewers using television cameras.

1.07 Coordination: Coordinate Storm Drainage Utility work with the work in other sections of these specifications.

PART 2 - PRODUCTS

2.01 General: All materials and equipment listed herein shall be new and of the type specified. Comply with Specifications and manufacturer's data. Where these may be in conflict, the more stringent requirements govern, at the direction of the Engineer.

2.02 PVC Pipe and Fittings:

A. Perforated Pipe shall be PVC. Perforated Pipe shall conform to section 9-05.4(1) of the City of Seattle Standard Specifications.

B. Solid/Tight Line Pipe shall be PVC piping which meets or exceeds ASTM D 3034, minimum 6-inch diameter or greater as sized per the contract drawings.

C. Fittings:

1. All Fittings shall be injection molded PVC, conforming to ASTM D 3034.
2. Where connecting new work conforming to these specifications to existing work of dissimilar materials, connections shall be made of materials similar to those of the existing work, unless otherwise directed by the Engineer.

2.03 Drainage Aggregates: Refer to the contract drawings for when and where one or more of the following aggregates shall be used and when used, shall meet or exceed the following requirements.

A. Pea Gravel shall meet the following sieve gradation:

Sieve Size	Percent Passing

3/4" square	100
3/8" square	95-100
No. 8	0-10
No. 200	0-3

B. 1-1/2" Washed Rock shall meet the following sieve gradation:

Sieve Size	Percent Passing
1-1/2" square	100
1-1/4" square	90-100
3/4" square	0-20
3/8" square	0-2

2.04 Pipe Bedding (for Non-rigid PVC): Pipe bedding material shall be Class Mineral Aggregate Type 22, per City of Seattle Standard Specifications, (most recent edition).

2.05 Catch Basins (CB):

A. Catch Basins shall be as shown on the contract drawings and details. All Catch Basins that are installed on Seattle Parks and Recreation properties and are intended to be maintained by SPR shall have outlet traps per SPR Standard Details. Catch Basins that are installed in SDOT Rights of Way or are intended to be maintained by Seattle Public Utilities shall have outlet traps as shown in the City of Seattle Standard Plans.

B. Catch Basin Frames & Grates shall be as shown on the drawings and details and shall vary based upon the site situation and accessibility requirements.

1. Most SPR project areas shall have typical Inlet Frame & Grate Type 264 "vaned" grate applications per SPR Standard Detail with bolt down capability with stainless steel bolt and hex key.
2. Catch Basins that are installed in paved areas where ADA accessibility requirements are in place shall have pedestrian-proof "wave" grates installed per SPR Standard Detail with bolt down capability with stainless steel bolt and hex key.
3. Catch Basins that are installed in non-paved areas of expected high flows and/or drainage ditches or swales with high levels of debris flow shall have either "vaned" grates for high flow situations per SPR Standard Details or "beehive" grates where called out on the plans per SPR Standard Detail. All grates shall have bolt down capability with stainless steel bolt and hex key, unless otherwise directed by the Engineer. All bolts shall be installed using an "anti-seize" product.

2.07 Fittings, Couplings and Jointing:

A. All Fittings shall be made of the same material as the pipe.

B. All Tees on existing pipe installations shall be connected by core drilling and installing flexible connections.

C. Pipe to pipe connections (between pipes of differing materials) shall be made with a flexible gasketed coupling, adaptor or coupling-adaptor which shall make a watertight joint. Couplings shall be as manufactured by Romac, Omni, Caulder, or approved equal.

D. Jointing and/or Break-out & Reconnect of mismatched pipe wall thicknesses shall be installed per City of Seattle Standard Specifications (most recent edition).

2.08 Grout: Grout material for pipe penetrations and sediment trap hook installation at Pre-cast Concrete Structures shall be non-shrink cement sand grout only. "**Jet Set" or equivalent products are not acceptable.**

2.09 Identification:

A. Utility pipe tracer tape shall be detectable below ground surface, color coded, with utility name printed on tape. Conductive warning tape required over all water, sewer, drainage, and irrigation pipe at 6" below finished grades. Underground - Type Plastic Line Markers: Permanent, bright-colored, continuous-printed plasticized aluminum tape, intended for direct-burial service; not less than 3" wide x 5 mils thick. Detectable Marking Tape colors shall be as follows:

Tape Schedule: Piping	Color	Wording
Sanitary Sewers	Green	Caution Sanitary Sewer
Storm Drains	Green	Caution Storm Drainage

PART 3 - EXECUTION

3.01 General:

A. Verify that excavation base is ready to receive work and excavations, dimensions, and elevations are as indicated on the Drawings.

B. Excavation tolerance of sub-grade shall be +/- 0.05 feet. Sub-grade must be in a smooth, even condition prior to placement of any permeable material. All depths shown are to be compacted depths. Where material is placed as fill, the Contractor shall compact the material as required by Section 31 00 00 - Earthwork. If excavated material exceeds the quantity needed as on-site common fill, excess materials shall be removed from the site.

3.02 Trenching:

A. Trenches shall be cut with smooth sides, no less width than as shown on the Drawings. In the event that the trench has been over-excavated, the Contractor shall correct by use of the gravel filter material, as long as the invert elevations of the pipe and the minimum gravel filter material and fabric are per the Plans. Trench bottom

shall be smooth and compact and to the grade specified. Also, refer to Section 31 00 00 - Earthwork for backfilling information.

B. All trenches shall be maintained with vertical sides and without loose or sloughed materials therein; care shall be taken in placement of gravel to insure no sloughing of trench sides or contamination of the gravel. The Contractor shall not drive construction vehicles across excavated or backfilled trenches but shall use alleys between trenches for travel ways. Exception will be granted only when the Contractor can show evidence that the bridging scheme he proposes will ensure conformance with the foregoing.

3.03 Pipe Laying:

A. Pipe laying shall comply with the City of Seattle Standard Plans and Specifications (most recent edition).

B. Storm Sewer (Solid/Tight-line Pipe) - Install to grades and/or slopes as shown on contract drawings. Backfill with Type 22 bedding to a depth of 4 inches below the pipe, around the pipe and 6 inches above pipe. Backfill the remainder of trench with native material, only if that material can be compacted to 90% density at optimum moisture content. If native material cannot be compacted to 90%, the Contractor shall provide Type 17 (Bank Run Gravel) as backfill material. Backfilling shall be done in one foot lifts maximum.

3.04 Sub-surface Drainage Lines:

A. Drainage Aggregate: Bedding aggregate shall be placed in properly graded/approved trenches for the drain pipe with lines and grades as shown on the contract drawings. The aggregate shall be carefully placed on the clean and graded trench bottom and brought to the appropriate level, no less than four (4") inches deep at any point.

B. The perforated sub-drainage pipe shall be placed on and the balance of drainage aggregate shall be placed over the pipe and brought up to the level shown on the contract drawings. Aggregate shall be placed along the sides of the pipe and on the top of the pipe with the pipe held in place to prevent vertical or lateral displacement by the fluid effort of the aggregate. Cap the ends of pipe with end caps.

C. Backfill the remainder of the trench and compact as shown on the contract drawings avoiding any excessive mixing of drainage aggregates with surface (planting) soils.

3.05 Pipe Connections at Structures:

A. All new catch basins and maintenance holes shall be provided with openings or knockouts for insertion of pipe connections and with a trap for the outlet pipe. When connections are to be made to existing catch basin with no available hole or where a "knock out" of adequate size is not provided, pipe connections shall be accomplished

by core drilling or line drilling. All openings must provide a minimum of 1 inch and a maximum of 2 inches clearance around the circumference of the pipe. Line drilling shall be accomplished with a small core drill or a rotary hammer. Jackhammers shall not be used.

B. Where the designed PVC line passes through the side-wall of the structure, provide a sand collar, type specified in the Drawings.

C. After pipes have been placed in position, they shall be grouted tightly in place with a trowel and brush finish, as required by the Engineer to achieve a smooth inside and outside surface. Grout material shall be non-shrink cement sand grout. Upstream pipes penetrating the walls of catch basins shall be placed with the bell facing out, such that the bell is placed as snug against the outside wall of the structure as the angle of penetration allows. Pipe leaving or entering catch basins shall be provided with a flexible joint within 1/2 of pipe diameter, or 12 inches, whichever is greater. Connection between PVC pipe and CMP shall have a Romac or Dressler coupler, or approved equal.

3.06 Detection Tape: Install detection tape in all pipe trenches located above the top of all pipes at 6” below finished grade.

3.07 Tie In: Connect new drainage equipment to existing using Romac, Omni or Caulder fittings, or approved equal. Provide shoring and de-watering per the requirements of the City of Seattle Standard Specifications (most recent edition). Provide and install couplers as described above. All connections to the existing sewer lines in the street ROW shall be done per the requirements of the Seattle Public Utilities and Street Use Permit and Side Sewer Permit.

3.08 Cleaning, Testing and Inspections: All new pipe and structures shall be cleaned and tested per City of Seattle Standard Specifications (most recent edition), or as directed by the Engineer. Testing shall be conducted under the direction of the Engineer, by calling the **SPR Inspection Request Line @ (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov** to make arrangements for inspections.

END OF SECTION

APPENDIX A

Signed Consent Decree

FILED LODGED ENTERED RECEIVED
JUL 03 2013
AT SEATTLE
CLERK U.S. DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON
BY DEPUTY

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BY

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WASHINGTON

UNITED STATES OF AMERICA,

and

THE STATE OF WASHINGTON

Plaintiffs

v.

THE CITY OF SEATTLE, WASHINGTON

Defendant

Civil Action No. 2:13-cv-678

CONSENT DECREE

13-CV-00678-CNST

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CONSENT DECREE

WHEREAS, Plaintiffs, the United States of America, on behalf of the United States Environmental Protection Agency ("EPA"), and the State of Washington, by and through the State of Washington Department of Ecology ("Ecology"), have filed a complaint ("Complaint") in this action concurrently with this Consent Decree, alleging that Defendant, the City of Seattle ("City"), violated Sections 301 and 402 of the Clean Water Act, 33 U.S.C. §§ 1311 and 1342, and the conditions and limitations of its National Pollutant Discharge Elimination System ("NPDES") permit issued to the City by Ecology, as authorized by EPA under Section 402(b) of the CWA, 33 U.S.C. § 1342(b).

WHEREAS, the State of Washington has joined as a party to this action, pursuant to Section 309(e) of the CWA, 33 U.S.C. § 1319(e).

WHEREAS, the City owns and operates a Wastewater Collection System that collects residential and industrial wastewaters, as well as stormwater, and conveys the collected wastewater to regional collection systems and wastewater treatment plants owned and operated by King County.

WHEREAS, the Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and will avoid litigation between the Parties and this Consent Decree is fair, reasonable, and in the public interest.

NOW, THEREFORE, with the consent of the Parties, it is hereby ADJUDGED, ORDERED, AND DECREED as follows:

I. JURISDICTION AND VENUE

1. This Court has jurisdiction over the subject matter of this action, pursuant to Section 309(b) of the CWA, 33 U.S.C. § 1319(b), and 28 U.S.C. §§ 1331, 1345, and 1355, and over the Parties. Venue lies in this District, pursuant to Section 309(b) of the CWA, 33 U.S.C. § 1319(b), and 28 U.S.C. §§ 1391(b) and 1395(a), because it is the judicial district where the City is located and where the alleged violations occurred. For purposes of this Decree, or any action to enforce this Decree, the City consents to the Court's jurisdiction over the City, this Decree, and any such action, and further consents to venue in this judicial district.

2. For purposes of this Consent Decree, the City agrees that the Complaint states claims upon which relief may be granted under the Clean Water Act.

II. APPLICABILITY

3. The provisions of this Consent Decree shall apply to and be binding upon the United States and the State, and upon the City, its successors, assigns, officers, directors, agents, employees, contractors, and all persons, firms, and corporations acting under the direction and control of the City, including firms, corporations, and third parties under contract with the City to perform obligations of this Consent Decree.

4. No transfer of ownership or operation of any portion of its Wastewater Collection System, whether in compliance with the procedures of this Paragraph or otherwise, shall relieve the City of its obligation to ensure that the terms of the Decree are satisfied and implemented. Effective from the Date of Lodging of this Consent Decree until its termination pursuant to Section XX, at least thirty (30) days prior to such transfer, the City shall provide a copy of this Consent Decree to the proposed transferee and shall simultaneously provide written notice of the

prospective transfer, together with a copy of the proposed written agreement, to the United States and the State, in accordance with Section XIII (Notices). The City shall condition any transfer, in whole or in part, of ownership, operation, or other interest of the Wastewater Collection System upon the successful execution of the terms and conditions of this Decree.

5. If the City seeks to name a successor to assume any or all interests in, or operating role with respect to the Wastewater Collection System, the City may request the United States, in writing, to modify this Consent Decree in accordance with the role to be assumed by the proposed successor in interest. Accompanying its proposed modification, the City shall also provide documentation to demonstrate that the prospective successor in interest has the technical and financial qualifications to fulfill the City's obligations and liabilities under this Consent Decree. If the United States agrees to the proposed modification of the Consent Decree, the Parties shall prepare a joint motion to the Court requesting such modification and seeking leave to join the proposed successor in interest. If the United States does not agree, and the City still believes modification of the Decree and joinder of a successor in interest is appropriate, the City may file a motion seeking such modification in accordance with Federal Rules of Civil Procedure 60(b); provided, however, that nothing in this Paragraph is intended to waive the United States' right to oppose such motion and to argue that such modification is unwarranted.

6. The City shall provide copies of this Consent Decree to all officers, directors, employees, and agents of the City whose duties might reasonably include compliance with any provision of this Decree. The City also shall provide copies of the Consent Decree to any engineering, consulting, or contracting firm, or any other entity that the City retains to perform the work, or any portion thereof, required by this Consent Decree upon execution of any contract relating to the performance of such work. For entities that the City has already retained to perform work in

accordance with this Consent Decree, the City shall provide a copy of the Consent Decree to such entities no later than thirty (30) days after the Effective Date. Providing a copy shall include making the Consent Decree available electronically or by paper copy if requested by the entity retained. The City shall condition any such contract upon performance of the work in conformity with the terms of this Consent Decree.

7. Any action taken by any entity retained by the City to implement the City's obligations under this Consent Decree shall be considered an action of the City for purposes of determining compliance with this Consent Decree. In any action to enforce this Consent Decree, the City shall not raise as a defense the act or failure to act by any of its officers, directors, agents, employees, consultants, or contractors.

III. OBJECTIVES

8. The objectives of this Consent Decree are to resolve the claims alleged in the Complaint and to set out the requirements that the City will implement to reduce Combined Sewer Overflows and to achieve the goal of eliminating Sewer Overflows, as required by law, in furtherance of the objectives of the Clean Water Act, EPA's CSO Control Policy, and the objectives of the Washington Water Pollution Control Act.

IV. DEFINITIONS

9. Terms used in this Consent Decree that are defined in the CWA and its implementing regulations, the Washington Water Pollution Control Act and its implementing regulations, or the City's NPDES Permit shall have the meanings assigned to them in the CWA and its implementing regulations, the Washington Water Pollution Control Act and its implementing regulations, or the City's NPDES Permit unless otherwise provided in this Consent Decree. If

these sources assign conflicting or inconsistent meanings to any term used in this Consent Decree but not specifically defined below, priority shall be given in the order listed above. Whenever the terms set forth below are used in this Consent Decree, the following definitions shall apply and have priority over any other conflicting or inconsistent meanings assigned to the same terms used in any state law, regulation, or permit:

a) "City" shall mean the City of Seattle, Washington.

b) "Combined Sewer Overflow" or "CSO" shall mean any discharge from the City's CSO Outfalls as a result of precipitation.

c) "CSO Control Measure" shall mean the construction, control measures, actions, and other activities set forth in the City's Long Term Control Plan or any Supplemental Compliance Plan provided for in Section V.B.

d) "CSO Control Policy" shall mean EPA's Combined Sewer Overflow Control Policy, 59 Fed. Reg. 18688 (April 19, 1994).

e) "CSO Outfall" shall mean the outfall structure from which a CSO is discharged. A list of the City's CSO Outfalls is provided as Appendix A to the Consent Decree.

f) "Combined Sewer System" or "CSS" shall mean the wastewater collection and conveyance system owned or operated by the City, including all pipes, force mains, gravity sewer segments, pump stations, lift stations, interceptors, diversion structures, manholes, and appurtenances thereto, designed to collect and convey municipal sewage, including residential, commercial, and industrial wastewaters, and stormwater, through a single-pipe system to King County's wastewater treatment plants, King County's CSO treatment plants, or to permitted CSO Outfalls.

g) "Complaint" shall mean the Complaint filed by the United States and the State in this action.

h) "Consent Decree" or "Decree" shall mean this Consent Decree and all appendices hereto (listed in Section XXV).

i) "Construction Completion" shall mean completion of construction and installation of equipment or infrastructure such that equipment or infrastructure has been placed in full operation, and is expected to both function and perform as designed, as well as completion of in-situ modified operations and maintenance manuals. This specifically includes all control systems and instrumentation necessary for normal operations and all residual handling systems. Certain CSO Control Measures required under this Consent Decree may consist of separate components. For those specified CSO Control Measures consisting of separate components, "Construction Completion" shall not be achieved until the last component is completed.

j) "Construction Start" shall mean the date of the Notice-to-Proceed. For those specified CSO Control Measures consisting of separate phases or contracts, Construction Start shall be designated by the date of the Notice-to-Proceed given to a contractor for the first phase of work.

k) "Controlled" shall mean the control of a CSO Outfall in accordance with WAC 173-245-020(22).

l) "Date of Lodging" shall mean the date that the United States lodges a fully executed copy of this Consent Decree with the Court, prior to noticing this Decree in the Federal Register.

m) "Day" shall mean a calendar day unless expressly stated to be a business day. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next business day.

n) "Design Criteria" shall mean the minimum attributes of a given CSO Control Measure, such as storage volumes, treatment capacities, or pumping and/or conveyance capacities as specified in the Long Term Control Plan or any Supplemental Compliance Plan provided for under Section V.B.

o) "Dry Weather CSO" shall mean any discharge or release from the City's CSO Outfall that consists of non-precipitation related flows, which may include, without limitation, the combination of domestic sewage, groundwater infiltration, and commercial and industrial wastewaters.

p) "Ecology" shall mean the State of Washington Department of Ecology.

q) "EPA" shall mean the U.S. Environmental Protection Agency and any of its successor departments or agencies.

r) "Effective Date" or "Date of Entry" shall mean the definition provided in Section XVII.

s) "Green Infrastructure" shall mean systems and practices that use or mimic natural processes to infiltrate, evapotranspire, and/or harvest stormwater on or near the site where it is generated. Green Infrastructure may include, but is not limited to, green roofs, downspout disconnection, trees and tree boxes, rain gardens, vegetated swales, pocket wetlands, infiltration planters, vegetated median strips, permeable pavements, reforestation, and protection and enhancement of riparian buffers and floodplains.

t) "Long Term Control Plan" or "LTCP" shall mean the long term control plan under development by the City in accordance with Section V.B., as well as any additional remedial measures for eliminating or reducing the City's CSOs included in any Supplemental Compliance Plan developed and implemented in accordance with Section V.B.

u) "NPDES Permit" shall mean the City's National Pollutant Discharge Elimination System permit, No. WA-003168-2, issued by the State of Washington Department of Ecology on October 27, 2010 or such permits that succeed this permit issued and in effect at a relevant time under this Consent Decree.

v) "Paragraph" shall mean a portion of this Decree identified by an Arabic numeral.

w) "Parties" shall mean the United States, the State of Washington, and the City of Seattle.

x) "Performance Criteria" shall mean the Performance Criteria specified in the Long Term Control Plan or any Supplemental Compliance Plan provided for under Section V.B.

y) "Post-Construction Monitoring Plan" or "PCMP" shall mean the plan that the City developed in accordance with Section V.B., as well as any additional post-construction monitoring or modeling activities included in any Supplemental Compliance Plan developed and implemented in accordance with Section V.B.

z) "Sanitary Sewer System" shall mean the portion of the Wastewater Collection System designed to convey only sewage, and not stormwater, from residences, commercial buildings, industrial plants and institutions for treatment at a wastewater treatment plant.

aa) "Sewer Overflow" shall mean any overflow, spill, diversion, or release of wastewater from or caused by the Sanitary Sewer System or the Combined Sewer System upstream of a City's CSO Outfall. This term shall include: (i) discharges to surface waters of the State or United States from the Sanitary Sewer System and (ii) any release of wastewater from the Sanitary Sewer System to public or private property that does not reach waters of the United States or the State.

bb) "Section" shall mean a portion of this Decree identified by a roman numeral.

cc) "Supplemental Compliance Plan" shall mean any plan developed by the City in accordance with Section V.B.

dd) "State" shall mean the State of Washington, acting by and through Ecology.

ee) "Twenty Year Moving Average" shall mean the average number of untreated discharge events per CSO Outfall over a twenty year period for purposes of compliance with WAC 173-245-020(22). For previously Controlled CSO Outfalls and where monitoring records exist for the past 20 consecutive years, the twenty year moving average shall mean the average number of untreated discharges per CSO Outfall over the 20 year record. On an annual basis, the twenty year moving average will be calculated and includes the current monitored year and each of the previous 19 years of monitored CSO data. For CSO reduction projects and Controlled CSO Outfalls where a complete twenty year record of monitored data does not exist, missing annual CSO frequency data will be generated based on the predicted CSO frequency for a given year as established in the approved engineering report or facility plan. For each CSO reduction project, the engineering report or facility plan shall predict the CSO frequency for each CSO Outfall (s) based on long-term simulation modeling using a 20-year period of historical rainfall data, the hydraulic model, the CSO control project design and assuming the CSO control project existed throughout the 20-year period. For CSO reduction projects, the level of control is the number of discharge events per CSO Outfall per year that are estimated to occur based on the designed CSO control project over a 20-year period. The level of control will be estimated for each year for a period of 20 years in the engineering report or facility plan. For the time period between the approval of the engineering report and the CSO reduction project's Construction Completion date, the City shall use the same model for the approved design along with the corresponding rainfall data for this period of time to derive CSO frequencies. This information will be

submitted as an amendment to the engineering report or facility plan. For CSO reduction projects, the 20-year moving average will use the approved level of control, on an annual basis, for each of the preceding years for which monitored data does not exist in conjunction with monitored data after the CSO control project has been constructed.

ff) "United States" shall mean the United States of America, acting on behalf of EPA.

gg) "Wastewater Collection System" shall mean the collection and conveyance system owned or operated by the City, including all pipes, force mains, gravity sewer segments, pump stations, lift stations, interceptors, diversion structures, manholes, and appurtenances thereto, designed to collect and convey municipal sewage, including residential, commercial, and industrial wastewaters, and stormwater, to King County's wastewater treatment plants or to a permitted CSO Outfall. The Wastewater Collection System includes the Combined Sewer System, Sanitary Sewer System, and the partially separated system.

V. COMPLIANCE PROGRAMS

A. Early Action CSO Control Programs and Measures

10. The City shall implement all CSO Control Measures necessary to reduce discharges from CSO Outfall numbers 44 and 45 (North Henderson) and CSO Outfall numbers 46 and 47/171 (South Henderson) in order to achieve control levels consistent with Chapter 173-245 WAC and EPA's CSO Policy. Such CSO Control Measures shall be done in accordance with the City's NPDES Permit and the following deadlines:

a) Construction Completion for CSO Outfall numbers 46 and 47/171 by December 31, 2015;

b) Achievement of Controlled status for CSO Outfalls numbers 46 and 47/171 by December 31, 2016;

c) Construction Completion for CSO Outfalls numbers 44 and 45 by December 31, 2018; and

d) Achievement of Controlled status for CSO Outfalls numbers 44 and 45 by December 31, 2019.

11. One year following Construction Completion of each CSO Control Measure, the City shall document that the associated CSO Outfall has been Controlled; provided, however, that if there is insufficient precipitation during the year following Construction Completion to demonstrate that a CSO Outfall has been Controlled, then the deadline for documenting that a CSO Outfall has been Controlled shall be extended until there is sufficient precipitation to make the demonstration, subject to the approval of EPA and Ecology. The City shall report the CSO as Controlled in the next Annual Report submitted pursuant to Section VIII. If the CSO Outfall is not Controlled within one year following Construction Completion of the CSO Control Measure, the City shall submit to EPA and the State for their approval a Supplemental Compliance Plan as set forth in Paragraph 18 below. This Supplemental Compliance Plan shall be submitted within thirty (30) days after the end of the one year following Construction Completion.

B Development and Implementation of Long Term Control Plan and Post-Construction Monitoring Plan

12. In accordance with the schedule in Appendix B and Section V.B. of this Consent Decree, the City shall complete development of its Long Term Control Plan ("LTCP") as set forth in Appendix C.

13. EPA and Ecology may approve the LTCP or may decline to approve it and provide written comments. Within forty-five (45) days of receiving any comments from EPA and/or Ecology, the City shall either alter the LTCP consistent with EPA's and Ecology's comments and resubmit the LTCP to EPA and Ecology for final approval or submit the matter for dispute resolution under Section XII (Dispute Resolution) of this Consent Decree.

14. LTCP. The LTCP shall specify (a) all CSO Control Measures that the City must implement to ensure compliance with the provisions of the CWA and its implementing regulations that apply to CSOs, any applicable state law and regulations that apply to CSOs, those portions of the City's NPDES Permit that apply to CSOs, and EPA's CSO Control Policy; (b) all Design Criteria and Performance Criteria developed for each CSO Control Measure; and (c) a schedule of critical milestones, including, at a minimum, the dates for submission of draft and final engineering reports and draft and final plans and specifications, Construction Start, Construction Completion, and achievement of Controlled status, for each CSO Control Measure. The LTCP shall provide a schedule that is as soon as possible, but in no event later than December 31, 2025, for Construction Completion of all CSO Control Measures, unless this deadline is extended pursuant to Section XI (Force Majeure), Paragraph 20(c), or Paragraph 23(c).

15. Upon final approval of the LTCP, the City shall construct and implement the CSO Control Measures in accordance with the descriptions, Design Criteria, Performance Criteria, and the critical milestones listed in Paragraph 14 above, for each CSO Control Measure set forth in the approved LTCP. With the exception of Force Majeure, a delay in the bidding process of the CSO Control Measures shall not extend the date for Construction Completion.

16. Permit Compliance. The City shall carry out the requirements of this Consent Decree in compliance with the terms and conditions of its NPDES Permit, the CWA, the Washington Water Pollution Control Act, and the regulations implementing these laws when complying with the requirements of this Consent Decree.

17. Post-Construction Monitoring Program. The City shall develop and perform a Post-Construction Monitoring Program set forth in Appendix C in accordance with the provisions and schedules set forth therein and in Appendix B.

18. Supplemental Compliance Plan. If, after Construction Completion of the CSO Control Measures identified in the approved LTCP, information becomes available at any time before the Consent Decree terminates, including information developed as a result of the Post-Construction Monitoring Plan, that the City: (1) did not construct all CSO Control Measures in accordance with the Design Criteria set forth in the approved LTCP; (2) has not achieved the Performance Criteria for the CSO Control Measures identified in the approved LTCP; or (3) is not complying with all the requirements of its NPDES Permit pertaining to CSOs, the City shall, within sixty (60) days of receipt of notice from EPA or Ecology, pursuant to Section XIII (Notices) of this Consent Decree, submit to EPA and Ecology (1) a plan for performing supplemental remedial measures to achieve compliance and additional post-construction monitoring and modeling ("Supplemental Compliance Plan") and (2) a request for the extension of the deadline for the Construction Completion for the CSO Control Measure at issue to allow for implementation of supplemental remedial measures. The Supplemental Compliance Plan shall include a description of the remedial measures that the City will take to ensure that compliance will be achieved; a schedule that is as expeditious as possible for design, construction, and implementation of the measures; a description of additional post-construction monitoring and modeling needed to

assess whether the City has achieved compliance; and a schedule for performing such monitoring and modeling. Upon approval by EPA and Ecology pursuant to Section VI (Review and Approval Procedures), or upon decision by the Court under Section XII (Dispute Resolution), for the City's Supplemental Compliance Plan, the City shall implement the Supplemental Compliance Plan in accordance with the schedule specified therein.

19. The City may request a modification of the critical milestones set forth in its approved LTCP for the sole purpose of revising the priority and sequencing of CSO Control Measures if the City demonstrates that the requested modification (1) reflects good engineering practice, (2) is required to coordinate with King County's CSO infrastructure projects, (3) is necessary to attain cost effective and technically sound CSO Control Measures and (4) will not change, modify, or extend in any way the City's final Construction Completion of December 31, 2025 as provided in Paragraph 14, unless this deadline is extended pursuant to Section XI (Force Majeure), Paragraph 20(c), or Paragraph 23(c).

a) Any request by the City for modification made pursuant to this Paragraph shall be made in writing to EPA and the State and include all documentation necessary to support the request for modification, including all information relevant to the four criteria set forth above. The City shall provide such additional information requested by the United State or the State as is necessary to assist in evaluating the City's modification request.

b) If EPA and the State disapprove the City's request, the City may invoke Informal Dispute Resolution in accordance with Paragraph 76. The Formal Dispute Resolution and judicial review procedure set forth in Paragraphs 77 to 81 shall not apply to this Paragraph 19(a)-(b). If the dispute is not resolved by Informal Dispute Resolution, then the position advanced by the United States shall be considered binding; provided that the City may, within 30 days after the

conclusion of the Informal Dispute Resolution Period, appeal the decision to the Director of the Office of Compliance and Enforcement, EPA Region 10. EPA's Region 10 Compliance and Enforcement Director may approve or disapprove, or approve upon conditions or in a revised form, the proposed modification of the critical milestones. The determination of EPA's Region 10 Compliance and Enforcement Director shall be in her/his discretion and shall be final. The City reserves the right to file a motion seeking relief in accordance with the Federal Rules of Civil Procedure 60(b). Such a motion by the City shall not relieve the City of its obligations pursuant to Section V, unless the Court orders otherwise, and the City shall continue with timely implementation of the CSO Control Measures until the Court rules on any motion described in this Paragraph in a manner that modifies the City's obligations under this Decree.

20. Recognizing the Parties' interest in supporting a comprehensive and integrated planning approach to municipal government's Clean Water Act obligations, the City may submit to the United States and the State for their approval a work plan ("Integrated Plan") that proposes water quality improvement project(s) ("Proposed Project") to be implemented by the City, provided that the Proposed Project(s) will result in significant benefits to water quality beyond those that would be achieved by implementation of the approved CSO Controls Measures only. The Proposed Project(s) in the Integrated Plan shall be in addition to all CSO Control Measures required in the approved LTCP. If the City chooses to submit an Integrated Plan, the City shall submit such plan no later than June 30, 2018. The Integrated Plan shall:

a) Describe in detail each Proposed Project, including, at a minimum, the following information:

i. the design criteria and cost estimates for each Proposed Project contained within the Integrated Plan;

ii. a cost-benefit analysis for implementation of the Integrated Plan;

iii. a pollutant load reduction analysis, including projected load reductions for conventional pollutant parameters (i.e., biochemical oxygen demand, fecal coliform bacteria, total suspended solids, oil and grease, and pH), metals, nitrogen ammonia, phosphorous, and pathogens, as well as projected dissolved oxygen concentrations, associated with each Proposed Project under the Integrated Plan;

iv. a description of the public participation process that will be utilized by the City in its development and implementation of the Proposed Project(s) under the Integrated Plan;

v. a description of the projected pollutant reductions to water bodies impaired for pathogens, metals, nitrogen ammonia, and dissolved oxygen through implementation of each Proposed Project under the Integrated Plan;

vi. a description of projected pollutant reductions, including toxic organic compounds (e.g., select indicators for PCBs, PBDEs, semi-volatile organic compounds, and pesticides) as appropriate, to water bodies with specialized circumstances, such as beach closure advisories, protected spawning grounds, and contaminated sediment sites listed under CERCLA or MTCA, through implementation of each Proposed Project under the Integrated Plan; and

vii. a description of projected reductions in pollutant exposure for humans, ecological receptors, and/or threatened or endangered species through implementation of the Proposed Project(s) under the Integrated Plan;

b) Demonstrate that the Integrated Plan will achieve compliance with the CWA and the Washington Water Pollution Control Act, as well as their implementing regulations, the City's NPDES Permit, the City's municipal separate storm sewer system ("MS4") permit, and EPA's CSO Control Policy;

c) Propose a schedule for implementation of the Integrated Plan and all remaining CSO Control Measures that is as expeditious as possible that may include an extension to the final Construction Completion milestone. The schedule shall specify milestones for each Proposed Project, including, at a minimum, the Construction Start and Construction Completion. The schedule for the remaining CSO Control Measure shall include, at a minimum, milestone dates for submission of draft and final engineering reports, as well as draft and final plans and specifications, Construction Start, Construction Completion, and achievement of Controlled status;

d) Propose a plan and schedule for performing any post-construction monitoring required for the Proposed Project(s), in addition to the post-construction monitoring specified in Appendix C, that is necessary to assess whether anticipated water quality benefits have been achieved and the requirements in Paragraph 20(b) and (c) above have been or will be met upon implementation of the Integrated Plan, as well as a plan and schedule for submitting supplemental milestone reports resulting from such additional monitoring; and

e) Include all documents, models, studies, and information supporting implementation of the Integrated Plan. The City shall provide such additional information requested by the United States or the State as is necessary to assist in evaluating the Integrated Plan.

21. If EPA and the State disapprove the City's Integrated Plan, the City may invoke Informal Dispute Resolution in accordance with Paragraph 76. The Formal Dispute Resolution and judicial review procedure set forth in Paragraphs 77 to 81 shall not apply to Paragraphs 20-22. If the dispute is not resolved by Informal Dispute Resolution, then the position advanced by the United States shall be considered binding; provided that the City may, within 30 days after the conclusion of the Informal Dispute Resolution Period, appeal the decision to the Director of the

Office of Compliance and Enforcement, EPA Region 10. EPA Region 10 Compliance and Enforcement Office Director may approve or disapprove, or approve upon conditions or in a revised form, the Integrated Plan. The determination of EPA Region 10 Compliance and Enforcement Office Director shall be in her/his discretion and shall be final. The City reserves the right to file a motion seeking relief in accordance with the Federal Rules of Civil Procedure 60(b). Such a motion by the City shall not relieve the City of its obligations pursuant to Section V, unless the Court orders otherwise, and the City shall continue with timely implementation of the CSO Control Measures until the Court rules on any motion described in this Paragraph in a manner that modifies the City's obligations under this Decree.

22. Upon receipt of EPA and the State's approval of the Integrated Plan, or upon resolution of any disputes pertaining to the Integrated Plan, pursuant to Paragraph 21 above, the City shall implement the Integrated Plan (including any post-construction monitoring) in accordance with the schedule and terms set forth in the approved Integrated Plan.

23. If the City experiences significant adverse changes to its financial circumstances or other financial or budgetary issues, the City may request a modification of a CSO Control Measure and/or an extension of a CSO Critical Milestone up to a maximum of five years. The request for modification shall be made in writing to the United States and the State, and shall:

a) Provide a detailed discussion of the significant adverse change to the City's financial circumstances or other financial or budgetary issues;

b) Specify which CSO Control Measure and/or CSO Critical Milestone cannot be complied with;

c) Propose a revised CSO Control Measure and/or CSO Critical Milestones that are expeditious as possible and in no event longer than additional 5 years;

d) Demonstrate that the proposed CSO Control Measure will meet the same Performance Criteria as the CSO Control Measure it replaces, as well as comply with all federal and state laws and regulations; and

e) Include all documents and information supporting the request.

24. The City shall provide such additional information requested by the United States and the State to assist in evaluating the modification request. If the Parties agree on a proposed modification to the Consent Decree, the modification shall be incorporated into an amended consent decree that shall be subject to court approval after public notice and comment in accordance with Sections XIX and XXI. If the Parties do not agree that a modification proposal under Paragraph 23 above is warranted, and the City believes modification is appropriate, the City reserves its rights to file a motion pursuant to FRCP 60(b) seeking modification of a CSO Control Measure and/or CSO Critical Milestone; provided, however, that the United States and the State reserve their rights to oppose any such motion and to argue that such modification is unwarranted. Such a motion by the City shall not relieve the City of its obligations pursuant to Section V, unless the Court orders otherwise, and the City shall continue with timely implementation of the CSO Control Measures until the Court rules on any motion described in this Paragraph in a manner that modifies the City's obligations under this Decree.

C. Capacity, Management, Operations, and Maintenance Performance Program Plan

25. On December 31, 2012, the City submitted to EPA and Ecology for their approval a comprehensive Capacity, Management, Operations, and Maintenance ("CMOM") Performance Program Plan in accordance with the requirements and schedule set forth in Appendix D. The CMOM Performance Program Plan is subject to the Review and Approval Procedures set forth in Section VI of this Decree.

26. The City shall implement the approved CMOM Performance Program Plan within thirty (30) days of receipt of EPA and Ecology's approval. The City shall annually review its CMOM Performance Program Plan and update the program as necessary to ensure the City is achieving the performance thresholds contained in the approved CMOM Performance Program Plan. The City shall report in its Annual Report the metrics regarding SSO performance set forth in Appendix D at Paragraph E(1)-(7). If the Annual Report indicates that the City has not achieved the performance thresholds as set forth in its approved CMOM Performance Program Plan, the City shall identify and discuss the reasons why the performance threshold was not achieved, and implement the corrective actions, subject to EPA and Ecology approval. Should the City make any substantive changes to its performance thresholds of its CMOM Performance Program Plan, the City shall submit any proposed changes, subject to EPA and Ecology's approval. Upon approval of revised performance thresholds, said approved, revised thresholds shall supersede previously approved thresholds.

D. **Fats, Oils, and Grease Control Program Plan**

27. On December 31, 2012, the City submitted to EPA and the State for their approval a Fats, Oils, and Grease ("FOG") Control Program Plan designed to ensure that grease accumulations are not restricting the capacity of the Wastewater Collection System contributing to overflows. The FOG Control Program shall include, at a minimum, the requirements set forth in Appendix D at Paragraph B.3. The FOG Control Program Plan is subject to the Review and Approval Procedures set forth in Section VI of this Decree.

28. The City shall implement the revised FOG Control Program Plan within thirty (30) days of receipt of EPA and the State's approval of such plan. The City shall annually review its FOG Program Plan and update the program as necessary. The City shall submit as part of its Annual

Report summaries of FOG inspections and enforcement actions taken by the City during the preceding year. The City shall submit any substantive updates, changes or revisions to its FOG Program Plan, subject to EPA and Ecology's approval. Upon approval of any changes to the FOG Program Plan, such changes shall supersede previously approved provisions.

E. Revised Floatable Solids Observation Program Plan

29. On December 31, 2012, the City submitted to EPA and the State for their approval a revised Floatable Solids Observation Program Plan in accordance with Appendix E. The Floatable Solids Observation Program Plan is subject to the Review and Approval Procedures set forth in Section VI of this Decree.

30. The City shall implement the revised Floatable Solids Observation Program Plan within thirty (30) days of receipt of EPA and the State's approval of such plan. The City shall annually review and update its Floatable Solids Observation Program Plan as appropriate. The City shall submit any substantive updates, changes or revisions to its Floatable Solids Observation Program Plan, subject to EPA and Ecology's approval. Upon approval of any changes to the Floatable Solids Observation Program Plan, such changes shall supersede previously approved provisions.

F. Joint Operations and System Optimization Plan Between City and King County

31. No later than March 1, 2016, the City shall submit to EPA and the State for their approval a Joint Operations and System Optimization Plan ("Joint Plan") that the City will work with King County in jointly developing and which satisfies the requirements of Appendix F. This Joint Plan shall be applicable to the City's and the County's respective CSO systems, and (a) be consistent with each entity's operational objectives, (b) ensures the optimal level of coordination and information sharing is maintained, and (c) optimizes system and joint operations.

32. The City shall submit progress reports to EPA and the State on the development of the Joint Plan by December 31, 2013 and December 31, 2014.

33. The City shall implement the approved Joint Plan upon receipt of EPA and the State's approval. The City, in coordination with King County, shall review the Joint Plan every three years and update the plan as necessary to ensure the optimal level of coordination and information sharing is maintained between the two entities. Any substantive updates, changes, or revisions to the Joint Plan that affect the operations of CSO facilities covered by this Consent Decree shall be approved by the City and King County and submitted to EPA and Ecology for their approval upon renewal of the City's NPDES Permit. Upon approval of any changes to the Joint Plan, such changes shall supersede previously approved provisions.

VI. REVIEW AND APPROVAL PROCEDURES

34. After review of any plan, report, and other item that the City is required to submit to EPA and Ecology for their review in accordance with this Consent Decree, EPA and the State shall in writing: (a) approve the submission; (b) approve the submission upon specified conditions; (c) approve part of submission and disapprove the remainder; or (d) disapprove the submission.

35. If the submission is approved pursuant to Paragraph 34(a), the City shall take all actions required by the plan, report, or other document, in accordance with the schedules and requirements of the plan, report, or other document, as approved. If the submission is conditionally approved or approved only in part, pursuant to Paragraph 34(b) or (c), the City shall, upon written direction from EPA and the State, take all actions required by the approved plan, report, or other item that EPA and the State determines are technically severable from any

disapproved portions, subject to the City's right to dispute only the specified conditions or the disapproved portions, under Section XII of this Decree (Dispute Resolution).

36. If the submission is disapproved in whole or in part pursuant to Paragraph 34(c) or (d), the City shall, within sixty (60) Days or such other time as the Parties agree to in writing, correct all deficiencies and resubmit the plan, report, or other item, or disapproved portion thereof, for approval, in accordance with the preceding Paragraphs. If the resubmission is approved in whole or in part, the City shall proceed in accordance with the preceding Paragraph.

37. Any stipulated penalties applicable to the original submission, as provided in Section X of this Decree, shall accrue during the 60-Day period, or other specified period, but shall not be payable unless the resubmission is untimely or is disapproved in whole or in part; provided that, if the original submission was so deficient as to constitute a material breach of the City's obligations under this Consent Decree, the stipulated penalties applicable to the original submission shall be due and payable notwithstanding any subsequent resubmission.

38. If a resubmitted plan, report, or other item, or portion thereto, is disapproved in whole or in part, EPA and Ecology may again require the City to correct any deficiencies, in accordance with the preceding Paragraphs, or may themselves correct any deficiencies, subject to the City's right to invoke Dispute Resolution and the right of EPA and the State to seek stipulated penalties as provided in the preceding Paragraphs.

39. All work plans, reports, and other materials required to be submitted to EPA and Ecology under this Consent Decree shall, upon approval by EPA and Ecology, be enforceable under this Consent Decree.

40. EPA and Ecology agree to use their best efforts to expeditiously review and comment on submittals that the City is required to submit for approval pursuant to this Consent Decree. If

EPA and Ecology fail to act on a submittal within ninety (90) days of receipt of the submittal, any subsequent milestone date dependent upon such action shall be extended by the number of Days beyond the 90-Day review period that EPA and Ecology use to act on the submittal. In this event, the City must notify EPA and Ecology in writing, at the time of the submittal, of the end date of the 90-Day review period plus any specific milestone dates that the City believes would be extended under this Paragraph if EPA and the State fail to act within 90 days. This Paragraph does not apply to EPA and Ecology's review of, or actions taken with regard to, revisions of water quality standards, permits, or any matters other than submittals that the City is specifically required to submit to EPA and Ecology for approval pursuant to this Consent Decree. Nothing in this Paragraph shall change, modify, or extend in any way the date of December 31, 2025 for the City's Construction Completion of all CSO Control Measures.

41. Permits. Where any compliance obligation under this Section requires the City to obtain federal, state, or local permits or approval, the City shall submit timely and complete applications to the required authorities and take all reasonable steps to obtain all such permits or approvals. The City may seek relief under the provisions of Section XI (Force Majeure) of this Consent Decree for any delay in the performance of any such obligation resulting from a failure to obtain, or a delay in obtaining, any permit or approval required to fulfill such obligation, if the City has submitted timely and complete applications and has taken all reasonable steps to obtain all such permits or approvals. The City is not required to file a lawsuit to demonstrate that it has taken all reasonable steps to obtain a necessary permit or approval.

VII. FUNDING

42. The City's duty to comply with the terms of this Consent Decree is not contingent upon the receipt of any federal, State or local funds. The City's failure to comply is not excused by the lack of federal or state grant funds, by the processing of any applications for the same, or by the City's financial capabilities except as expressly provided by Paragraph 23 of this Consent Decree. Application for construction grants, State revolving loan funds, or any other grants or loans, or delays in processing or receipt of federal, state or local funds caused by inadequate facility planning or plans and specifications on the part of the City shall not be cause for extension of any required compliance date in this Consent Decree.

VIII. REPORTING REQUIREMENTS

43. Beginning with the first full calendar quarter after the Effective Date of this Consent Decree and annually thereafter until this Consent Decree terminates in accordance with Section XX (Termination) of this Consent Decree, the City shall submit a written Annual Report to EPA and Ecology. The Annual Report shall not duplicate reports that are otherwise required assuming that EPA and the State receive such reports that are otherwise required. The Annual Report shall include at a minimum:

a) a description of the following: (i) the status of any work plan or report development; (ii) the status of any design and construction activities; (iii) the status of all Consent Decree compliance measures and specific reporting requirements for each program plan as required by the applicable Section for the Early Action CSO Control Programs and Measures set forth in Section V.A., the LTCP, Post-Construction Monitoring Program Plan, CMOM Performance Program Plan, FOG Control Program Plan, Revised Floatable Solids Observation Program Plan,

and Joint Operations and System Optimization Plan Between City and King County; (iv) the project costs incurred during the reporting period; (v) any problems anticipated or encountered, along with the proposed or implemented solutions; (vi) the status of any applications for permits relating to the City's Wastewater Collection System; (vii) any reports submitted to state or local agencies relating to the City's Wastewater Collection System; (viii) any anticipated or ongoing operation and maintenance activities relating to the City's Wastewater Collection System; and (ix) remedial activities that will be performed in the upcoming year to comply with the requirements of this Consent Decree.

b) a description of any non-compliance with the requirements of this Consent Decree and an explanation of the likely cause and duration of the violation and any remedial steps taken, or to be taken, to prevent or minimize such violation. If the cause of the violation cannot fully be explained at the time the report is due, the City shall so state in the report. The City shall investigate the cause of the violation and shall then submit an amendment to the report, including a full explanation of the cause of the violation, within thirty (30) Days following the day the City becomes aware of the cause of the violation. Nothing in this Paragraph or the following Paragraph relieves the City of its obligation to provide the notice required by Section XI (Force Majeure) of this Consent Decree.

44. If the City violates, or has reason to believe that it may violate, any requirement of this Consent Decree, the City shall notify EPA and Ecology of such violation and its likely duration, in a written report, within ten (10) Days following the Day the City first becomes aware of the violation, with an explanation of the likely cause and duration of the violation and any remedial steps taken, or to be taken, to prevent or minimize such violation. If the cause of the violation cannot be fully explained at the time the report is due, the City shall so state in the report. The

City shall investigate the cause of the violation and shall then submit an amendment to the report, including a full explanation of the cause of the violation, within thirty (30) Days following the Day the City becomes aware of the cause of the violation. Nothing in this Paragraph or the following Paragraph relieves the City of its obligation to provide the notice required by Section XI of this Consent Decree (Force Majeure).

45. Whenever any violation of this Consent Decree or any other event affecting the City's performance under this Consent Decree, or the operation of its Wastewater Collection System, may pose an immediate threat to the public health or welfare or the environment, the City shall notify EPA and Ecology orally or electronically as soon as possible, but in no event later than twenty-four (24) hours following when the City first becomes aware of the violation or event. This procedure is in addition to the requirements set forth in the preceding Paragraphs.

46. All Annual Reports, or other reports required under this Section VIII, shall be submitted to EPA and Ecology in accordance with Section XIII (Notices) of this Consent Decree.

47. Each report submitted by the City under this Section VIII shall be signed by an official of the submitting party and include 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 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.

This certification does not apply to emergency notifications where compliance would be impractical.

48. Any information provided pursuant to this Consent Decree may be admissible evidence in any proceeding to enforce the provisions of this Consent Decree and as otherwise permitted by law.

49. The reporting requirements of this Consent Decree do not relieve the City of any reporting obligations required by the CWA or its implementing regulations, or by any other federal, state, or local law, regulation, permit, or other requirement.

IX. CIVIL PENALTIES

50. Within thirty (30) Days from the Effective Date, the City shall pay the sum of $350,000 as a civil penalty as set forth in Paragraphs 51-53 below.

51. Of the total civil penalty amount of $350,000, the City shall pay the United States $175,000 and the State $175,000.

52. The payment of the civil penalty to the United States of $175,000 shall be made by FedWire Electronic Funds Transfer ("EFT") to the United States Department of Justice ("DOJ"), in accordance with written instructions to be provided to the City, following entry of this Consent Decree, by the Financial Litigation Unit of the U.S. Attorney's Office for the Western District of Washington, 700 Stewart Street, Suite 5220, Seattle, Washington 98101(206-553-7970). At the time of payment, the City shall send a copy of the EFT authorization form and the EFT transaction record, together with the transmittal letter, which shall state that the payment is for the civil penalty owed pursuant to the Consent Decree in United States of America and State of Washington v. City of Seattle, and shall reference the civil action number ____ and DOJ case number 90-5-1-1-10066, to the United States, in accordance with Section XIII (Notices) of this Consent Decree, and by mail to:

EPA Cincinnati Finance Office
26 Martin Luther King Drive
Cincinnati, OH 45268.

In the event that the City fails to pay all or any portion of the civil penalty owed to the United States within thirty (30) Days of the Effective Date, the City shall pay to the United States interest on the balance due from the 31st day after the Effective Date to date of full payment, at the rate calculated pursuant to 28 U.S.C § 1961.

53. The payment of the civil penalty to the State of $175,000 shall be made by check payable to "Department of Ecology", and mailed to:

Department of Ecology
Cashiering Unit
P.O. Box 47611
Olympia, WA 98504-7611.

At the time of payment, the City shall send a copy of the check, together with the transmittal letter, which shall state that the payment is for the civil penalty owed pursuant to the Consent Decree in this case, and shall reference the civil action number ____, to the State, in accordance with Section XIII (Notices) of this Consent Decree.

54. The City shall not deduct any penalties paid under this Decree pursuant to this Section or Section X (Stipulated Penalties) in calculating its federal and State taxes.

X. STIPULATED PENALTIES

55. The City shall be liable to the United States and the State for stipulated penalties in the amounts set forth in this Section for failure to comply with the requirements of this Consent Decree as specified below, unless excused under Section XI (Force Majeure). "Compliance" or "to comply" shall include meeting all requirements of this Consent Decree and any applicable permit, as well as completing the activities under this Consent Decree, or any work plan or other

plan approved under this Consent Decree, in accordance with all applicable requirements of this Consent Decree, and within the specified time schedules established by and approved under this Consent Decree.

56. Late Payment of Civil Penalties. If the City fails to pay the civil penalty required to be paid under Section IX (Civil Penalties) of this Consent Decree when due, the City shall pay a stipulated penalty of $10,000 for each Day that the payment is late.

57. Failure to Comply with the Compliance Program Requirements. The following stipulated penalties shall accrue per Day for any failure to comply with any of the Compliance Program requirements of this Consent Decree set forth in Section V.A. (Early Action CSO Control Programs and Measures), Section V.B. (Development and Implementation of the LTCP and PCMP), Section V.C. (CMOM Performance Program Plan), Section V.D. (FOG Control Program Plan); Section V.E. (Revised Floatable Solids Observation Program Plan), and Section V.F. (Joint Operations and System Optimization Plan):

Period of Non-compliance	Stipulated Penalty
1st to 14th Day	$3,000 per day per violation
15th to 30th Day	$4,000 per day per violation
After 31st Day and beyond	$5,000 per day per violation

58. Failure to Comply with Other Reporting Requirements. The following stipulated penalties shall accrue per Day for any failure to comply with the reporting requirements of this Consent Decree (excluding all reporting requirements required under the Compliance Programs set forth in Section V):

59.

Period of Non-compliance	Stipulated Penalty
1st to 14th Day	$1,000 per day per violation
15th to 30th Day	$1,500 per day per violation
After 31st Day and beyond	$2,000 per day per violation

60. Dry Weather CSOs. The City shall be liable to pay a stipulated penalty of $7,500 per Day for each Dry Weather CSO that occurs more than twenty-four (24) hours after precipitation.

61. Sewer Overflows. The City shall be liable to pay a stipulated penalty of $2,500 per Day for each Sewer Overflow.

62. Any Other Violations of this Consent Decree. The City shall pay a stipulated penalty of $2,000 per violation per Day for any violation of Paragraphs 4, 6, 71, and Section XIV ("Information Collection and Retention") of the Consent Decree.

63. Stipulated penalties under this Section X shall begin to accrue on the Day after performance is due or on the Day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases. Stipulated penalties shall accrue simultaneously for separate violations of this Consent Decree.

64. The United States, or the State, or both, may seek stipulated penalties under this Section by sending a joint written demand to the City, or by either sovereign sending a written demand to the City, with a copy simultaneously sent to the other sovereign. Either sovereign may waive stipulated penalties or reduce the amount of stipulated penalties it seeks, in the unreviewable exercise of its discretion and in accordance with this Paragraph. Where both sovereigns seek stipulated penalties for the same violation of this Consent Decree, the City shall pay 50 percent to the United States and 50 percent to the State within thirty (30) days of the joint written demand. Where only one sovereign demands stipulated penalties for a violation, and the other sovereign does not join in the demand within ten (10) Days of receiving the demand, or timely joins in the demand but subsequently elects to waive or reduce stipulated penalties for that violation, the City shall pay the stipulated penalties due for the violation to the sovereign making

the demand less any amount paid to the other sovereign within thirty (30) days of the demand. Nothing in this Section shall be construed to waive and the City expressly reserves its right to dispute whether the violation occurred and the duration of the violation pursuant to the procedures set forth in Section XII (Dispute Resolution).

65. Penalty Accrual during Dispute Resolution. Stipulated penalties shall continue to accrue as provided in Paragraph 63 during any Dispute Resolution, provided, however, the City may argue to the Court that stipulated penalties and interest should not run after the matter has been fully briefed and submitted to the Court and provided that Plaintiffs can argue the contrary. Upon completion of dispute resolution, any stipulated penalties that are ultimately determined to be due, plus interest as applicable, shall be paid within twenty (20) days of the date the Parties' agreement, the United States and State's written decision, or, if applicable, any Court order.

66. The City shall pay stipulated penalties owing to the United States in the manner set forth and with the confirmation notices required by Paragraph 52, except that the transmittal letter shall state for which violation(s) the penalties are being paid. The City shall pay stipulated penalties owing to the State in the manner set forth and with the confirmation notices required by Paragraph 53. A copy of the transmittal letter to the United States and other evidence of payment to the State will also be sent to the Washington's Attorney General's Office and Ecology.

67. If the City fails to pay stipulated penalties, and any accrued interest, to the United States and the State in accordance with the terms of this Consent Decree, the City shall be liable for interest on such penalties, as provided for in 28 U.S.C. § 1961, accruing as of the date payment became due. Nothing in this Paragraph shall be construed to limit the United States or the State

from seeking any remedy otherwise provided by law for the City's failure to pay any stipulated penalties.

68. Subject to the provisions of Section XVI (Effect of Settlement and Reservation of Rights), the stipulated penalties provided for in this Consent Decree shall be in addition to any other rights, remedies, or sanctions available to the United States or the State for the City's violation of this Consent Decree or applicable law. Where a violation of this Consent Decree is also a violation of the City's NPDES Permit, the Clean Water Act, or the Washington Water Pollution Control Act, the City shall be allowed a credit, for any stipulated penalties paid, against any statutory penalties imposed for such violation and vice versa. (The City shall be allowed a credit for any statutory penalties paid against any stipulated penalties assessed for such violation).

XI. FORCE MAJEURE

69. "Force majeure," for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of the City, of any entity controlled by the City, or of the City's contractors that delays or prevents the performance of any obligation under this Consent Decree, despite the City's best efforts to fulfill the obligation. The requirement that the City exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any reasonably foreseeable force majeure events and best efforts to address the effects of any such event (a) as it is occurring and (b) after it has occurred to prevent or minimize any resulting delay to the greatest extent possible. Force majeure does not include the City's financial inability to perform any obligation under this Consent Decree or the City's failure to approve contracts necessary to

meet the requirements of this Consent Decree, except as expressly provided in Paragraph 23 of this Decree.

70. If the City believes that a permit contains unreasonable conditions and has appealed the permit condition, the City may request EPA Region 10 Compliance and Enforcement Office Director and Ecology's Water Quality Program Manager to consider it to be a force majeure event. If they determine that the permit condition was not a force majeure event, the City may elect to invoke dispute resolution as set forth in Section XII, informal dispute resolution pursuant to Paragraph 76, or may file a motion for judicial review of the dispute within ten days of EPA and Ecology's determination that the permit condition was not a force majeure event, subject to the standard of review set forth in Paragraph 81. The City may also request that the Court stay consideration of its motion for judicial review of EPA and Ecology's decision that the permit condition was not a force majeure event until the underlying permit appeal is resolved.

71. If any event occurs or has occurred that may delay the performance of any obligations under this Consent Decree, whether or not caused by a force majeure event, the City shall provide notice orally or by electronic or facsimile transmission to EPA and Ecology, within five (5) Days of when the City first knew, or, in the exercise of reasonable diligence under the circumstances, should have known, of such event. Within ten (10) Days thereafter, the City shall provide in writing to EPA and Ecology an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or effect of the delay; the City's rationale for attributing such delay to a force majeure event if it intends to assert such a claim; and a statement as to whether, in the City's opinion, such event may cause or contribute to an endangerment to public health or welfare, or

the environment. The City shall include with any notice all available documentation supporting the claim that the delay was attributable to a force majeure event. Failure to comply with the above requirements shall preclude the City from asserting any claim of force majeure for that event for the period of time for such failure to comply, and for any additional delay caused by such failure.

72. If EPA and Ecology agree that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Consent Decree that are affected by the force majeure event will be extended by EPA and Ecology for such time as is necessary to complete those obligations. An extension of time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation. EPA and Ecology will notify the City in writing of the length of the extension, if any, for performance of any obligations affected by the force majeure event.

73. If EPA and Ecology do not agree that the delay or anticipated delay has been or will be caused by a force majeure event, EPA and Ecology will notify the City in writing of their decision.

74. If the City elects to invoke the dispute resolution procedures set forth in Section XII (Dispute Resolution) of this Consent Decree, it shall do so no later than fifteen (15) days after receipt of EPA's and Ecology's notice of decision. In any such proceeding, the City shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that reasonable efforts were exercised to avoid and mitigate the effects of the delay, and that the City complied with the

requirements of Paragraphs 70-74 above. If the City carries this burden, the delay at issue shall be deemed not to be a violation by the City of the affected obligation of this Consent Decree identified to EPA, Ecology and the Court.

XII. DISPUTE RESOLUTION

75. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section XII shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree.

76. Informal Dispute Resolution. Any dispute subject to the Dispute Resolution under this Consent Decree shall first be the subject of informal negotiations. The dispute shall be considered to have arisen when the City sends the United States and the State a written Notice of Dispute, in accordance with Section XIII (Notices). Such Notice of Dispute shall state clearly the matter in dispute. As part of the informal negotiations, the Parties may engage in mediation with a third party mediator in order to resolve the dispute, if all Parties mutually agree to such mediation. A Party's decision not to mediate is not subject to dispute resolution procedures. The period of informal negotiations (including mediation, if any) shall not exceed thirty (30) days from the date the dispute arises, unless that period is modified by written agreement. Any negotiation period that precedes the date the City submits a written Notice of Dispute shall not be considered to be part of the informal negotiation period. If the Parties cannot resolve a dispute by informal negotiations, then the position advanced by the United States and the State shall be considered binding, unless, within thirty (30) days after the conclusion of the informal negotiation period, the City invokes formal dispute resolution procedures as set forth below.

77. Formal Dispute Resolution. The City shall invoke formal dispute resolution procedures within the time period set forth in the preceding Paragraph, by serving the United States and the State, in accordance with Section XIII (Notices) of this Consent Decree, a written Statement of Position regarding the matter in dispute. The Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting the City's position and any supporting documentation relied upon by the City.

78. The United States and the State shall serve their Statement of Position within forty-five (45) days of receipt of the City's Statement of Position. The Statement of Position served by the United States and the State shall include, but need not be limited to, any factual data, analysis, opinion, or supporting documentation relied upon by the United States and the State. The Statement of Position served by the United States and the State shall be binding on the City, unless the City files a motion for judicial review of the dispute in accordance with the following Paragraph.

79. The City may seek judicial review of the dispute by filing with the Court and serving on the United States and the State, in accordance with Section XIII (Notices) of this Consent Decree, a motion requesting judicial resolution of the dispute. The City must file the motion within twenty-one (21) Days of receipt of the Statement of Position served by the United States and the State pursuant to the preceding Paragraph. The motion shall contain a written statement of the City's position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of the Consent Decree.

80. The United States and the State shall respond to the City's motion within the time period allowed by the Local Rules of this Court. The City may file a reply memorandum, to the extent permitted by the Local Rules.

81. Standard of Review. In any dispute brought under this Section, the City shall have the burden of proof, and the standard and scope of review shall be that provided by applicable law. The United States reserves the right to argue that its position is reviewable only on the administrative record and must be upheld unless arbitrary and capricious or otherwise not in accordance with law.

82. The invocation of dispute resolution procedures under this Section shall not, by itself, extend, postpone, or affect in any way any obligation of the City under this Consent Decree, unless and until a final resolution of the dispute so provides. Stipulated penalties with respect to the disputed matter shall continue to accrue from the first Day of non-compliance, but payment shall be stayed pending resolution of the dispute as provided in Paragraph 65. If the City does not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section X (Stipulated Penalties), unless otherwise provided by the Court.

XIII. NOTICES

83. Unless otherwise specified herein, whenever notifications, submissions, or communications are required by this Consent Decree, they shall be made in writing and addressed as follows:

To the United States:

Chief, Environmental Enforcement Section
Environmental and Natural Resources Division
U.S. Department of Justice

P.O. Box 7611
Washington, D.C. 20044-7611

and

United States Environmental Protection Agency

Director, Water Enforcement Division
Office of Civil Enforcement
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Mail Code: 2243-A
Washington, D.C. 20460

and

Director, Office of Compliance and Enforcement
U.S. Environmental Protection Agency, Region 10
1200 6th Avenue, Suite 900
Seattle, WA 98101

To the State:

Municipal Unit Supervisor
Washington Department of Ecology
Northwest Regional Office
3190 160th Avenue, SE
Bellevue, WA 98008-5452

and

Attorney General of Washington
Ecology Division
P.O. Box 40117
Olympia, WA 98504

To the City of Seattle:

Director
Seattle Public Utilities
City of Seattle
700 Fifth Avenue, Suite 4900
Seattle, WA 98124-4018

Director, Drainage & Wastewater Division
Seattle Public Utilities
City of Seattle
700 Fifth Avenue, Suite 4900
Seattle, WA 98124-4018

and

Director, Environmental Protection Section
City Attorney's Office
City of Seattle
600 Fourth Avenue, Fourth Floor
Seattle, WA 98124-4769

84. Any Party may, by written notice to the other Parties, change its designated notice recipient or notice address provided above.

85. Notices and submissions provided pursuant to this Section XIII shall be deemed submitted upon mailing, unless otherwise provided in this Consent Decree or by mutual agreement of the Parties in writing.

XIV. INFORMATION COLLECTION AND RETENTION

86. The United States, the State, and their representatives, including attorneys, contractors, and consultants, shall have the right of entry into any facility covered by this Consent Decree, at all reasonable times, upon presentation of credentials, to :

a) Monitor the progress of activities required under this Consent Decree;

b) Verify any data or information submitted to the United States or the State, in accordance with the terms of this Consent Decree;

c) Obtain samples and, upon request, splits of any samples taken by the City or its representatives, contractors, or consultants;

d) Obtain documentary evidence, including photographs and similar data; and

e) Assess the City's compliance with this Consent Decree.

87. The United States and the State will use reasonable efforts to coordinate field inspections of the City's Wastewater Collection System with the City by notifying the City, if practicable, of such inspections prior to arrival at the field inspection location, unless the United States or the State determines that it needs to do an unannounced inspection.

88. Upon request, the City shall provide EPA, the State, or their authorized representatives split of any samples taken by the City. Upon request, EPA and the State shall provide the City with splits of any samples taken by EPA or the State. Upon request, EPA and the State shall provide copies of any photographs and similar data obtained during on-site visits conducted pursuant to Paragraph 86 above that is non-exempt and non-privileged under either FOIA or State public disclosure laws.

89. Until five (5) years after the termination of this Consent Decree, the City shall retain, and shall instruct its contractors and agents to preserve, all documents, reports, records, or other information (including documents, records, or other information in electronic form) in its or its contractors' or agents' possession or control, or that come into its or its contractors' or agents' possession or control, and that document the City's performance of its obligations under this Consent Decree. Drafts of final documents or plans do not need to be retained. This information-retention requirement shall apply regardless of any contrary institutional policies or procedures. At any time during this information-retention period, upon request by the United States or the State, the City shall provide copies of any documents, records, or other information required to be maintained under this Paragraph.

90. The City may assert that certain documents, records, or other information is privileged under the attorney-client privilege or any other privilege recognized by federal or state law. If

the City asserts such a privilege, it shall provide the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of each author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the subject of the document, record, or information; and (6) the privilege asserted by the City. No documents, records, or other information created by or generated pursuant to the requirements of this Consent Decree, however, shall be withheld on grounds of privilege.

91. The City may also assert that information required to be provided to the United States under this Section is protected as Confidential Business Information ("CBI") under 40 C.F.R. Part 2. As to any information that the City seeks to protect as CBI, the City shall follow the procedures set forth in 40 C.F.R. Part 2. If no claim of confidentiality accompanies documents or information when they are submitted to the United States and the State, the public may receive access to such documents or information without further notice, in accordance with 40 C.F.R. Part 2, Subpart B. The City may also assert that information required to be provided to the State under this Section is confidential under state law by following the procedures set forth in RCW 43.21A.160.

92. This Consent Decree in no way limits or affects any right of entry and inspection, or any right to obtain information, held by the United States or the State pursuant to applicable federal or state laws, regulations, or permits, nor does it limit or affect any duty or obligation of the City to maintain documents, records, or other information imposed by applicable federal or state laws, regulations, or permits.

XV. FAILURE OF COMPLIANCE

93. The United States and the State do not, by their consent to the entry of this Consent Decree, warrant or aver in any manner that the City's compliance with any aspect of this Consent Decree will result in compliance with the provisions of the CWA, 33 U.S.C. § 1251 *et seq.*, or with any other provisions of federal, state, or local laws, regulations, or permits. The City shall remain responsible for compliance with the terms of the CWA and its implementing regulations, applicable state law and regulations, its NPDES Permit, all orders issued by the State, and this Consent Decree. Nothing in this Consent Decree shall be interpreted as limiting the State's right to take enforcement action in response to any violations of the City's NPDES Permit or any orders issued by the State. The pendency or outcome of any proceeding concerning issuance, reissuance, or modification of any NPDES Permit shall neither affect nor postpone the City's duties and obligations as set forth in this Consent Decree.

XVI. EFFECT OF SETTLEMENT AND RESERVATION OF RIGHTS

94. This Consent Decree resolves the civil claims of the United States and the State for the violations alleged in the Complaint filed in this action through the Date of Lodging of this Consent Decree.

95. The United States and the State reserve all legal and equitable remedies available to enforce the provisions of this Consent Decree, except as expressly stated in Paragraph 94. This Consent Decree shall not be construed to limit the rights of the United States or the State to obtain penalties or injunctive relief under the CWA or its implementing regulations, or under other federal or state laws, regulations, or permit conditions, except as expressly provided in Paragraph 94.

96. The United States and the State further reserve all legal and equitable remedies to address any imminent and substantial endangerment to the public health or welfare or the environment arising at, or posed by, the City's Wastewater Collection System, whether related to the violations addressed in this Consent Decree or otherwise.

97. In any subsequent administrative or judicial proceeding initiated by the United States or the State for injunctive relief, civil penalties, or other appropriate relief relating to the City's Wastewater Collection System or the City's violations, the City shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States or the State in the subsequent proceeding were or should have been brought in the instant case, except with respect to claims that have been specifically resolved pursuant to Paragraph 94.

98. This Consent Decree is not a permit, nor a modification of any permit, under any federal, state, or local laws or regulations. Nothing in this Consent Decree relieves the City of any obligations it has under any applicable federal, state, and local laws, regulations, and permits. The City may seek to admit evidence of its compliance with the Consent Decree in any subsequent proceeding. The United States and the State do not, by their consent to entry of this Consent Decree, warrant or aver in any manner that the City's compliance with any aspect of this Consent Decree will result in compliance with the CWA or the Water Pollution Control Act, and reserve all rights to object to introduction of such evidence by the City.

99. This Consent Decree does not limit or affect the rights of the Parties against any third parties, not party to this Consent Decree, nor does it limit the rights of third parties, not party to this Consent Decree, against the City, except as otherwise provided by law or by Paragraphs 94

and 100. This Consent Decree shall not be construed to create rights in, or grant any cause of action to, any third party, not party to this Consent Decree.

100. The Complaint and this Consent Decree shall constitute and establish continuing diligent prosecution by the United States, under Section 505(b)(1)(B) of the Clean Water Act, 33 U.S.C. § 1365(b)(1)(B), of all matters alleged in the Complaint arising from the beginning of the applicable statute of limitations through the Date of Lodging.

101. Nothing in this Consent Decree limits the rights or defenses available under Section 309(e) of the Clean Water Act, 33 U.S.C. §1319(e), in the event that the laws of the State, as currently or hereafter enacted, may prevent the City from raising the revenues needed to comply with this Consent Decree.

XVII. EFFECTIVE DATE

102. The Effective Date of this Consent Decree shall be the date upon which this Consent Decree is entered by the Court or a motion to enter the Consent Decree is granted, whichever occurs first, as recorded on the Court's docket, provided, however, that the City hereby agrees that it shall be bound to perform duties scheduled to occur prior to the Effective Date as specified in the City's NPDES Permit.

XVIII. RETENTION OF JURISDICTION

103. The Court shall retain jurisdiction over this case until termination of this Consent Decree for the purpose of resolving disputes arising under this Consent Decree, pursuant to Section XII (Dispute Resolution), or entering orders modifying this Consent Decree, pursuant to Section XIX (Modification), or effectuating or enforcing compliance with the terms of this Consent Decree.

XIX. MODIFICATION

104. The terms of this Consent Decree, including any attached Appendices, may be modified only by a subsequent written agreement signed by all the Parties. Where the modification constitutes a material change to this Consent Decree, it shall be effective only upon approval by the Court.

105. Unless otherwise provided herein, any disputes concerning modification of this Consent Decree shall be resolved pursuant to Section XII (Dispute Resolution) of this Consent Decree, provided, however, that, instead of the burden of proof provided by Paragraph 81, the Party seeking modification bears the burden of demonstrating that it is entitled to the requested modification in accordance with the grounds for relief specified in Federal Rule of Civil Procedure 60(b).

106. Upon issuance of any new federal law or federal regulation governing CSOs; upon EPA approval or promulgation of new or revised water quality standards in accordance with 33 U.S.C. Section 1313(c) and 40 C.F.R. Section 131.21 and 131.22; or upon the issuance of a NPDES permit that contains new requirements, the City may request modification of this Consent Decree (including requests for extensions of time) from the United States to conform this Consent Decree to such regulation, national policy, new or revised water quality standard or permit. Upon the City's request, the United States and the City shall discuss the matter. If the United States and the City agree on the proposed modification to the Consent Decree, they shall prepare a joint motion to the Court requesting such modification.

107. If the United States and the City do not agree, and the City still believes that modification of this Consent Decree is appropriate, the City may file a motion seeking such modification in accordance with Federal Rule of Civil Procedure 60(b); provided, however, that nothing in this

subparagraph is intended to waive the United States' rights to oppose such motion and to argue that such modification is unwarranted.

108. Following the filing of a motion under Rule 60(b), stipulated penalties shall accrue due to the City's failure, if any, to continue performance of obligations under the Consent Decree that are necessarily the subject of the Rule 60(b) motion; provided, however, that such penalties need not be paid if the Court resolves the motion in the City's favor, and the City shall comply with the Consent Decree as modified.

XX. TERMINATION

109. The City may serve upon the United States and the State a Request for Termination of Consent Decree, together with supporting documentation, certifying that the City has satisfied all of its obligations under the Decree including:

a) Completion of all compliance requirements in Section V (Compliance Programs) and that it has achieved and maintained satisfactory compliance with this Consent Decree for a period of twelve consecutive months following completion of its requirements under Section V;

b) Compliance with all other requirements of this Consent Decree; and

c) Payment in full of all civil penalties, any accrued stipulated penalties, and any accrued interest as required by this Consent Decree.

110. Following receipt by the United States and the State of the City's Request for Termination, the Parties shall confer informally concerning the Request for Termination and any disagreement that the Parties may have as to whether the City has satisfactorily complied with the requirements for termination of this Consent Decree. If the United States and the State agree

that the Consent Decree may be terminated, the Parties shall submit, for the Court's approval, a joint stipulation terminating the Consent Decree.

111. If the United States and the State do not agree that the Consent Decree may be terminated, the City may invoke dispute resolution under Section XII (Dispute Resolution). The City, however, shall not seek resolution of any dispute regarding termination of this Consent Decree, under Paragraph 77, until ninety (90) days after service of its Request for Termination. The City shall have the burden of proof that it met the conditions for termination of the Consent Decree. This Consent Decree shall remain in effect pending resolution of the dispute by the Parties or the Court, in accordance with Section XII (Dispute Resolution).

XXI. PUBLIC PARTICIPATION

112. This Consent Decree shall be lodged with the Court for a period of not less than thirty (30) days for public notice and comment, in accordance with 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations indicating that the Consent Decree is inappropriate, improper, or inadequate. The City consents to entry of this Consent Decree without further notice and agrees not to withdraw from or oppose entry of this Consent Decree by the Court or to challenge any provision of this Consent Decree, unless the United States has notified the City in writing that it no longer supports entry of this Consent Decree.

XXII. SIGNATORIES/SERVICE

113. Each undersigned representative of the City, the State, and the Assistant Attorney General for the Environment and Natural Resources Division of the United States Department of Justice, on behalf of the United States, certifies that he or she is fully authorized to enter into the

terms and conditions of this Consent Decree and to execute and legally bind the Party he or she represents to this document.

114. This Consent Decree may be signed in counterparts. The City agrees to accept service of process by mail or courier service to the address set forth in Section XIII with respect to all matters arising under or relating to this Consent Decree and to waive the formal service requirements set forth in Rules 4 and 5 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court, including, but not limited to, service of a summons.

XXIII. COSTS

115. The Parties shall each bear their own costs of this action, including attorneys' fees, except that the United States and the State may be entitled to collect the costs (including attorneys' fees) incurred in any action necessary to collect any portion of the civil penalty or any stipulated penalties due but not paid by the City.

XXIV. INTEGRATION

116. This Consent Decree and its Appendices constitute the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in the Consent Decree and supersede all prior agreements and understandings, whether oral or written, pertaining to the settlement embodied herein. Other than the deliverables subsequently submitted and approved pursuant to this Consent Decree and incorporated herein, no other document, nor any representation, inducement, agreement, understanding, or promise, constitutes any part of this Consent Decree or the settlement it represents, nor shall it be used in construing the terms of this Consent Decree.

XXV. APPENDICES

117. The following documents are attached to and incorporated into this Consent Decree:

"Appendix A" is the List of Existing CSO Outfalls.

"Appendix B" is the Schedule for LTCP Implementation.

"Appendix C" is the LTCP Requirements.

"Appendix D" is the CMOM Performance Program Plan

"Appendix E" is the Revised Floatable Solids Observation Program.

"Appendix F" is the Joint Operations and System Optimization Plan.

XXVI. FINAL JUDGMENT

118. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute a final judgment of the Court as to the United States, the State, and the City.

Dated and entered this 3rd day of July, 2013.

UNITED STATES DISTRICT JUDGE
Western District of Washington

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States of America and the State of Washington v. City of Seattle, Washington (W.D. Wash.).

FOR PLAINTIFF UNITED STATES OF AMERICA:

DATE: 4/4/13

IGNACIA S. MORENO
Assistant Attorney General
Environment and Natural Resources Division
United States Department of Justice
P.O. Box 7611
Washington, D.C. 20044

DATE: 4/8/2013

KATHRYN C. MACDONALD
Senior Trial Attorney
Environmental Enforcement Section
Environment and Natural Resources Division
United States Department of Justice
P.O. Box 7611
Washington, D.C. 20044

JENNY A. DURKAN
United States Attorney
Western District of Washington

By: DATE: 3/13/13

BRIAN C. KIPNIS
Assistant United States Attorney
Senior Litigation Counsel
Office of the U.S. Attorney
Western District of Washington
700 Stewart Street, Suite 5220
Seattle, Washington 98101-1271

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States of America and the State of Washington v. City of Seattle, Washington (W.D. Wash.).

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY:

_____ DATE: 3/29/13

SUSAN SHINKMAN, Director
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
United States Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

_____ DATE: 3/28/13

MARK POLLINS, Director
Water Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
United States Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

_____ DATE: 3/27/13

LOREN DENTON, Chief
Municipal Enforcement Branch
Water Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
United States Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

_____ DATE: 3/26/13

AMANDA J. HELWIG, Attorney
Water Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
United States Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States of America and the State of Washington v. City of Seattle, Washington (W.D. Wash.).

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY:

DATE: 3/7/2013

EDWARD J. KOWALSKI
Director, Office of Compliance and Enforcement
United States Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101

DATE: 3·4·13

ALLYN L. STERN
Regional Counsel
United States Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101

DATE: 3-4-13

TED YACKULIC
Assistant Regional Counsel
United States Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States of America and the State of Washington v. City of Seattle, Washington (W.D. Wash.).

FOR THE STATE OF WASHINGTON:

ROBERT W. FERGUSON
ATTORNEY GENERAL

_____ DATE: 3/4/13

RONALD L. LAVIGNE, WSBA #18550
Senior Counsel
Attorneys for State of Washington
Department of Ecology
2425 Bristol Ct., SW
Olympia, Washington 98504

_____ DATE: 3/5/13

MAIA D. BELLON
Director
Washington Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States of America and the State of Washington v. City of Seattle, Washington (W.D. Wash.).

FOR THE CITY OF SEATTLE:

DATE: 3-18-13

MICHAEL P. MCGINN
Mayor
City of Seattle
600 Fourth Avenue
P.O. Box 94749
Seattle, Washington 98124-4749

DATE: 3-11-2013

PETER S. HOLMES
City Attorney
City of Seattle
600 Fourth Avenue
P.O. Box 94769
Seattle, Washington 98124-4769

APPENDIX A: List of Existing CSO Outfalls

CSO NPDES No.	CSO Name	Status*
12	NE 60th Street at NE Windermere Road	C
13	Windermere Park NE 50th St.	U
14	55th Ave. NE at NE 43rd St.	C
15	51st Ave. NE at NE Laurelhurst Ln.	U
16	Webster Pt NE at W Laurelhurst Drive	C
18	38th Ave. NE at NE 41st St.	U
19	NE 45th Street at Montlake Blvd. NE	C
20	Shelby St. at E. Park Drive	U
22	39th Avenue E at E Lakeside Blvd.	C
24	43rd Ave. E. at E. Lee St.	C
25	43rd Ave. E. at E. Lee St.	U
26	Denny Blaine Pl. E.	C
27	Lake Washington Blvd.	C
28	Lake Washington Blvd. E. at E. Pike St.	U
29	Lake Washington Blvd. E. at E. James St.	U
30	Lake Washington Blvd. E. at E. Alder St.	C
31	Lake Washington Blvd. S. at S. Main St.	U
32	Lake Washington Blvd. S. at S. Dearborn St.	U
33	Lake Washington Blvd. S. at S. Charles St.	C
34	Lake Washington Blvd. S. at S. Charles St.	U
35	Lake Washington Blvd. S. at S. Massachusetts St.	U
36	Lake Washington Blvd. S. at S. College St.	U
38	Lake Washington Blvd. S. at 45th Ave. S.	C
40	Lake Washington Blvd. S. at 49th Ave. S.	U
41	Lake Washington Blvd. S. at 50th Ave. S.	U
42	Lake Washington Blvd. S. at S. Snoqualmie St.	C
43	Lake Washington Blvd. S at S Alaska Street	U
44	Lake Washington Blvd. S - S of Juneau Street	U
45	57th Avenue South at South Brighton Street	U
46	S Island Drive at S Grattan Street	U
47	Seward Park Avenue S at S Henderson Street	U
48	Rainier Avenue S at S Perry Street	C
49	Rainier Ave. S. at S. Cooper Street	U
57	Seaview Avenue NW at NW 68th Street	C
59	Seaview Ave. NW at NW 57th Street	C

60	W Cramer Street at 39th Avenue NW	U
61	W Ray Street at Logan Avenue W	C
62	W Ray Street at Logan Avenue W	C
64	32nd Avenue W at Logan Avenue W	C
68	W Garfield Street at 17th Avenue W	U
69	Alaskan Way at Vine Street	U
70	Alaskan Way at University Street	C
71	Alaskan Way at Madison Street	U
72	Alaskan Way S at S Washington Street	C
78	Harbor Avenue SW at Fairmont Avenue SW	C
80	Harbor Avenue SW at SW Maryland Place	C
83	Alki Avenue SW at SW Arkansas Street	C
85	Alki Avenue SW at Point Place SW	C
88	SW Beach Drive – N of SW Bruce Street	C
90	SW Beach Drive at Murray Avenue SW	C
91	Fauntleroy Way SW - N of SW Trenton St. in Lincoln Park	C
94	Fauntleroy Avenue SW - N of SW Director Street	C
95	Fauntleroy Avenue SW at SW Brace Pt Drive	U
99	SW Hinds Street at Duwamish River West Waterway	U
107	SW Hinds Street at Alaskan Way S	U
111	S. Oregon St. at East Duwamish	U
120	Westlake Avenue N at Aurora Avenue N	C
121	Westlake Avenue N at Crockett Street	C
124	Westlake Avenue N - S of Aloha Street	C
127	Fairview Avenue E at Yale Avenue E	C
129	Fairview Avenue E at E Newton Street	C
130	Fairview Ave. E. at E. Lynn St.	C
131	Fairview Avenue E at Louisa Street	C
132	Fairview Avenue E. at E. Roanoke E.	C
134	Fairview Avenue E at E Allison Street	C
135	Eastlake Avenue E at Portage Bay Place E	C
136	Portage Bay Place E at E Allison Street	C
138	E. Shelby Street - Portage Bay	U
139	16th Avenue E at Louisa Street	U
140	E Shelby Street at W Park Drive	U
141	Brooklyn Avenue NE at Boat Street	C
144	Latona Avenue NE at NE Northlake Way	C
145	N 36th Street at NE Northlake Way	C

146	Carr Place N at N Northlake Way	C
147	Stone Way N. at Northlake Way	U
148	8th Avenue NW at NW 41st Street	C
150/151	24th Avenue NW and NW Market Street	U
	24th Avenue NW and NW Market Street	U
152	28th Avenue NW and NW Market Street	U
161	N.E. 65th Street and 65th Avenue N.E.	C
165	Lake Washington Blvd. at S Alaska Street	C
168	Delridge Avenue SW at SW Myrtle Street	U
169	Between 24th and 25th Ave. SW N/O SW Thistle St.	U
170	27th Avenue SW at SW Webster Street	C
171	Rainier Ave. S at Ithaca Place S	U
174	NW 36th Street at 2nd Ave. NW	U
175	E Garfield Street at Fairview Avenue E	C

* CSO Outfall is controlled (C), or uncontrolled (U).

APPENDIX B: Schedule for LTCP Implementation

DELIVERABLE	DUE DATE
Submit Draft LTCP	May 30, 2014
Submit Financial Analysis	December 31, 2014
Submit CSO Alternative Analysis	December 31, 2014
Submit LTCP Implementation Schedule	December 31, 2014
Submit Final LTCP and PCMP for approval	May 30, 2015
Construction Completion of all CSO Control Measures in the approved LTCP	December 31, 2025
Complete Post-Construction Monitoring for all CSO Outfalls except Nos. 71, 99, 111, 147, 174, and 151	December 31, 2028
Submit Final Post-Construction Monitoring Report for all CSO Outfalls except Nos. 71, 99, 111, 147, 174, and 151	December 31, 2029
Complete Post-Construction Monitoring of CSO Outfalls Nos. 71, 99, 111, 147, 174, and 151	December 31, 2035
Submit Final Post-Construction Monitoring Report for CSO Outfalls Nos. 71, 99, 111, 147, 174, and 151	April 30, 2036

APPENDIX C: LTCP Requirements

The City shall continue development of its Long Term Control Plan ("LTCP") to provide for the construction and implementation of all Wastewater Collection System improvements necessary to comply with those portions of the CWA and its implementing regulations, RCW 90.48, and WAC 173.245 that apply to CSO control. The LTCP shall be developed and implemented in accordance with EPA's CSO Control Policy.

A. Public and Regulatory Agency Participation Program.

The City shall implement a Public and Regulatory Agency Participation Program (the "Participation Program") designed to ensure that there is ample public participation and ample participation by the Plaintiffs, throughout all stages of development of the City's Long Term Control Plan. The Participation Program shall include, at a minimum, the following elements:

1. The means by which the City will make information pertaining to the development of the LTCP available to the public for review.
2. The means by which the City will solicit comments from the public on the development of the LTCP.
3. Summary of public hearings at meaningful times during the LTCP development process to provide the public with information and to solicit comments from the public regarding the components of the LTCP.
4. Program for consideration of comments provided by the public as the City develops its LTCP.
5. Measures that the City will employ to ensure that Plaintiffs are kept informed of the City's progress in developing its LTCP, including scheduling periodic meetings with Plaintiffs at meaningful times during the LTCP development process and regular submittal of reports to Plaintiffs summarizing the public comments received throughout implementation of the Program.

B. Hydraulic Model Development and Hydraulic Model Report

1. On or about December 26, 2012, the City submitted its hydraulic model of the City's Wastewater Collection System with the exception of Basin 107 ("Hydraulic Model") to be used in conjunction with the results of the monitoring program as published and available in the Flow Monitoring Report. At a minimum, the Hydraulic Model shall be capable of predicting stormwater flows and resulting combined sewer overflows generated by various wet weather events. The Hydraulic Model shall be capable of the following:
   a. developing wet weather hydrographs for both combined catchment areas, as well as for the separate sewer areas that are tributaries to the CSS. The hydrographs shall be developed for various storm recurrence intervals and shall be combined with baseline wastewater flow and routed through gravity sewer lines, pump stations, force mains, regulators and interceptors by the Hydraulic Model. The Hydraulic Model shall include methods for estimating wastewater flow, groundwater infiltration, and rain induced infiltration and inflow. The hydrographs shall be developed using historical flow and rainfall data and data collected as a result of the City's Flow Monitoring Program.

b. predicting the hydraulic grade lines, volume and flow rates of wastewater in force mains and gravity sewer lines during a variety of appropriate wet weather events;
c. predicting the hydraulic pressure and flow of wastewater at any point in force mains throughout the Wastewater Collection System;
d. predicting the flow capacity of each pump station;
e. predicting the flow capacity of gravity sewer lines;
f. predicting the peak flows during wet weather and dry weather conditions for pump stations and gravity sewer lines;
g. predicting the likelihood, location, duration and volume of discharge from each CSO for a variety of storm events of varying durations and return frequencies that would be expected in a typical calendar year;
h. conducting both continuous and event-specific simulations; and
i. evaluating various CSO control alternatives and being able to determine (i) how the CSS hydraulics and CSO frequency and duration will change under various control alternatives; and (ii) the best combination of control technologies across the system.

2. On or about December 26, 2012, the City submitted a Hydraulic Model Report which shall include, at a minimum:
   a. description of the Hydraulic Model;
   b. specific attributes, characteristics, and limitations of the Hydraulic Model;
   c. identification of all input parameters, constants, assumed values, and outputs;
   d. a digitized map(s) and schematics that identify and characterize the portions (including the specific gravity sewer lines) of the Wastewater Collection System included in the Hydraulic Model;
   e. identification of input data used;
   f. configuration of the Hydraulic Model;
   g. procedures and protocols for performance of sensitivity analyses (i.e., how the Hydraulic Model responds to changes in input parameters and variables);
   h. procedures for calibrating the Hydraulic Model to account for values representative of the Wastewater Collection System using actual data (e.g., flow data);
   i. procedures to verify the Hydraulic Model's performance using actual data (e.g., flow data); and
   j. procedures for modeling wet weather flows from separate sewer areas.

C. Long Term Control Plan

1. The City shall continue development and implementation of its Long Term Control Plan, which shall provide for the construction and implementation of all improvements and other measures necessary to meet the performance criteria for controlling combined sewer overflows, pursuant to Chapter 173-245 of the Washington Administrative Code and Revised Code of Washington 90.48.480. The LTCP shall be conducted using the LTCP guidelines, but the alternatives analysis shall be modified in order to meet the performance criteria. Meeting the performance criteria is equivalent to meeting the presumption approach in the LTCP guidance.
2. The LTCP shall build upon the alternative analysis work that was performed as part of the development of the City's 2010 CSO Reduction Plan Amendment (2010 Plan). Alternatives that were screened out as part of the 2010 Plan will not be evaluated further in the LTCP.

3. For each alternative or combination of alternatives evaluated as part of the LTCP, the City's assessment shall include, at a minimum, an evaluation of the technical feasibility and applicability of each alternative or combination of alternatives at each CSO Outfall or grouping of CSO Outfalls.
4. For each alternative or combination of alternatives evaluated as part of the LTCP, the City's assessment shall include a determination of the estimated "project costs," as that term is described on pages 3-49 through 3-51 of the EPA's "Combined Sewer Overflows Guidance for Long-Term Control Plan," for each alternative or combination of alternatives. The determination of the estimated "project costs" shall include:
    a. "capital costs," "annual operation and maintenance costs," and "life cycle costs," as those terms are described on pages 3-49 through 3-51 of EPA's "Combined Sewer Overflows Guidance for Long-Term Control Plan;" and
    b. An itemization of the "capital costs" and "annual operation and maintenance costs" used to determine the total "project costs" for each separate component of each alternative or combination of alternatives.
5. Assessment of CSO Control Measures: In developing the LTCP, the City must conduct or document prior analysis of alternatives for reducing the City's CSOs. The assessment must include, at a minimum, (a) an evaluation of the annual performance capabilities and effectiveness, measured in terms of CSO activation frequencies and overflow volumes, of various CSO control alternatives to meet performance criteria for controlling CSOs, pursuant to WAC 173-245 and RCW 90.48.480; (b) an analysis of design and development capabilities for the CSO control alternatives, including basin-specific information on flow management, topographical or hydrological constraints, and construction capacities; (c) an evaluation of project costs, including capital costs, annual operations and maintenance costs, and total present worth, for the CSO control alternatives; (d) the screening of selected CSO control alternatives, involving additional evaluation of the geotechnical environment and property information, as well as the preparation of the appropriate environmental review, for the identified project area; and (e) the basis for the City's selection of the preferred alternatives to implement as the CSO Control Measures in the LTCP.
    a. Green Infrastructure: EPA and Ecology encourage the City to utilize Green Infrastructure as appropriate to reduce or replace gray CSO Control Measures included in the LTCP, provided that any green measures proposed, together with gray measures proposed, are anticipated to provide substantially the same or greater level of control as alternative gray CSO Control Measures alone. If the City relies on other entities to implement green technologies, the City must have agreements in place to ensure proper operation and maintenance of the green technologies.
        i. For any Green Infrastructure submitted as part of the LTCP, the City shall submit to EPA and Ecology an Engineering Report. The Engineering Report shall at a minimum include the following for each project:
            1. Data on location, sizing, design, and the performance levels expected to be achieved with the implementation of the Green Infrastructure project (hereinafter GI Performance Criteria), utilizing the information and models that the City used in developing the LTCP, as well as any monitoring information used in formulating the proposal, along with an assessment of the long term effectiveness and performance expected to be achieved with

implementation of the project;

2. A description of the work required to implement the Green Infrastructure project and a schedule for completion of this work and implementation of the project that is consistent with this Consent Decree, its Appendices, and the deadline of December 31, 2025 for Construction Completion of all CSO Control Measures, unless this deadline is extended pursuant to Section XI (Force Majeure), Paragraph 20(c), or Paragraph 23(c) of the Consent Decree;
3. A description of the proposed ownership of and access to the Green Infrastructure project, and where the City relies on other entities to implement green technologies, the City must explain the agreements necessary to ensure proper operation and maintenance of the green technologies, as well as how these agreements will be enforced;
4. A description of any post-construction monitoring and modeling to be performed to determine whether the GI Performance Criteria will be met upon completion and implementation of the Green Infrastructure project; and
5. An alternative gray CSO Control Measure to be implemented if the Green Infrastructure project is disapproved. The proposal shall include a description of the proposed gray CSO Control Measure, as well as a schedule for completion and implementation of the project that is consistent with this Consent Decree, its Appendices, and the deadline of December 31, 2025 for Construction Completion of all CSO Control Measures, unless this deadline is extended pursuant to Section XI (Force Majeure), Paragraph 20(c), or Paragraph 23(c) of the Consent Decree.

ii. Upon review of the City's Green Infrastructure project proposals, EPA and Ecology will comment, approve, disapprove, or approve in part, the proposal. The City shall implement each Green Infrastructure project approved by EPA and Ecology, in accordance with the provisions and schedule in the approved proposal.

iii. In the event that the City implements an approved Green Infrastructure project proposal that fails to meet the GI Performance Criteria set forth in the project proposal and LTCP, the City shall propose, within 180 days after submittal of the applicable post-construction monitoring report documenting said failure, additional CSO Control Measures designed to achieve the GI Performance Criteria with a schedule for completion of this work and implementation of the project that is consistent with this Consent Decree, its Appendices, and the deadline of December 31, 2025 for Construction Completion of all CSO Control Measures, unless this deadline is extended pursuant to Section XI (Force Majeure), Paragraph 20(c), or Paragraph 23(c) of the Consent Decree. In the alternative, where the City has substantially met the GI Performance Criteria, the City may, within sixty (60) days after discovering a project's failure to meet the GI Performance Criteria, petition EPA and Ecology for a

change in the GI Performance Criteria. In the event that EPA and Ecology disapprove of the City's request for a change in the GI Performance Criteria, the City shall, within 180 days following EPA and Ecology's disapproval, propose additional CSO Control Measures designed to achieve the GI Performance Criteria with a schedule for completion of this work and implementation of the project that is consistent with this Consent Decree, its Appendices, and the deadline of December 31, 2025 for Construction Completion of all CSO Control Measures, unless this deadline is extended pursuant to Section XI (Force Majeure), Paragraph 20(c), or Paragraph 23(c) of the Consent Decree.

6. The LTCP shall include an evaluation of the City's financial capability to fund the selected alternative or combination of alternatives, consistent with EPA's February 1997 "Combined Sewer Overflows – Guidance for Financial Capability Assessment and Schedule Development" and relevant financial factors as deemed appropriate by the United States and the State.
7. The LTCP shall include the selection of CSO Control Measures, including the construction of all Wastewater Collection System improvements, necessary to ensure compliance with the technology-based and water quality based requirements of those portions of the CWA, RCW 90.48.110, WAC 173-245, and the City's NPDES Permit that apply to CSO control.
8. The LTCP shall include an expeditious schedule for the design, construction, and implementation of all CSO Control Measures. If it is not possible for the City to design and construct all measures simultaneously, the LTCP shall include a phased schedule based on the relative importance of each measure, with highest priority being given to those projects which most reduce the discharge of pollutants. The schedule shall specify critical milestones for each specific measure, including, at a minimum, dates for: (i) submission of draft and final engineering reports; (ii) submission of draft and final plans and specifications; (iii) Construction Start; (iv) Construction Completion; and (v) achievement of Controlled status.
9. The City's assessment of the costs, benefits, and effectiveness of the alternatives evaluated for reducing CSOs;
10. The City's basis for determining that the CSO Control Measures set forth in the LTCP will ensure that the City's CSOs comply with the CSO Control Policy, and those portions of the CWA and its implementing regulations, RCW 90.48.110, WAC 173-245, and the City's NPDES Permit that apply to CSO control;
11. The City's basis for determining that the schedule for implementing the LTCP attains Construction Completion of all CSO Control Measures as expeditiously as practicable, and in no event later than December 31, 2025 for Construction Completion of all CSO Control Measures, unless this deadline is extended pursuant to Section XI (Force Majeure), Paragraph 20(c), or Paragraph 23(c) of the Consent Decree; and
12. The City's Financial Capability Assessment, conducted pursuant to Section II.C.8 of the CSO Control Policy and further addressed in EPA's guidance document entitled, "Combined Overflows – Guidance for Financial Capability Assessment and Schedule Development."
13. The LTCP shall include, as attachments, all documents and reports generated in order to develop the LCTP.

D. Post-Construction Monitoring Program

1. One year following Construction Completion of each CSO Control Measure, the City shall document that the associated CSO Outfall has been Controlled; provided, however, if there is insufficient precipitation during the year following Construction Completion to demonstrate that a CSO Outfall has been Controlled, then the deadline for documenting that a CSO Outfall has been Controlled shall be extended until there is sufficient precipitation to make the demonstration, subject to the approval of EPA and Ecology.
2. The City shall implement the Post-Construction Monitoring Plan, dated April 1, 2010, as conditionally approved by the State by letters dated June 3, 2010 and August 10, 2010, by developing and implementing Quality Assurance Project Plans ("QAPPs") for each CSO Control Measure, in accordance with the schedule identified in the LTCP. If the results of the Post-Construction Monitoring Plan indicate areas of non-compliance, the City shall, within sixty (60) days, submit to EPA and Ecology a Supplemental Compliance Plan that includes the actions that the City will take to achieve compliance, as well as a schedule for taking such actions. Upon approval of the Supplemental Compliance Plan, the City shall implement the Supplemental Compliance Plan in accordance with the schedule specified therein.
3. Post-Construction Monitoring Plan Report: Within 120 days after complete implementation of the Post-Construction Monitoring Plan in accordance with the schedule set forth therein, the City shall submit a Post-Construction Monitoring Plan Report to EPA and Ecology for approval.
    a. The Post-Construction Monitoring Plan Report shall demonstrate that the City performed the Post-Construction Monitoring Plan in accordance with its approved provisions and schedule.
    b. The Post-Construction Monitoring Plan Report shall summarize the data collected pursuant to the Post-Construction Monitoring Plan and analyze whether the completed CSO Control Measures have met and continue to meet the Design Criteria and Performance Criteria specified in the LTCP and whether the City's operation of its Combined Sewer System complies with the CSO Control Policy, and those portions of the CWA and its implementing regulations, all applicable state law and regulations, and the City's NPDES Permit that apply to CSO control.
    c. EPA and Ecology may approve the Post-Construction Monitoring Plan Report or may decline to approve it and provide written comments. Within forty-five (45) days of receiving any comments from EPA and/or Ecology, the City shall either alter the Post-Construction Monitoring Plan Report consistent with EPA's and Ecology's comments and resubmit the Post-Construction Monitoring Plan Report to EPA and Ecology for final approval or submit the matter for dispute resolution under Section XII (Dispute Resolution) of this Consent Decree. Approval of the Post-Construction Monitoring Plan Report constitutes EPA's and Ecology's approval that the Post-Construction Monitoring Plan Report contains the information required by Section V of the Consent Decree. By approving the Post-Construction Monitoring Plan Report, neither EPA nor Ecology verifies that the City has complied with any other requirement of this Consent Decree or applicable federal or state law, regulations, or permits.

APPENDIX D: Capacity, Management, Operation and Maintenance Performance Program Plan

The City's Capacity, Management, Operation and Maintenance ("CMOM") Performance Program Plan will incorporate Asset Management and Risk Management processes. The City shall follow a performance based approach, which utilizes adaptive management to develop and periodically modify as necessary focused programs with the goal of eliminating all SSOs. The Program Plan shall include the following requirements:

A. CMOM Performance Program Plan:

1. The City manages its CMOM program according to asset management principles where condition assessment, risk and consequence of failure (SSO) are used in prioritizing maintenance, rehabilitation and repair of the system. The City shall annually review its CMOM Performance Program and update the program as necessary to ensure that the City is achieving the approved CMOM Performance Program Plan thresholds.
2. The City's CMOM Performance Program Plan shall include SSO performance thresholds with the goal of eliminating all SSOs:
   a) If the performance in the Annual Report indicates that the City has achieved an SSO rate that is equal or better than the performance threshold defined in the CMOM Performance Program, the City continues to manage and update its own program according to asset management principles where condition assessment, risk of failure (SSO) and consequence are used in prioritizing maintenance, rehabilitation and repair of the system and the City provides an Annual Report of the results to EPA and the State.
   b) If the performance in the Annual Report indicates that the City's SSO rate exceeds the performance threshold, then the City shall develop a focused corrective action plan for SSO elimination and submit the plan to EPA and the State for approval, and the City shall implement the plan following EPA and State approval.
3. CMOM Performance Program changes resulting from the annual review will be submitted with the Annual Report. Should the City make any substantive changes to its performance thresholds of its CMOM Performance Program Plan, the City shall submit any proposed changes, subject to EPA and Ecology's approval. Upon approval of revised performance thresholds, said approved, revised thresholds shall supersede previously approved thresholds.
4. On December 31, 2012, the City submitted to EPA and the State for their approval, the City's CMOM Performance Program Plan for its Wastewater Collection System. The CMOM Performance Program Plan components shall include two components, the CMOM Roadmap SSO Reduction Initiatives and the SSO Performance Thresholds:
   a) The CMOM Roadmap SSO Reduction Initiatives component will include a series of initiatives that the City is currently planning on implementing over the next 6 years. For each initiative, the Plan will include: the purpose of the initiative, a general description of the initiative, and a development and implementation timeframe.

b) The SSO Performance Thresholds component will include definitions of SSO performance thresholds, performance trends, and threshold triggers for focused corrective action updates to the program.

B. CMOM Roadmap SSO Reduction Initiatives

The CMOM Roadmap shall meet the following objectives:

- Prepare the City for CMOM compliance with potential CMOM guidelines/requirements.
- Identify and prioritize opportunities for improvement into initiatives.
- Develop and implement a six-year strategic plan to implement each of the initiatives.

The CMOM Roadmap component shall include the following items:

1. Planning and Scheduling

a) Risk Based Scheduling

Description: Implement tools and processes to prioritize and group cleaning work orders to simultaneously minimize SSO risk and drive time.

b) Planning and Scheduling Organization

Description: Optimize the planning and scheduling function at the City to maximize effectiveness and productivity.

c) Maximo 7 Reimplementation

Description: Design, testing, training and rollout of system functionality for the Maximo Reimplementation that will support future business practices and processes.

2. Sewer Cleaning

a) Cleaning Optimization Tool Enhancement

Description: This initiative provides enhancements to the functionality in the cleaning optimization tool (COTools) application implemented in 2011. Current functionality includes optimizing sewer cleaning frequencies using various data sources in order to reduce risk of SSOs.

b) Standard Operating Procedures (SOPs)

Description: Develop Standard Operating Procedures (SOPs) for sewer cleaning crews and crew chiefs based on industry best practices and the unique needs of the City. SOPs will focus on procedures, practices, equipment and tool selection, maintenance, planning, data collection, etc.

c) Crew Training

Description: Update the existing Training Plan with additional detail regarding the sewer cleaning training initiative. The training plan will include strategies for training (such as a

'train-the-trainer' program) and a schedule. The work includes development of training materials, a schedule, and classroom/field training sessions.

c) QAQC Plan

Description: Increase sewer cleaning effectiveness through the development and implementation of a Quality Assurance/Quality Control (QAQC) program. The program will include setting thresholds, measuring and tracking the effectiveness of cleaning activities, providing constructive feedback to crews to promote continual improvement, and ultimately reducing O&M related SSOs.

3. Fats, Oil and Grease (FOG)

a) FOG Management Plan

Description: Develop a comprehensive FOG Management Plan. This Plan will support the City's FOG Program by documenting short term and long term program goals, mitigation strategies, approach for focusing limited resources, workload forecast and staffing plans, and performance tracking and reporting.

b) FSE Inventory Management Plan

Description: Develop and update a comprehensive Food Service Establishment (FSE) Inventory Management Plan.

c) Standard Operating Procedures and Outreach Materials

Description: Develop Standard Operating Procedures (SOPs) based on industry best practices and the unique needs of the City for inspectors and other City staff (such as analysts) who are responsible for executing FOG management strategies. SOPs will focus on procedures, practices, equipment and tool selection, planning, and data collection for inspections, enforcement, residential outreach, alternative FOG treatment, new facility evaluation (plan reviews), communication protocols, and FOG characterization. Update or develop new outreach materials for both commercial and residential FOG contributors.

d) FOG Inspector Training

Description: Provide City's FOG Inspection staff with practical information and guidance for conducting FSE inspections associated with FOG Source Control.

4. Repair, Rehabilitation and Replacement (3R)

a) Repair, Rehabilitation and Replacement (3R) Process and Tool

Description: The objective of this initiative is to develop and enhance a process and interim tool to support the City in making effective and efficient 3R decisions.

b) Capital Improvement Plan and Budget Development

Description: Develop a condition based capital renewal estimate and implementation plan.

5. Condition Assessment

a) Force Main Assessment Strategy

Description: Develop and document a risk-based condition assessment strategy for force mains. The goal is to reduce force main related failures and SSOs through an appropriate level of proactive inspections.

b) CCTV Standard Operating Procedures

Description: Develop Standard Operating Procedures (SOPs) for crews and crew chiefs responsible for gravity pipe CCTV inspections, based on industry best practices and the unique needs of the City. SOPs will focus on procedures, practices, equipment and tool selection, maintenance, planning, data collection, etc.

c) CCTV Training Plan

Description: Increase the City's CCTV crew effectiveness through the development of a comprehensive training plan. The training plan will include content, strategies for training (such as a 'train-the-trainer' program) and a schedule.

d) CCTV QA/QC Plan

Description: Increase sewer CCTV effectiveness through the development and implementation of a Quality Assurance/Quality Control (QAQC) program.

6. SSO Response

a) Standard Operating Procedures (SOPs)

Description: Develop new or update existing SOPs for crews, crew chiefs, and analysts who are responsible for responding to, tracking, and reporting SSOs. SOPs will focus on procedures, practices, maintenance, planning, data collection, etc.

b) Tools and Equipment Usage Plans

Description: Assess the tools and equipment currently used for SSO response and update tool and equipment usage polices and plans to effectively and efficiently respond to and mitigate SSOs.

c) Field Training Program

Description: Develop and provide periodic SSO response refresher training/exercises to maintain skills (investigation methods, volume estimating, containment/recovery, clean-up, documentation, and reporting) for field staff who respond to an SSO event.

C. SSO Performance Thresholds

The City shall submit for EPA and Ecology's approval proposed SSO performance thresholds for the City's CMOM Program Plan with the goal of eliminating all SSOs.

D. Modifications to the CMOM Performance Program

The City's adaptive, performance based management approach makes the CMOM Performance Program Plan a living document that will periodically need to be adjusted based on the most current performance data. All modifications to the above program details will be submitted as part of the Annual Report. Should the City make any substantive changes to its performance thresholds of its CMOM Performance Program Plan, the City shall submit any proposed changes, subject to EPA and Ecology's approval. Upon approval of revised performance thresholds, said approved, revised thresholds shall supersede previously approved thresholds.

E. Annual Report

Beginning the first year after the Effective Date, the City shall submit an Annual Report to EPA and the State by April 1st for the prior year that includes the following CMOM Performance information:

1. SSO performance.
2. The number of miles of sewer that were cleaned, inspected, and repaired/replaced/rehabilitated.
3. The number of pump station inspections and the capacity of each pump station inspected.
4. The number of manholes and force mains inspected and repaired/replaced/rehabilitated.
5. The number and type of CSO regulators inspected.
6. Summaries of inspections and cleanings of each CSO control structure.
7. Summaries of Fats, Oil, and Grease (FOG) inspections and enforcement actions taken by the City during the preceding year.

APPENDIX E: Revised Floatable Solids Observation Program Plan

The City will observe approximately 5 outfalls per year at which to attempt observations, with the understanding that observations of overflow events may or may not occur at those outfall locations, as overflow events are weather dependent, and the City's ability to observe those events may be affected by logistics, and the timing of the overflow events that do occur. The City will continue to attempt overflow observations at approximately 5 outfall locations per year each year until 10 outfall locations are observed, or until the end of 2014, whichever comes first, provided that the City has made reasonable attempts to observe overflows and the lack of the desired number of observations has occurred due to a lack of overflow events or other reasonable logistic issues.

Observation Plan

The City will conduct visual observations of receiving waters in the vicinity of the combined sewer overflow outfall and/or employ camera technology to observe overflow events within a combined sewer overflow control structure. If solids or floatables are observed within combined sewer overflow structures or in receiving waters during or soon after combined sewer overflow events, the City will, as deemed appropriate by the method, timing, amount, and type of solids and floatables observed, conduct additional investigation to evaluate the source and impact of the solids and floatables observed. The City will quantify and document, as best as the observation methods allow, the type and amount of solids or floatables observed, and observations made regarding potential sources and receiving water impacts.

As part of its Annual Report required by Section VIII of the Consent Decree, the City shall document and report the observations of the overflow events that occurred during the preceding year.

APPENDIX F: Joint Operations and System Optimization Plan Between The City of Seattle and King County

1. While the City and King County own and operate discrete wastewater collection and conveyance systems, parts of King County's system are interconnected with the City's where the operation of one impacts the operation of the other. All of the separate and combined wastewater collected in the City's Wastewater Collection System is discharged to King County owned interceptor for transport to one of King County's wastewater treatment plants. In addition, the City owns CSO Outfalls which are located upstream and in close proximity to King County owned CSO Outfalls. The City will work with King County in jointly preparing a Joint Operations and System Optimization Plan ("Joint Plan") for the City's Wastewater Collection System and those interdependent portions of King County's regional wastewater conveyance and treatment system that are hydraulically connected to the City's system. The result of this effort is development of a Joint Plan that is consistent with both entities' operational objectives, ensures the optimal level of coordination and information sharing is maintained, and optimizes system and joint operations between both entities. The Joint Plan shall describe a procedure for operating their existing systems and will include a process for incorporating the Joint Plan into the design of new capital projects for the combined systems.

2. The Joint Plan shall include, but not be limited to, the following items:
    a. Overview of those interdependent portions of King County's regional wastewater, conveyance, and treatment system and the City's Wastewater Collection System;
    b. Methods to accommodate each agency's operational objectives while complying with their contractual obligations;
    c. Shared operational objectives for the City and King County's combined sewer systems;
    d. Organizational structure;
    e. Modes of operation (dry, wet, transition) for identified CSO facilities;
    f. Each agency's operational decision hierarchy;
    g. Identified CSO facilities, if any, that may be beneficial to jointly operate and/or monitor;
    h. Real-time communication plans/protocols;
    i. Emergency and special operations protocols;
    j. A process for incorporating the Joint Plan into the design of new capital projects for the combined system, including the City and King County CSO Long-Term Control Plans; and
    k. A process for updating the Joint Plan every three years.

Appendix B

Play Equipment Specification Sheet

The information in this appendix is for reference only.

PRODUCTS

1.01 GENERAL

A. Site Specificity of Design – Equipment selection is based on specific program requirements, physical constraints within the site, and public input.

1. Play Value and Components
2. Component Style
3. Footprint
4. Color Availability
5. Apparent Mass, Geometry, and/or Visual Density
6. Adherence to 2010 ADA Standards for Accessible Design
7. Adherence to ICC A117.1-2017 Accessible and Usable Buildings and Facilities

1.02 PLAY EQUIPMENT

A. Compound Play Equipment – Earthscape Play supplied by Northwest Playground

1. Earthscape Play Log Pile 3.1 – White Oak (1)
2. Earthscape Play Log Pile 3.2 – White Oak (1)
3. Earthscape Play Stepper Cluster S2 (1)
4. Earthscape Play Wobble Board -Round Small (2)
5. Earthscape Play Bog Stilt (2)
6. Earthscape Play Notched Play Post (2)
7. Earthscape Play Log Stepper 150 (5)
8. Earthscape Play Log Stepper 450 (3)
9. Earthscape Play Log Stepper 300 (5)
10. Earthscape Play Log Stepper 600 (9)
11. Or, approved equals.

B. Per Drawing #L3.0, as manufactured by Earthscape Play, provided by Northwest Playground, 345 NW Dogwood St, Issaquah, WA 98027 (425) 313-9161. Color specification will be provided by the Landscape Architect, from standard manufacturer's options, upon product submittal.

1.03 FINISHES

A. Polyester (Powder) Coating – The polyester coating shall be uniformly applied by the electrostatic method to a thickness of three to five mils. Promptly after application of the powder, the coating shall be oven-cured at 400 degrees F. The color(s) of the polyester coating shall be as selected by the Engineer from the manufacturer's standard and/or custom color selection charts.

B. Vinyl – The vinyl coating shall be oven-cured poly-vinyl chloride plastisol with a minimum thickness of 1/8 inch. The coating shall contain ultraviolet inhibitors and mold resistors. The color(s) of the vinyl coating shall be as selected by the Engineer from the manufacturer's standard and/or custom color selection charts.

C. Galvanized Finish – All components calling for a galvanized finish shall be hot-dipped galvanized to the manufacturer's standard after fabrication. All galvanized surfaces shall be free of burs, splinters, and sharp edges.

1.04 ADDITIONAL HARDWARE

A. Additional hardware shall be provided in sufficient quantity to complete assembly of the play equipment. All hardware shall be non-ferrous or if ferrous material is used shall be galvanized, electrostatic zinc plated or polyester powder coated in accordance with the approved manufacturer's standard. Provide the Engineer with any and all maintenance and repair supplies, installation manuals, tool kits, and Materials shipped with each product for the Owner’s inventory.

1.05 WEAR MATS

A. Per Section 32 18 16.13 – Engineered Wood Fiber Safety Surfacing.

PART 2 - EXECUTION

2.01 EXAMINATION OF WORK AREA

A. Examine the areas and conditions under which Work of this Section will be performed. Verify safety zones of all equipment before setting posts in concrete footings. Do not proceed until conditions detrimental to proper and timely completion of the Work have been satisfactorily corrected and thus meet the manufacturer's instructions and the requirements as described above. Beginning Work constitutes acceptance of conditions as satisfactory.

2.02 INSTALLATION OF COMPOUND STRUCTURES AND INDEPENDENT ACTIVITIES

A. Conform strictly to manufacturer's instructions using all appropriate Materials, tools, and accessories as required. Use only experienced personnel trained in play equipment construction. The installer shall layout all equipment prior to construction to ensure compliance with safety zone clearances.

B. Provide all concrete footings as required to properly place the equipment components. It is the Contractor’s responsibility to adjust drainage pipe or other new utility locations to accommodate the equipment footings.

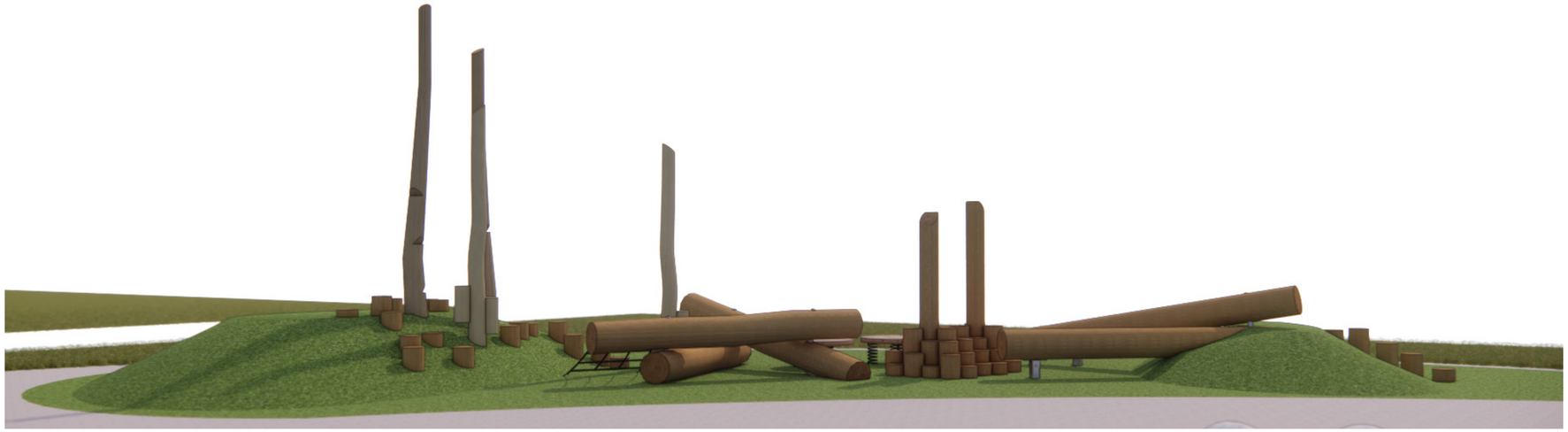
C. Install wear mats under all belt swings and slide exits per Section 32 18 16.13 – Engineered Wood Fiber Safety Surfacing and per the Plans and Details.

2.03 PROTECTION

A. During construction of the play equipment structures, provide PVC web fence material in sufficient quantities and wrap the structures to prevent public access onto the equipment. Maintain the fencing wrap after completion of the play equipment and safety surfacing installation through Physical Completion of the project.

END OF SECTION

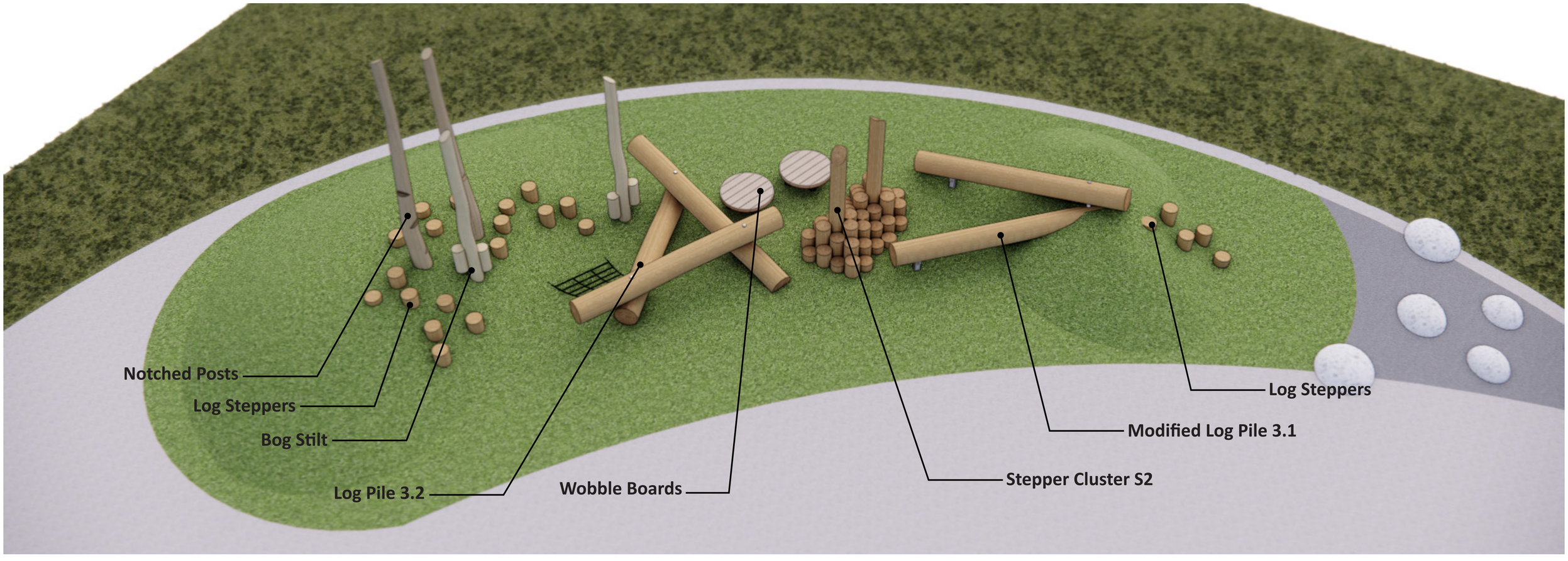
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Concept 4 Inventory

Log Pile 3.2
Modified Log Pile 3.1
Stepper Cluster S2
Small Wobble Board (x2)
Bog Stilt (x2)
Notched Post (x2)
Log Stepper, Various (x20)

Relocation of the log pile off the berm creates a different play experience both on and off the berms.



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earthscapeplay.com

West Seattle Playground
Seattle, WA

Layout Concepts
Concept 4