



CITY OF
Federal Way

Panther Lake Park

550 SW Campus Dr., Federal Way, WA

DAVID A. CLARK ARCHITECTS, PLLC



PROJECT MANUAL RFB18-010

May 4, 2018

WWW.CLARKARCHITECTS.COM

33017 134th AVE SE, AUBURN, WA 98092-8519 · TEL 253.351.8877

**CITY OF FEDERAL WAY
REQUEST FOR BID**

Federal Way Panther Lake

RFB # 18-010

Project: Federal Way Panther Lake Trail Pervious Concrete
Owner: City of Federal Way
Out for Bids: Friday, May 10, 2018
Bids Due: Friday, May 24, 2018, 2 PM
City Clerk Counter, 2nd floor, Federal Way City Hall
33325 8th Avenue South, Federal Way, Washington 98003

Notice is hereby given that the City of Federal Way, Washington, will receive sealed bids through the date, time and address listed above. Proposals received after the date and time listed above will not be considered.

All bids will be opened and read publicly aloud at the City Hall Hylebos Room at the date and time listed above, 33325 8th Avenue South, Federal Way, Washington, for this RFB. All bid proposals shall be accompanied by a bid deposit by a cashier's or certified check, or Bid Bond in an amount equal to five percent (5%) of the amount of such bid proposal. Should the successful bidder fail to enter into a contract and furnish satisfactory Performance Bond within the time stated in the specifications, the bid deposit or bond shall be forfeited to the City of Federal Way.

This project consists of approximately 13,012 sf of pervious concrete parking lot and related walks. Engineer's estimate is \$124,000.

The Contractor shall complete all work within 30 calendar days.

The bidder is urged to check the plans and contract provisions carefully. All bid proposals shall be in accordance with the Instructions to Bidders and all other contract documents now on file in the Parks Office of the City of Federal Way. Bid documents may be obtained from the Architect at 253-351-8877 or sbrown@clarkarchitects.com. No bidder may withdraw his/her bid for a period of sixty (60) days after the day of bid opening.

For technical questions, please contact the Architect, David A. Clark Architects PLLC, 33017 134th Ave SE, Auburn, WA 98092, ppatterson@clarkarchitects.com tel 253-351-8877

The City, in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C. 2000d to 2000d-4 and Title 49 C.F.R., Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises as defined at 49 CFR Part 26 will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, or sex in consideration for an award. The City encourages minority and women-owned firms to submit bids consistent with the City's policy to insure that such firms are afforded the maximum practicable opportunity to compete for and obtain public contracts.

The Contractor will be required to comply with all local, State, and Federal laws and regulations pertaining to equal employment opportunities.

The City anticipates awarding this project to the successful bidder and intends to give *Notice to Proceed* as soon as the Contract and all required associated documents are executed in full.

The City of Federal Way reserves the right to reject any and all bids, waive any informalities or minor irregularities in the bidding, and determine which bid or bidder meets the criteria set forth in the bid documents. No bidder may withdraw his or her bid after the hour set for the opening thereof unless the award is delayed for a period exceeding thirty (30) days.

Dated the 10th day of May, 2018

Bids solicited via the MRSC Small Works Roster

—

BIDDER'S CHECKLIST

The bidder's attention is especially called to the following forms, which must be executed in full as required and submitted as part of the bid. Failure to comply shall result in rejection of any bid not so complying.

Bid Form (Attachment A)

The Bid Form shall be completed and fully executed, including filling in the total bid amount.

Bid Signature Page (Attachment B)

The Bid Signature Page shall be filled in and fully executed by the bidder.

Bid Bond Form (Attachment C)

This form is to be executed by the bidder and the surety company unless a certified check is submitted with the bid. The amount of this bond or certified check shall not be less than five percent (5%) of the total bid amount and shall be shown in both words and figures.

Subcontractor List (Attachment D)

The Subcontractor List shall be filled in by the bidder. (This section may/may not apply)

Combined Affidavit and Certification Form (Attachment E)

This form must be subscribed to and sworn before a Notary Public and notarized.

Contractor's Compliance Statement (Attachment F)

The Contractor's Compliance Statement shall be filled in and fully executed by the bidder.

Contractor's Certificate of Registration

The bidder shall provide a copy of Contractor's current registration with the State of Washington.

Contractor's State Identification Numbers

The bidder shall provide a copy of Contractor's current state unified business identifier number and, as applicable, an employment security department number and state excise tax registration number.

SUCCESSFUL BIDDER'S CHECKLIST

The following documents are to be executed and delivered to the City within ten (10) calendar days after the Bid is awarded:

Public Works Contract (Attachment G)

The successful bidder will fully execute and deliver to the City the Federal Way Town Square Park Public Works Contract ("Contract") from these Bid Documents.

Contractor's Retainage Agreement or Retainage Bond (Exhibit C or D)

The successful bidder will fully execute and deliver to the City the Contractor's Retainage Agreement or Retainage Bond.

Notice to Labor Unions or Other Employment Organizations Nondiscrimination in Employment (Exhibit E)

If this applies, the successful bidder will sign and post copies of this Notice in conspicuous places available to employees or applicant for employment.

Certificate of Insurance (Exhibit F)

The successful bidder will provide a Certificate of Insurance evidencing the insurance requirement set forth in the Contract.

Performance/Payment Bond (Exhibit G)

The successful bidder will provide a fully executed Performance/Payment Bond as appropriate.

Business License

The successful bidder will provide a copy of a current Business License with the City of Federal Way.

SECTION 1: INSTRUCTIONS TO BIDDERS

1-1 Time and Place for Submission and Opening of Bids

Sealed bids must be submitted by on the date and time listed in the call for bids, to the Purchasing Office of the City of Federal Way (the "City"), located on the second floor of City Hall, or received by US Mail at City of Federal Way, Purchasing Office, 33325 Eighth Avenue S, Federal Way, Washington, 98003-6325, and will be publicly opened and read aloud in City Hall Council Chambers on the date and time listed in the call for bids.

The City's Purchasing Coordinator must receive the sealed bid before the time and date specified in order to be considered. Emailed or facsimile bids will not be accepted. The bidder accepts all risks of late delivery of mailed bids or of misdelivery regardless of fault. Late bids will be returned unopened.

1-2 Bid Form

Bids shall be made on the "Bid Form" (Attachment "A") issued by the City as part of these contract documents, without reservation or amendment. Bids must be typewritten or printed in ink. Upon completion, the Bid Form and the bid bond or certified check and any requested information shall be placed in a sealed envelope. On the outside of the envelope, place the bid name, bid number and the time bids are due.

1-3 Bid Signature

All bids shall give the total bid price and shall be signed in ink by the bidder or their authorized representative, with the address. If the bid is made by an individual, the name, signature, and address must be shown. If the bid is made by a firm or partnership, the name and address of the firm or partnership and the signature of at least one of the general partners must be shown. If the bid is made by a corporation, the bid shall show the title of the person authorized to sign on behalf of the corporation, his or her title and the address. The City reserves the right to request documentation showing the authority of the individual signing the bid to execute contracts on behalf of anyone, or any entity, other than himself/herself. Refusal to provide such information upon request may cause the bid to be rejected as nonresponsive.

1-4 Bid Withdrawal Due to Error

Bids may not be withdrawn due to a claim of error in a bid unless written notice of such claim and supporting evidence for such claim including cost breakdown sheets are delivered to the City within forty-eight (48) hours prior to the opening of bids.

1-5 Modification of Bid

A modification of a bid already received will be considered only if the modification is received prior to the time announced for bid opening. All modifications shall be made in writing, executed, and submitted in the same form and manner as the original bid.

1-6 Examination of Bid and Contract Documents – Bidder Responsibilities

The submission of a bid shall constitute an acknowledgment upon which the City may rely that the bidder has thoroughly examined and is familiar with the bid and contract documents and has reviewed and inspected all applicable federal, state and local statutes, regulations, ordinances and resolutions dealing with or related to the equipment and/or services to be provided herein. The failure or neglect of a bidder to examine such documents, statutes, regulations, ordinances or resolutions shall in no way relieve the bidder from any obligations with respect to the bidder's bid or the contract documents. No claim for additional compensation will be allowed which is based upon a lack of knowledge of any contract documents, statutes, regulations, ordinances or resolutions. Bidders shall visit delivery and service locations(s) as required. Bidders shall become familiar with and verify any environmental factors, which may impact current or future prices for this requirement.

1-7 Interpretation of Bid and Contract Documents

No oral interpretations will be made to any bidder as to the meaning of the bid or contract documents and no oral communications will be binding upon the City. Requests for an interpretation shall be made by facsimile, or by mail, and delivered to the Purchasing Coordinator of the City at the address indicated in Section 1-1, at least ten (10) days before the date announced for opening the bids. Any interpretation deemed necessary by the City will be in the form of an addendum to the bid documents and when issued will be sent as promptly as is practical to all parties to whom the bid documents have been issued. All such addenda shall become part of the bid.

1-8 Addenda

Each bid shall include acknowledgment of receipt and review of all addenda issued during the bidding period on the Bid Form.

1-9 Bid Price

The bid price shall include everything necessary for the completion of the contract including, but not limited to, furnishing all materials, equipment, tools, freight charges, facilities and all management, superintendence, labor and service, except as may be provided otherwise in the contract documents. **All Washington State sales tax and all other government taxes, assessments and charges shall be included in the various Bid item prices as required by law.** The offer shall remain in effect ninety (90) days after the bid opening. In the event of a discrepancy between a unit price and an extended amount and/or the total price, the unit price will govern and the extended amount and/or total price will be corrected accordingly; however, downward correction of a bid, which would displace the apparent low bidder, will only be permitted if the error made and the intended bid price can be determined solely from the bid documents.

1-10 Postponement of Bid Opening

The City reserves the right to postpone the date and time for the opening of bids by announcing such postponement at any time prior to the date and time announced in these documents.

1-11 Rejection of Bids

- A. The City reserves the right to reject any bid for any reason including, but not limited to, the following: any bid which is incomplete, obscure, irregular or lacking necessary detail and specificity; any bid which omits a price on any one or more items on the Bid Form and Bid Schedule; any bid in which prices are unbalanced in the opinion of the City; any bid accompanied by insufficient or irregular bid bond; any bid from bidders who (in the sole judgment of the City) lack the qualifications and/or responsibility necessary to perform the work after considering the elements in Section 1-14.B; any bid for which a bidder fails or neglects to complete and submit any qualifications information within the time specified by the City and as may be otherwise required herein; and, any bid submitted by a bidder who is not registered or licensed as may be required by the laws of the State of Washington.
- B. The city further reserves the right to reject any portion of any bid and/or to reject all bids. In consideration for the City's review and evaluation of its bid, the bidder waives and releases any claims against the City arising from any rejection of any or all bids.

1-12 Alterations to Documents Prohibited

Any addition, limitation or provision attached to the bid may render it informal or nonresponsive and cause its rejection. Alteration by erasure or interlineations must be explained or noted in the bid form over the signature of the bidder. No oral, telegraphic or telephonic bids or modifications will be considered.

1-13 Disqualification of Bidder

If, in the opinion of the City, there is reason to believe that collusion exists among bidders, none of the bids of the participants in such collusion will be considered. All bidders are required to submit the Affidavit of Non-Collusion (Attachment E) with their bids.

1-14 Evaluation of Bids

It is the intent of City to award a contract to the lowest responsive bid by a responsible bidder as evaluated by the City. The bidder may be required by the City to submit documentation demonstrating compliance with the criteria.

- A. Responsiveness – The bidder must complete all required forms and bid documents and provide all required and requested information. Refusal to provide such information may cause the bid to be rejected. The City will consider all the material submitted by the bidder to determine whether the bid is in compliance with the bid terms and documents and responsive to the requested work.
- B. Responsibility – The City will consider all the material submitted by the bidder, and other evidence it may obtain including information from previous project owners, to determine whether the bidder is responsible. The bidder must meet the following bidder

responsibility criteria and supplemental bidder responsibility criteria to be considered a responsible bidder:

1. Mandatory Bidder Responsibility Criteria
 - a. Have a current certificate of registration as a contractor in compliance with Chapter 18.27 RCW, which must have been in effect at the time of bid submittal;
 - b. Have a current Washington Unified Business Identifier (UBI) number;
 - c. If applicable:
 - i. Have Industrial Insurance (workers' compensation) coverage for the bidder's employees working in Washington, as required in Title 51 RCW;
 - ii. Have a Washington Employment Security Department number, as required in Title 50 RCW;
 - iii. Have a Washington Department of Revenue state excise tax registration number, as required in Title 82 RCW;
 - d. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065(3).
2. Supplemental Bidder Responsibility Criteria
 - a. The bidder shall not have a record of excessive claims filed against the retainage, payment, or performance bonds for public works projects during the previous three years, that demonstrate a lack of effective management by the bidder of making timely and appropriate payments to its subcontractors, suppliers, and workers, unless there are extenuating circumstances acceptable to the City.
 - b. The bidder shall have a reasonable history of successfully completed projects of a similar size and scope as required by the contract documents for this project. The City will evaluate whether the projects were "successfully completed" and of a "similar size and scope."
 - c. The bidder shall have evidence that it is able to begin and complete the work, and complete it in a timely fashion.
3. As evidence that the bidder meets the supplemental bidder responsibility criteria in paragraph (B)(2) above, the apparent low bidder must submit the following documentation to the City within 48 hours of the bid opening. The City reserves the right to request such documentation from other bidders also. Refusal to provide such information upon request may cause the bid to be rejected.
 - a. The bidder shall submit a list of the public works projects completed within the previous three years and include for each project the following information; the owner and contact information for the owner; a list of claims filed against the retainage, payment, or performance bond for any of the projects listed; a written explanation of the circumstances surrounding each claim and the ultimate resolution of the claim.
 - b. The bidder shall submit a list of projects of similar size and scope to this project and include information about each project, including the following: the owner and contact information for the owner; the awarded contract amount; the final contract amount; a description of the scope of the project and how the project is similar to this project; the bidder's assessment of its performance of each project. The information should include any information regarding performance in the following areas; quality control; safety record;

timeliness of performance; use of skilled personnel; management of subcontractors; availability of and use of appropriate equipment; compliance with contract documents; management of submittals process, change orders, and close-out.

c. The bidder shall furnish acceptable evidence of the bidder's current ability to perform, such as firm commitments by subcontractors, equipment, supplies and facilities, and the bidder's ability to obtain the necessary personnel.

4. If the City determines the bidder does not meet the bidder responsibility criteria in paragraph (B)(2) above and is therefore not a responsible bidder, the City shall notify the bidder in writing with the reasons for its determination. If the bidder disagrees with this determination, it may appeal the determination within 24 hours of receipt of the City's determination by presenting additional information to the City and meeting the requirements of section 1-20(B). The City will consider the additional information before issuing its final determination. If the final determination affirms that the bidder is not responsible, the City will not execute a contract with any other bidder until two business days after the bidder determined to be not responsible has received the final determination.

C. Lowest Bid – The lowest bid shall be determined as set forth on the Bid Form.

The acceptance of a bid will be evidenced by a Notice of Award. No other act of the City shall constitute acceptance of a bid. Within ten (10) days after receipt of Notice of Award, the bidder whose bid is accepted, shall furnish the required performance bond, certificate of insurance, execute the contract and perform all other acts required by the bid and contract documents as conditions precedent to formation of the contract.

1-15 Procedures When Only One Bid is Received

In the event only a single responsive bid is received, the City reserves the right to conduct a price and/or cost analysis of such bid. The sole bidder shall provide such information, data and other documentation as deemed necessary by the City for such analysis. The City reserves the right to reject such bid.

1-16 Bid Documents

Bidders are required to submit with the bid package the following:

- A. *Attachment A*– Bid Form.
- B. *Attachment B* – Bid Signature Page.
- D. *Attachment C* – Bid Bond Form.
- E. *Attachment D*– Subcontractor List. (May Not Apply)
- F. *Attachment E* – Combined Affidavit and Certification Form.
- G. *Attachment F* – Contractor's Compliance Statement.

1-17 Conflicts of Interest and Noncompetitive Practices

By submitting a bid, the Contractor agrees as follows:

A. Conflict of Interest – That it has no direct or indirect pecuniary or proprietary interest, that it shall not acquire any interest which conflicts in any manner or degree with the work, services, equipment or materials required to be performed and/or provided under this contract and that it shall not employ any person or agent having any such interests. In the event that the Contractor or its agents, employees or representatives hereafter acquires such a conflict of interest, it shall immediately disclose such interest to the City and take action immediately to eliminate the conflict or to withdraw from this contract, as the City may require.

B. Contingent Fees and Gratuities

1. That no person or selling agency except bona fide employees or designated agents or representatives of the Contractor have been employed or retained to solicit or secure this contract with an agreement or understanding that a commission, percentage, brokerage, or contingent fee would be paid; and
2. That no gratuities in the form of entertainment, gifts or otherwise, were offered or given by the Contractor or any of its agents, employees or representatives, to any official, member or employee of the City or other governmental agency with a view toward securing this contract or securing favorable treatment with respect to the awarding or amending, or the making of any determination with respect to the performance of this contract.

1-18 Bid Security

No bid will be considered unless accompanied by either a cashier's or certified check in an amount equal to five percent (5%) of the Total Bid Price as indicated on Attachment A, "Bid Form", or a bid bond in the form of Attachment C or a letter of credit for a like amount. The check or bond shall be payable to the City; it shall be forfeited as fixed and liquidated damages in case the bidder fails, neglects or refuses to enter into a contract for the faithful performance of said work (including the providing of any evidence of insurance and/or performance bond required herein), in the event the contract is awarded to them, within ten (10) days after the award is made. If a bid bond is submitted in lieu of a check, it shall be executed by a corporate surety authorized to transact business in the State of Washington and in the form prescribed in Attachment C, "Bid Bond." If a letter of credit is offered in lieu of a check or bidder's bond, it shall be issued as an irrevocable documentary letter of credit drawn on a banking institution licensed to do business in the State of Washington. The letter of credit shall include instruction and provisions prescribed in Attachment C, "Bid Bond." Any questions as to the qualification of the banking institution or instruction shall be submitted to the City at least ten (10) days prior to the bid submittal date. The check, bidder's bond or letter of credit shall be attached to the bid form.

The City further reserves the right to hold all bids (and the accompanying bid security) from the date of the bid opening until the contract and any performance/payment bond are executed, provided that such period does not exceed ninety (90) days, and each bid shall remain effective during that period.

1-19 Performance/Payment Bond

The bidder to whom the City has awarded this Contract will remove the Performance/Payment Bond (Exhibit G) attached to the Public Works Contract and deliver it to the City fully executed by the bidder and a surety company in the amount of one hundred percent (100%) of the contract price as security for the faithful performance of the work including the payment of all persons furnishing materials and performing labor on the work and all payments arising from the performance of the work due the State of Washington pursuant to Titles 50 and 51 RCW. Such bond must be executed by a duly licensed surety company, which is registered with the Washington State Insurance Commissioner, and the surety's name shall appear in the current Authorized Insurance Company List in the State of Washington, published by the Office of the Insurance Commissioner. The scope of the Performance/Payment Bond (Exhibit G) shall in no way affect or alter the liabilities of the Contractor to the City under Section 8 "Indemnification" of the Public Works Contract.

The City may require the surety company to appear and qualify itself upon the bond. If, at any time, the City determines in its sole judgment that the surety company is insufficient, the City may require the Contractor to furnish additional surety in form and arrangement satisfactory to the City and in an amount not exceeding that originally required. The Contractor shall submit a performance bond complying with the requirements of this paragraph within ten (10) days after the award is made. Payments will not be made on the Contract until sufficient surety as required is furnished.

1-20 Bid Dispute

- A. Any actual or prospective bidder, including sub-contractors and suppliers showing a substantial economic interest in this contract who is aggrieved in connection with the solicitation or award of this contract, may protest to the City in accordance with the procedures set forth herein. Protests based on the specifications or other terms in the contract documents, which are apparent prior to the date established for submittal of bids, shall be submitted not later than ten (10) calendar days prior to said date, or shall be deemed waived. All other protests shall be accepted only from actual bidders and shall be submitted within five (5) calendar days after the aggrieved person knows or should have known of the facts and circumstances upon which the protest is based; provided, however, that in no event shall a protest be considered if all bids are rejected or after the award of this contract.
- B. In order to be considered, a protest shall be in writing and shall include: (1) the name and address of the aggrieved person; (2) the RFB number and contract title under which the protest is submitted; (3) a detailed description of the specific grounds for protest and any supporting documentation; and (4) the specific ruling or relief requested. The written protest shall be addressed to:

City of Federal Way
Federal Way, Washington 98003-6325
Attention: Bid Protest --Federal Way Panther Lake Trail RFB # 18-004

- C. Upon receipt of a written protest, the City will promptly consider the protest. The City may give notice of the protest and its basis to other persons, including bidders involved

in or affected by the protest; such other persons may be given an opportunity to submit their views and relevant information. If the protest is not resolved by mutual agreement of the aggrieved person and the City, the City will promptly issue a decision in writing stating the reasons for the action taken and informing the aggrieved person of his or her right to appeal the decision to the Mayor or his or her designee. A copy of the decision shall be mailed (by certified mail, return receipt requested) or otherwise promptly furnished to the aggrieved person and any other interested parties who requested a copy of the decision. The decision will be considered final and conclusive unless appealed within five (5) calendar days after receipt of the decision to the Mayor or his or her designee. If the decision is appealed, then the subsequent determination of the Mayor or his or her designee shall issue within five (5) days of the Mayor's receipt of the appeal and shall be final and conclusive.

- D. Failure to comply with these protest procedures will render a protest untimely or inadequate and shall result in rejection thereof by the City.

SECTION 2: GENERAL CONTRACTUAL TERMS AND CONDITIONS

2-1 Administration

This contract will be between the City and the Contractor who will be responsible for delivering all equipment and performing all work and services described herein. The City is not party to defining the division of work between the Contractor and the Contractor's subcontractors, if any, and the specifications have not been written with this intent.

The Contractor represents that it has or will obtain all personnel and equipment required to perform the services hereunder. Such personnel shall not be employees of the City.

The Contractor's performance under this contract will be monitored and reviewed by Steve Ikerd, Deputy Parks Director. Questions by the Contractor regarding interpretation of the terms, provisions and requirements of this contract shall be addressed to Steve Ikerd, Deputy Parks Director, for response.

2-2 Proof of Compliance with Contract

In order that the City may determine whether the Contractor has complied with the requirements of the contract documents, the Contractor shall, at any time when requested, submit to the City properly authenticated documents or other satisfactory proofs as to the Contractor's compliance with such requirements.

2-3 Contract Documents and Precedence

The documents embodying the legally binding obligations between the City and the Contractor for completion of the work consist of the following: Panther Lake Trail Contract, Request for Bids, Bidder's Checklist, Instructions to Bidders, General Contractual Terms and Conditions, Bid Form, Bid Signature Page, Bid Bond, Combined Affidavit and Certification Form, Contractor's Compliance Statement, Notice of Completion of Public Works Contract attached as Exhibit A, Contract Change Order Agreement attached as Exhibit B, Contractor's Retainage Agreement attached as Exhibit C, Retainage Bond to City of Federal Way attached as Exhibit D, Notice to Labor Unions or Other Employment Organizations Nondiscrimination in Employment attached as Exhibit E, Certificate(s) of Insurance Form

attached hereto as Exhibit F, Performance / Payment Bond attached hereto as Exhibit G, Title VI Assurances attached hereto as Exhibit H, Technical Specifications as Appendix A, Project Drawings attached as Appendix B and current Prevailing Wage Rates attached as Appendix C, current WSDOT / APWA Standard Specifications for Road, Bridge and Municipal Construction, together with the APWA Supplemental (Division 1-99) ("Standard Specifications") and all other Appendices attached hereto and incorporated by this reference, (collectively the "Contract Documents"). The contract documents are intended to be complementary so that what is required by any one of them shall be as binding as if called for by all of them. In the event of any conflicting provisions or requirements within the several parts of the contract documents, the City will issue an interpretation regarding the controlling provision, which interpretation shall be binding.

2-4 Charges to Contractor

Charges which are the obligation of the Contractor under the terms of the contract shall be paid by the Contractor to the City on demand and may be deducted by the City from any money due or to become due to the Contractor under the contract and may be recovered by the City from the Contractor or its surety.

2-5 Change Orders

The City may, at any time, without notice to the sureties, by written order designated or indicated to be a change order, make any change in the specifications within the scope of this contract. Oral orders will not be binding on the City unless confirmed in writing by the City. Except as provided herein, no order, statement, or conduct of the City will be treated as a change hereunder or will entitle the Contractor to an equitable adjustment.

If any change hereunder causes an increase or decrease in the Contractor's cost of, or time required for, the performance or any part of the work under this contract, an equitable adjustment will be made and the contract modified in writing accordingly. However, no claim will be allowed for any costs incurred more than five (5) days before the Contractor gives written notice as required. All change orders are limited to 15% overhead/profit markup for both the contractor and the subcontractor, with no additional markup allowed for small tools, insurance, bonding, insurance and the like.

If the Contractor intends to assert a claim for an equitable adjustment hereunder, it shall, within five (5) days after receipt of a written change order form from the City or after giving the City the written notice required above, as the case may be, submit to the City a written statement setting forth the general nature and monetary extent of such claim; provided the City, in its sole discretion, may extend such five (5) day submittal period upon request by the Contractor. The Contractor shall supply such supporting documents and analysis for the claims as the City may require to determine if the claims and costs have merit.

No claim by the Contractor for an equitable adjustment hereunder will be allowed if asserted after final payment under this contract.

2-6 Work and Materials Omitted

The Contractor shall, when directed in writing by the City, omit work, services and materials to be furnished under the contract and the value of the omitted work and materials will be deducted from the contract price and the delivery schedule will be reviewed if appropriate.

The value of the omitted work, services and materials will be a lump sum or unit price, as mutually agreed upon in writing by the Contractor and the City. If the parties cannot agree on an appropriate deduction, the City reserves the right to issue a unilateral change order adjusting the price and the delivery schedule.

2-7 Washington State Sales Tax

The Contractor shall make payment directly to the State for all applicable Washington State sales taxes and all other governmental taxes, assessments and charges.

2-8 Shipping Charges

All prices shall include freight. Requests for additional compensation for freight charges will be rejected by the City.

2-9 Warranty

All materials and equipment sold and labor performed under this contract are warranted by the Contractor to be free from defects in materials or workmanship for a period of at least one (1) year from date of delivery and installation; provided, however, that this warranty may extend beyond this time period pursuant to any attached warranties. If the merchandise sold or work performed hereunder is defective on account of workmanship or materials, the Contractor agrees to replace the merchandise or, at the City's sole option, repair the defective merchandise. All defects in work or materials shall be promptly corrected.

2-10 No Waiver of Warranties and Contract Rights

Conducting of tests and inspections, review of specifications or plans, payment for goods or services, or acceptance by the City does not constitute a waiver, modification or exclusion of any express or implied warranty or any right under this contract or in law.

2-11 Legal Relations

The Contractor shall comply with all of the City's resolutions and regulations applicable under this contract and with any local, state or federal law or regulation applicable to the materials, equipment or service provided under this contract. Neither the Contractor nor the City shall assign any interest, obligation or benefit under or in this contract or transfer any interest in the same, whether by assignment or novation, without prior written consent of the other party. This contract shall be binding upon and inure to the benefit of the successors of the parties.

2-12 Applicable Law and Forum

Except as hereinafter specifically provided, this contract shall be governed by and construed according to the laws of the State of Washington including, but not limited to, the Uniform Commercial Code, Title 62A RCW. Any suit arising herefrom shall be brought in King County Superior Court, which shall have sole and exclusive jurisdiction and venue.

2-13 Hazardous Chemical Communication

In order to comply with WAC 296-62-054, Hazard Communication, the Contractor shall submit with each shipment a Material Safety Data Sheet (MSDS) for all products containing any toxic products that may be harmful to the end user. The MSDS Sheet is to accompany the toxic product(s) to the specified delivery sites.

Include the following information in the MSDS:

- A. Chemical Abstract Service (CAS) numbers for every chemical that is listed in the MSDS.
- B. If the product is actually used diluted, the dilution rate should be so stated in the MSDS and the hazards and corresponding personal protection, etc., also be listed.
- C. A statement as to the intended use of the product.

2-14 Delivery and Liquidated Damages

Time is of the essence of the contract and each and all of its provisions in which performance is a factor. The Contractor will be held to strict compliance with the prescribed date(s) set forth in these contract documents. For each and every day that delivery is delayed beyond the specific date(s), damage will be sustained by the City. Because of the difficulty in computing the actual damages and disadvantages to the City, and as a reasonable forecast of actual damages which the City will suffer by the delay in delivery, the parties agree that for each such delay the Contractor will pay the City liquidated damages (and not as a penalty) in accordance with Section 1.3 of Attachment G, Public Works Contract, to compensate for any damages caused by such delay. The City may deduct from any payment owing to the Contractor, any liquidated damages, which may be incurred by the Contractor pursuant to this paragraph.

2-15 Force Majeure

The Contractor's or City's failure to perform any of its obligations under this contract shall be excused if due to causes beyond the control and without the fault or negligence of the Contractor or City, respectively, including, but not restricted to, acts of God, acts of public enemy, acts of any government, fire, floods, epidemics, and strikes.

2-16 Patents, Copyrights and Rights in Data

Any patentable result or material suitable for copyright arising out of this contract shall be owned by and made available to the City for public use, unless the City shall, in a specific case where it is legally permissible, determine that it is in the public interest that it not be so owned or available.

The Contractor agrees that the ownership of any plans, drawings, designs, specifications, computer programs, technical reports, operating manuals, calculations, notes and other work submitted or which is specified to be delivered under this contract, whether or not complete (referred to in this subsection as "Subject Data"), shall be vested in the City or such other local, state or federal agency, if any, as may be provided by separate contract with the City.

All such Subject Data furnished by the Contractor pursuant to this contract, other than documents exclusively for internal use by the City, shall carry such notations on the front cover or a title page (or in such case of maps, in the same block) as may be requested by the City. The Contractor shall also place their endorsement on all Subject Data furnished by them. All such identification details shall be subject to approval by the City prior to printing.

The Contractor shall ensure that substantially the foregoing paragraphs are included in each subcontract for the work on the project.

2-17 Patents and Royalties

The costs involved in license fees, royalties or in defending claims for any patented invention, article, process or method that may be used in or connected with the work under this contract or with the use of complete work by the City, shall be paid by the Contractor. The Contractor and the Contractor's sureties shall, at their own cost, defend, indemnify and hold the City, together with its officers and employees, harmless against any and all demands made for such fees, royalties or claims brought or made by the holder of any invention or patent. Before final payment is made on the account of this contract, the Contractor shall, if requested by the City, furnish acceptable proof of a proper release of the City, its officers, agents and employees from all such fees or claims.

Should the Contractor, its agent, servants or employees, or any of them be enjoined from furnishing or using any invention, article, material, computer programs or equipment supplied or required to be supplied or used under the contract, the Contractor shall promptly substitute other articles, materials, computer programs or equipment in lieu thereof of equal efficiency, quality, finish, suitability and market value, and satisfactory in all respects to the City.

2-18 Disagreements, Disputes, Claims, and Appeals

If any disagreements occur with anything required in a change order, another written order, or an oral order from the Project Engineer, including any direction, instruction, interpretation, or determination by the Project Engineer, the Contractor shall follow the procedures outlined in Standard Specification Sections 1-04.5 and 1-09.11, which are incorporated by this reference.

By failing to follow the procedures of Sections 1-04.5 and 1-09.11, the Contractor completely waives any claims for protested Work.

Any claims or causes of action shall be brought only in the Superior Court for King County, Washington

2-19 Recycled Products

The Contractor shall use recycled paper for proposals and for any printed or photocopied material created pursuant to a contract with the City whenever practicable and use both sides of paper sheets for reports submitted to the City whenever practicable.

In the event this RFB covers the sale of product to the City that is capable of containing recycled materials, Contractor is hereby advised that the City intends to procure products with recycled content, pursuant to the recycled content notice delivered with these bid

documents. Contractor shall certify the percentage of recycled content and products sold to the City, including a percentage of post-consumer waste that is in the product. This certification is required to be in the form of a label on the product or a statement by the Contractor attached to the bid documents. The certification on multi-component or multi-material products shall verify the percentage and type of post-consumer waste and recycled content by volume contained in the major constituents of the product. The Contractor agrees to grant the City, as a procuring agency, permission to verify the certification of recycled content by review of the bidder's or manufacturer's records as a condition of any bid award, in the event of a bidder's protest, or other challenge to the bid accepted.

**Attachment A
BID FORM
CITY OF FEDERAL WAY**

**Federal Way Panther Lake Trail Pervious Concrete
RFB # 18-010**

550 SW Campus Drive, Federal Way WA

Bidder: _____ Date: _____

Lump Sum Bid:

A. All work shown on the drawings..... \$ _____

B. Washington State Sales Tax 10.0%..... \$ _____

Total LUMP SUM Bid Amount (including Washington State Sales Taxes,
Government taxes assessments and charges).....\$ _____

To City Council Members
City of Federal Way
33325 8th Ave South
Federal Way, Washington 98003-6325

Pursuant to and in compliance with your advertisement for bids for construction of and other documents relating thereto, the undersigned has carefully examined all of the bid and contract documents as the premises and conditions affecting the delivery and supply of Federal Way Panther Lake Trail Pervious Concrete, and hereby proposes to furnish all labor, materials and perform all work as required in strict accordance with the contract documents, for the above-referenced amount, **inclusive of Washington State sales tax** and all other government taxes, assessments and charges as required by law.

The required bid security consisting of a certified check, bid bond, or cashier's check in an amount of not less than five percent (5%) of the total amount bid is attached hereto, which it is agreed shall be collected and retained by the City as liquidated damages in the event this bid is accepted by the City within forty-five (45) calendar days after the day of the bid opening and the undersigned fails to execute the Federal Way Panther Lake Trail Public Works Contract and to provide the required certificate of insurance to the City, under the conditions thereof, within ten (10) calendar days after the Notice of Award; otherwise said Bid Security will be returned to the undersigned.

Bond or Certified Check _____ Dollars (\$ _____)

The Bidder shall complete this entire Bid Form or this bid may be considered non-responsive. The City may correct obvious mathematical errors.

The City of Federal Way reserves the right to reject any and all bids, waive any informalities or minor irregularities in the bidding, and determine which bid or bidder meets the criteria set forth in the bid documents.

Receipt of the following Addendums is hereby acknowledged:

Addendum No. ____ Date Issued: _____

Addendum No. ____ Date Issued: _____

Addendum No. ____ Date Issued: _____

Corporation/Partnership/Individual
(Delete Two)

Firm Name

Bidder's State License No.

Signature

Bidder's State Tax No.

Title

Attachment B

BID SIGNATURE PAGE

Date: _____

The undersigned bidder hereby proposes and agrees to deliver the equipment and/or services pursuant to the Federal Way Panther Lake Trail Pervious Concrete and comply with all other terms and conditions of the contract and bid documents of RFB 18-004.

No bidder may withdraw his/her bid for a period of ninety (90) days after the day of bid opening.

The required bid security consisting of a certified check, bid bond, or cashier's check in an amount of not less than five percent (5%) of the total amount will be delivered to the City.

The undersigned individual represents and warrants that he or she is dully authorized to execute the bid and all bid documents on behalf of any partnership, joint venture or corporation.

Corporation/Partnership/Individual
(Delete Two)

Company

By: _____
(Signature)

(Printed Name)

Its: _____
(Title)

(Address)

(Telephone Number)

Attachment C

BID BOND FORM

Herewith find deposit in the form of a certified check, cashiers check, cash, or bid bond in the amount of \$ _____, which amount is not less than five percent (5%) of the total bid.

BID BOND

KNOW ALL PERSONS BY THESE PRESENTS that we, _____, as Principal, and _____, as Surety, are held and firmly bound unto the City of Federal Way, as Obligee, in the penal sum of _____ and ___/100 dollars (\$_____), for the payment of which the Principal and the Surety bond themselves, their heirs and executors, administrators, successors and assigns, jointly and severally, by these presents.

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

Federal Way Panther Lake Trail, 550 SW Campus Drive, Federal Way, WA RFB # 18-010

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

SIGNED, SEALED AND DATED THIS ____ DAY OF _____, 2017.

Principal

Surety

Date: _____, 20__.

Received return of deposit in the sum of \$ _____.

Attachment D

SUBCONTRACTOR LIST

Prepared in Compliance with RCW 39.30.060

Federal Way Panther Lake Trail, 550 SW Campus Drive, Federal Way, WA RFB # 18-010

Failure to list subcontractors who are proposed to perform the work of heating, ventilation and air conditioning, plumbing, as described in Chapter 18.106 RCW, and electrical as described in Chapter 19.28 RCW, or identify the bidder for the work will result in your bid being non-responsive and therefore void.

Subcontractors that are proposed to perform the work of heating, ventilation and air conditioning, plumbing, as described in Chapter 18.106 RCW, and electrical as described in Chapter 19.28 RCW, must be named below, or name the bidder for the work.

The bidder verifies that each first tier subcontractor, and every subcontractor of any tier that hires other subcontractors, has a current certificate of registration in compliance with chapter 18.27 RCW; a current Washington Unified Business Identifier (UBI) number; has Industrial Insurance (workers' compensation) coverage for the subcontractor's employees working in Washington, as required in Title 51 RCW, if applicable; has a Washington Employment Security Department number, as required in Title 50 RCW, if applicable; has a Washington Department of Revenue state excise tax registration number, as required in Title 82 RCW, if applicable; has an electrical contractor license, if required by Chapter 19.28 RCW, if applicable; has an elevator contractor license, if required by Chapter 70.87 RCW.

The following listed bid items (listed in numerical sequence) for this project have been proposed for subcontracting to subcontractors as indicated.

SUBCONTRACTOR NAME	ITEM NUMBERS	ESTIMATED AMOUNT	WMBE QUALIFIED? (Y/N)

Attachment E

City of Federal Way

COMBINED AFFIDAVIT AND CERTIFICATION FORM

Non-Collusion, Anti-Trust, Prevailing Wage (Non-Federal Aid),
Debarment, Eligibility, and Certification of Lawful Employment

NON-COLLUSION AFFIDAVIT

Being first duly sworn, deposes and says, that he/she is the identical person who submitted the foregoing proposal or bid, and that such bid is genuine and not sham or collusive or made in the interest or on behalf of any person not therein named, and further, that the deponent has not directly induced or solicited any other Bidder on the foregoing work equipment to put in a sham bid, or any other person or corporation to refrain from bidding, and that deponent has not in any manner sought by collusion to secure to himself/herself or to any other person any advantage over other Bidder or Bidders; and

**NOTICE TO ALL BIDDERS ON PROJECTS INVOLVING
THE U.S. DEPARTMENT OF TRANSPORTATION (USDOT)**

To report bid rigging activities call: **1-800-424-9071**

The U.S. Department of Transportation (USDOT) operates the above toll-free hotline Monday through Friday, 8:00 a.m. to 5:00 p.m., Eastern Time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the hotline to report such activities. The hotline is part of USDOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the USDOT Inspector General. All information will be treated confidentially and caller anonymity will be respected; and

CERTIFICATION RE: ASSIGNMENT OF ANTI-TRUST CLAIMS TO PURCHASER

Vendor and purchaser recognize that in actual economic practice, overcharges resulting from anti-trust violations are, in fact, usually borne by the purchaser. Therefore, vendor hereby assigns to purchaser any and all claims for such overcharges as to goods and materials purchased in connection with this order or contract, except as to overcharges resulting from anti-trust violations commencing after the date of the bid, quotation, or other event establishing the price under this order or contract. In addition, vendor warrants and represents that each of his suppliers and subcontractors shall assign any and all such claims to purchaser, subject to the aforementioned exception; and

PREVAILING WAGE AFFADAVIT

I, the undersigned, having duly sworn, deposed say and certify that in connection with the performance of the work of this project, will pay each classification of laborer, workperson, or mechanic employed in the performance of such work, not less than the prevailing rate of wage or not less than the minimum rate of wage as specified in the principal contract; that I have read the above and forgoing statement and certificate, know the contents thereof and the substance as set forth therein, is true to my knowledge and belief; and

DEBARMENT AFFIDAVIT

I certify that, except as noted below, the firm, association or corporation or any person in a controlling capacity associated therewith or any position involving the administration of federal funds; is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency; has not been suspended, debarred, voluntarily excluded or determined ineligible by any federal agency within the past three (3) years; does not have a proposed debarment pending; and has not been indicted, convicted, or had a civil judgment rendered against said person, firm, association or corporation by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three (3) years.

AFFIDAVIT OF ELIGIBILITY

The Contractor certifies that it is properly licensed and registered under the laws of the State of Washington and has not been determined to have been in violation of RCW 50.12.070(1)(b), RCW 51.16.070(1)(b), or RCW 82.32.070(2) within the last two years. The Contractor further certifies that it has not been determined, within the last one year, to have committed any combination of two of the following violations or infractions within a five-year period: (1) Violated RCW 51.48.020(1) or 51.48.103; or (2) Committed an infraction or violation under chapter 18.27 RCW.

CERTIFICATION OF LAWFUL EMPLOYMENT

The contractor hereby certifies that it has complied with all provisions of the Immigration and Nationality Act, now or as herein after amended, 8 USC Section 1101 et. seq., and that all employees, including subcontractor employees, are lawfully permitted to perform work in the United States as provided in this agreement with the City of Federal Way.

FOR: Non-Collusion Affidavit, Assignment of Anti-Trust Claims to Purchaser, Prevailing Wage Affidavit, Debarment Affidavit, Affidavit Of Eligibility, and Certification of Lawful Employment.

Federal Way Panther Lake Trail, 550 SW Campus Drive, Federal Way, WA RFB # 18-010

Name of Bidder’s Firm

Signature of Authorized Representative of Bidder

Subscribed and sworn to before me this ____ day of _____, 20__.

(printed/typed name of notary)
Notary Public in and for the State of Washington
My commission expires: _____

Attachment F

CONTRACTOR'S COMPLIANCE STATEMENT

(President's Executive Order #11246)

Date: _____

This statement relates to a proposal contract with the City of Federal Way named

Federal Way Panther Lake Trail, 550 SW Campus Drive, Federal Way, WA RFB # 18-010

I am the undersigned bidder or prospective contractor. I represent that:

I have, have not, participated in a previous contract or subcontract subject to the President's Executive Order #11246 (regarding equal employment opportunity) or a preceding similar Executive Order.

Name of Bidder

By: _____
Signature

Its: _____
Title

Address

Attachment G

**PUBLIC WORKS CONTRACT
FOR**

Federal Way Panther Lake Trail, 550 SW Campus Drive, Federal Way, WA RFB # 18-010

THIS PUBLIC WORKS CONTRACT ("Contract") is dated effective this ____ day of _____, 201__ and is made by and between the City of Federal Way, a Washington municipal corporation ("City or Owner"), and _____, a _____ ("Contractor").

A. The City desires to retain an independent contractor to furnish all labor and materials necessary to perform work described in article 1 below as necessary to improve an existing Trail located at 550 SW Campus Drive, Federal Way, Washington ("Property"); and

B. The Contractor has the requisite skill and experience to perform such work.

NOW, THEREFORE, the parties ("Parties") agree to the following terms and conditions:

1. SERVICES BY CONTRACTOR

1.1 Description of Work. Contractor shall perform all work and furnish all tools, materials, supplies, equipment, labor and other items incidental thereto necessary for the construction and completion of the work, more particularly described as the Federal Way Panther Lake Trail Pervious Concrete which includes the installation of a new pervious concrete parking lot and adjoining sidewalks. It is anticipated that construction will commence within 60 days of the bid opening and be performed during the dryer months, pending issuance of permits including without limitation as listed above ("Work"), in accordance with and as described in the Contract Documents, which include without limitation, this Contract, Request for Bids, Bidder's Checklist, Instructions to Bidders, General Contractual Terms and Conditions, Bid Form, Bid Signature Page, Bid Bond, Combined Affidavit and Certification Form, Contractor's Compliance Statement, Notice of Completion of Public Works Contract attached as Exhibit A, Contract Change Order Agreement attached as Exhibit B, Contractor's Retainage Agreement attached as Exhibit C, Retainage Bond to City of Federal Way attached as Exhibit D, Notice to Labor Unions or Other Employment Organizations Nondiscrimination in Employment attached as Exhibit E, Certificate(s) of Insurance Form attached hereto as Exhibit F, Performance / Payment Bond attached hereto as Exhibit G, Title VI Assurances attached hereto as Exhibit H, Technical Specifications as Appendix A, Project Drawings attached as Appendix B and current Prevailing Wage Rates attached as Appendix C, current WSDOT / APWA Standard Specifications for Road, Bridge and Municipal Construction, together with the APWA Supplemental (Division 1-99) ("Standard Specifications") and all other Appendices attached hereto and incorporated by this reference, (collectively the "Contract Documents"), which Work shall be completed to the City's satisfaction, within the time period prescribed by the City and pursuant to the direction of the Mayor or his or her designee.

1.2 Completion Date.

1.2.1 The Work shall be commenced within five (5) days of receipt by the Contractor of the City's Notice to Proceed. The Work shall be completed within 30 calendar days. In the event the Work is not substantially completed within the time specified, Contractor agrees to pay to the City liquidated damages in the amount set forth in the formula included in Section 1.3 of this Contract. The Work shall not be deemed

completed until the City has accepted the Work and delivered a written Notice of Completion of Public Works Contract in the form attached hereto as Exhibit "A."

1.2.2 Phased work, work by Others: This Trail is being completed in stages and with a few other contracts working at the same time. Contractor shall coordinate work with other contractors and the City to ensure proper coordination. Portions of this contract will be completed at separate times. There shall be no adjustment in cost for remobilization, schedule impacts or other items related to the phasing of this work.

1.3 Liquidated Damages. Time is of the essence of the Contract. Delays inconvenience the public and cost taxpayers undue sums of money, adding time needed for administration, inspection, and supervision. It is impractical for the City to calculate the actual cost of delays. Accordingly, the Contractor agrees to pay liquidated damages calculated on the following formula for its failure to complete this Contract on time:

(1) To pay (according to the following formula) liquidated damages for each working day beyond the number of working days established for completion, and

(2) To authorize the City to deduct these liquidated damages from any money due or coming due to the Contractor.

LIQUIDATED DAMAGES FORMULA

$$LD = \frac{0.15C}{T}$$

Where: LD = Liquidated damages per working day (rounded to the nearest dollar).

C = Original Contract amount.

T = Original time for completion.

When the Work is completed to the extent that the City has full and unrestricted use and benefit of the facilities, both from an operational and safety standpoint, the City may determine the Work is complete. Liquidated damages will not be assessed for any days for which an extension of time is granted. No deduction or payment of liquidated damages will, in any degree, release the Contractor from further obligations and liabilities to complete this entire Contract.

1.4 Performance Standard. Contractor shall perform the Work in a manner consistent with accepted practices for other properly licensed contractors.

1.5 Compliance with Laws. Contractor shall perform the Work in accordance with all applicable federal, state and City laws, including but not limited to all City ordinances, resolutions, standards or policies, as now existing or hereafter adopted or amended, and obtain all necessary permits and pay all permit, inspection or other fees, at its sole cost and expense.

1.6 Change Orders. The City may, at any time, without notice to sureties, order changes within the scope of the Work. Contractor agrees to fully perform any such alterations or additions to the Work. All such change orders shall be in the form of the Contract Change Order Agreement attached hereto as Exhibit "B," which shall be signed by both the Contractor and the City, shall specifically state the change of the Work, the completion date for such changed Work, and any increase or decrease in the compensation to be paid to Contractor as a result of such change in the Work. Oral change orders shall not be binding upon the City unless confirmed in writing by the City.

If any change hereunder causes an increase or decrease in the Contractor's cost of, or time required for, the performance or any part of the Work under this Contract, an equitable adjustment will be made and the Contract modified in writing accordingly. The Contractor shall be limited to a total markup of 15% overhead and profit on the direct costs of the work. Overhead shall include office expenses, bonding, insurance, small tools, trailer, superintendent and the like. No claim for loss of profit for time that could be spent on other projects shall be allowed. Subcontractors shall be subject to the same terms and conditions.

If the Contractor intends to assert a claim for an equitable adjustment hereunder, it shall, within five (5) days after receipt of a written change order from the City or after giving the written notice required above, as the case may be, submit to the City a written statement setting forth the general nature and monetary extent of such claim; provided the City, in its sole discretion, may extend such five (5) day submittal period upon request by the Contractor. The Contractor shall supply such supporting documents and analysis for the claims as the City may require to determine if the claims and costs have merit. No claim will be allowed for any costs incurred more than five (5) days before the Contractor gives written notice as required. No claim by the Contractor for an equitable adjustment hereunder will be allowed if asserted after final payment under this Contract.

1.7 Work and Materials Omitted. The Contractor shall, when directed in writing by the City, omit work, services and materials to be furnished under the Contract and the value of the omitted work and materials will be deducted from the Total Compensation and the delivery schedule will be reviewed if appropriate. The value of the omitted work, services and materials will be a lump sum or unit price, as mutually agreed upon in writing by the Contractor and the City. If the parties cannot agree on an appropriate deduction, the City reserves the right to issue a unilateral change order adjusting the price and the delivery schedule.

1.8 Utility Location. Contractor is responsible for locating any underground utilities affected by the Work and is deemed to be an excavator for purposes of Chapter 19.122 RCW, as amended. Contractor shall be responsible for compliance with Chapter 19.122 RCW, including utilization of the "one call" locator system before commencing any excavation activities.

1.9 Air Environment. Contractor shall fully cover any and all loads of loose construction materials including without limitation, sand, dirt, gravel, asphalt, excavated materials, construction debris, etc., to protect said materials from air exposure and to minimize emission of airborne particles to the ambient air environment within the City of Federal Way.

1.10 Weather. Contractor understands and acknowledges that this geographical region experiences an extensive rainy season. Contractor acknowledges that it is experienced with working on and accomplishing similar projects during this rainy season and has prepared its bid taking the impacts of the rainy season on the progress of the work into full consideration. Accordingly, the Owner will authorize additional costs or extensions of time to the Contract unless the job site experiences a (100) year (1%) (or greater) storm event, in which case adjustments to the contract amount or time may be allowed, depending upon the particular facts and circumstances at that time.

2. TERM

This Contract shall commence on the effective date of this Contract and continue until the substantial completion of the Work, which shall be no later than the time frame indicated in article 1.2, TIME, and the expiration of all warranties contained in the Contract Documents ("Term").

3. WARRANTY

3.1 Requisite Skill. The Contractor warrants that it has the requisite skill to complete the Work, and is appropriately accredited and licensed by all applicable agencies and governmental entities, including but not limited to being registered to do business in the City of Federal Way by obtaining a City of Federal Way business registration. Contractor represents that it has visited the site and is familiar with all of the plans and specifications in connection with the completion of the Work.

3.2 Defective Work. The Contractor shall, at its sole cost and expense, correct all Work which the City deems to have defects in workmanship and material discovered within one (1) year after the City's final acceptance of the Work as more fully set forth in the General Conditions of the Contract; provided, however, that this warranty may extend beyond this time period pursuant to any warranties attached hereto and incorporated by this reference. This warranty shall survive termination of this Contract. Conducting of tests and inspections, review of specifications or plans, payment for goods or services, or acceptance by the City does not constitute waiver, modification or exclusion of any express or implied warranty or any right under this Contract or law.

4. COMPENSATION

4.1 Total Compensation. In consideration of the Contractor performing the Work, the City agrees to pay the Contractor an amount not to exceed _____ and 00/100 Dollars (\$ _____), which amount shall constitute full and complete payment by the City ("Total Compensation").

4.2 Contractor Responsible for Taxes. The Contractor shall be solely responsible for the payment of any taxes imposed by any lawful jurisdiction as a result of the performance and payment of this Contract.

4.3 Nonpayment. The City shall have the right to withhold payment to the Contractor for any of the Work not completed in a satisfactory manner, in the City's sole discretion, which shall be withheld until such time as Contractor modifies or repairs the Work so that the Work is acceptable to the City.

4.4 Method of Payment. The basis of payment will be the actual quantities of work performed according to the contract and as specified for payment. Payments will be made for work and labor performed and materials furnished under the contract according to the price in the proposal unless otherwise provided. Partial payments will be made once each month, based on partial estimates prepared by the Engineer and signed by the Contractor. Failure to perform any obligation under this Contract may be adequate reason for the City to withhold payments until the obligation is performed.

Upon completion of all work and after final inspection, the amount due the Contractor under the contract will be paid based upon the final estimate made by the Engineer and signed by the Contractor.

Payment to the Contractor for partial estimates, final estimates, and retained percentages shall be subject to controlling laws.

4.5 Retainage. Pursuant to Chapter 60.28 RCW, five percent (5%) of the Total Compensation shall be retained by the City to assure payment of Contractor's state sales tax as well as payment of subcontractors, suppliers and laborers. Upon execution of this Contract, Contractor

shall complete, execute and deliver to the City the Contractor Retainage Agreement attached hereto as Exhibit "C" or execute the Retainage Bond attached hereto as Exhibit "D." No payments shall be made by the City from the retained percentage fund ("Fund") nor shall the City release any retained percentage escrow account to any person, until the City has received from the Department of Revenue a certificate that all taxes, increases, and penalties due from the Contractor and all taxes due and to become due with respect to the Contract have been paid in full or that they are, in the Department's opinion, readily collectible without recourse to the State's lien on the retained percentage. Upon non-payment by the general contractor, any supplier or subcontractor may file a lien against the retainage funds, pursuant to Chapter 60.28 RCW. Subcontractors or suppliers are required to give notice of any lien within forty-five (45) days of the completion of the Work and in the manner provided in RCW 39.08.030. Within sixty (60) days after completion of all Work on this Contract, the City shall release and pay in full the money held in the Fund, unless the City becomes aware of outstanding claims made against this Fund.

5. EQUAL OPPORTUNITY EMPLOYER

In all Contractor services, programs or activities, and all Contractor hiring and employment made possible by or resulting from this Contract, there shall be no discrimination by Contractor or by Contractor's employees, agents, subcontractors or representatives against any person because of sex, age (except minimum age and retirement provisions), race, color, creed, national origin, marital status or the presence of any disability, including sensory, mental or physical handicaps, unless based upon a bona fide occupational qualification in relationship to hiring and employment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. Contractor shall comply with, and shall not violate any of the terms of, Chapter 49.60 RCW, Title VII of the Civil Rights Act of 1964, the Americans With Disabilities Act, Section 504 of the Rehabilitation Act of 1973, 49 CFR Part 26, or any other applicable federal, state, or local law or regulation regarding non-discrimination. Any material violation of this provision shall be grounds for termination of this Contract by the City and, in the case of the Contractor's breach, may result in ineligibility for further City agreements. If this project involves federal funds including USDOT funds administered by WSDOT, the contractor agrees to the clauses contained in Exhibit H.

6. INDEPENDENT CONTRACTOR/CONFLICT OF INTEREST

6.1 It is the intention and understanding of the Parties that the Contractor shall be an independent contractor and that the City shall be neither liable nor obligated to pay Contractor sick leave, vacation pay or any other benefit of employment, nor to pay any social security or other tax which may arise as an incident of employment. The Contractor shall pay all income and other taxes due. Industrial or any other insurance that is purchased for the benefit of the City, regardless of whether such may provide a secondary or incidental benefit to the Contractor, shall not be deemed to convert this Agreement to an employment contract. It is recognized that Contractor may or will be performing professional services during the Term for other parties; provided, however, that such performance of other services shall not conflict with or interfere with Contractor's ability to perform the Services. Contractor agrees to resolve any such conflicts of interest in favor of the City.

6.2 If the Contractor is a sole proprietorship or if this is a contract with an individual, the contractor agrees to notify the City and complete any required form if the Contractor retired under a State of Washington retirement system and agrees to indemnify any losses the City may sustain through the Contractor's failure to do so.

7. CITY'S RIGHT TO TERMINATE CONTRACT

7.1 Termination Without Cause. Prior to the expiration of the Term, this Contract may be terminated without cause upon oral or written notice delivered to Contractor from the City. Upon termination, all supplies, materials, labor and/or equipment furnished prior to such date shall, at the City's option, become its property. In the event Contractor is not in breach of any of the provisions of this Contract, Contractor will be paid for any portion of the Work which has been completed to the City's satisfaction, calculated by the percentage amount that portion of the Work completed and accepted by the City bears to the Total Compensation.

7.2 Termination For Cause. The City may immediately terminate this Contract, take possession of the Property and all materials thereon and finish the Work by whatever methods it may deem expedient, upon the occurrence of any one or more of the following events:

- (1) If the Contractor should be adjudged a bankrupt.
- (2) If the Contractor should make a general assignment for the benefit of its creditors.
- (3) If a receiver should be appointed on the account of insolvency of Contractor.
- (4) If Contractor should persistently or repeatedly refuse or fail to supply a sufficient number of properly skilled workmen or proper materials for completion of the Work.
- (5) If the Contractor should fail to complete the Work within the time specified in this Contract.
- (6) If the Contractor should fail to complete the Work in compliance with the plans and specifications, to the City's satisfaction.
- (7) If the Contractor should fail to make prompt payment to subcontractors or for material labor.
- (8) If Contractor should persistently disregard laws, ordinances or regulations of federal, state, or municipal agencies or subdivisions thereof.
- (9) If Contractor should persistently disregard instructions of the Mayor or his or her representative.
- (10) If Contractor shall be in breach or violation of any term or provision of this Contract, or
- (11) If the Work is not being performed pursuant to RCW 49.28.050 or 49.28.060.

7.3 Result of Termination. In the event that this Contract is terminated for cause by the City, the City may do any or all of the following:

- (1) Stop payments. The City shall cease any further payments to Contractor and Contractor shall be obligated to repay any payments it received under this contract.

(2) Complete Work. The City may, but in no event is the City obligated to, complete the Work, which Work may be completed by the City's agents, employees or representatives or the City may retain independent persons or entities to complete the Work. Upon demand, Contractor agrees to pay to the City all of its costs and expenses in completing such Work.

(3) Take Possession. The City may take possession of the Property and any equipment and materials on the Property and may sell the same, the proceeds of which shall be paid to the City for its damages.

(4) Remedies Not Exclusive. No remedy or election under this Contract shall be deemed an election by the City but shall be cumulative and in addition to all other remedies available to the City at law, in equity or by statute.

8. INDEMNIFICATION

8.1 Contractor Indemnification. The Contractor agrees to indemnify, defend, and hold the City, its elected officials, officers, employees, agents, and volunteers harmless from any and all claims, demands, losses, actions and liabilities (including costs and all attorney fees) to or by any and all persons or entities, including, without limitation, their respective agents, licensees, or representatives, arising from, resulting from, or connected with this Contract to the extent caused by the negligent acts, errors or omissions of the Contractor, its partners, shareholders, agents, employees, or by the Contractor's breach of this Contract. Contractor waives any immunity that may be granted to it under the Washington State Industrial Insurance Act, Title 51 RCW. Contractor's indemnification shall not be limited in any way by any limitation on the amount of damages, compensation or benefits payable to or by any third party under workers' compensation acts, disability benefit acts or any other benefits acts or programs.

8.2 City Indemnification. The City agrees to indemnify, defend, and hold the Contractor, its officers, directors, shareholders, partners, employees, and agents harmless from any and all claims, demands, losses, actions and liabilities (including costs and attorney fees) to or by any and all persons or entities, including without limitation, their respective agents, licenses, or representatives, arising from, resulting from or connected with this Contract to the extent solely caused by the negligent acts, errors, or omissions of the City, its employees or agents.

8.3 Survival. The provisions of this Section shall survive the expiration or termination of this Contract with respect to any event occurring prior to such expiration or termination.

9. INSURANCE

9.1 Minimum Limits. The Contractor agrees to carry as a minimum, the following insurance, in such forms and with such carriers who have a rating which is satisfactory to the City:

(1) Workers' compensation and employer's liability insurance in amounts sufficient pursuant to the laws of the State of Washington;

(2) Commercial general liability insurance with combined single limits of liability not less than \$5,000,000 for bodily injury, including personal injury or death, products liability and property damage.

(3) Automobile liability insurance with combined single limits of liability not less than \$2,000,000 for bodily injury, including personal injury or death and property damage.

(4) If any structures are involved in the Contract, the Contractor shall maintain an All Builder's Risk form at all times in an amount no less than the value of the structure until final acceptance of the project by the City.

9.2 Endorsements. Each insurance policy shall contain, or be endorsed to contain, the following provisions:

(1) The City, its officers, officials, employees, volunteers and agents shall each be named as additional insured.

(2) Coverage may not be terminated or reduced in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, to the City.

(3) Coverage shall be primary insurance as respects the City, its officials, employees and volunteers. Any insurance or self-insurance maintained by the City, its officials, employees or volunteers shall be in excess of Contractor's insurance.

(4) Coverage shall apply to each insured separately against whom claim is made or suit is brought.

(5) Coverage shall be written on an "occurrence" form as opposed to a "claims made" or "claims paid" form.

9.3 Verification. Contractor shall furnish the City with certificates of insurance evidencing the coverage required by the Section, in compliance with the Certificate(s) of Insurance Form attached hereto as Exhibit "F," which certificate must be executed by a person authorized by the insurer to bind coverage on its behalf. The City reserves the right to require complete certified copies of all required insurance policies, at any time.

9.4 Subcontractors. Contractors shall include all subcontractors as additional insured under its policies or shall furnish separate certificates for each subcontractor. All coverage for subcontractors shall be subject to all of the requirements stated herein.

9.5 Deductibles and Self-Insured Retentions. Any deductibles or self-insured retentions must be disclosed by Contractor and approved in writing by the City. At the option of the City, Contractor shall either reduce or eliminate such deductibles or self-insured retentions or procure a bond guaranteeing payment for any amounts not covered by the insurance by reason of such deductibles or self-insured retentions.

9.6 Asbestos Abatement or Hazardous Materials. If asbestos abatement or hazardous materials work is performed, Contractor shall review coverage with the City's Risk Manager and provide scope and limits of coverage that are appropriate for the scope of Work and are satisfactory to the City. Contractor shall not commence any Work until its coverage has been approved by the Risk Manager.

9.7 Termination. The Contractor's failure to provide the insurance coverage required by this Section shall be deemed to constitute non-acceptance of this Contract by the Contractor and the City may then award this Contract to the next lower bidder.

10. PERFORMANCE/PAYMENT BOND

Pursuant to RCW 39.08.010, Contractor shall post a Performance/Payment Bond in favor of the City, in the form attached to this Contract as Exhibit "G" and incorporated by this reference, in a dollar amount satisfactory to the City; to guarantee Contractor's performance of the Work to the City's satisfaction; to insure Contractor's performance of all of the provisions of this Contract; and to guarantee Contractor's payment of all laborers, mechanics, subcontractors and material persons. Contractor's obligations under this Contract shall not be limited to the dollar amount of the bond.

11. SAFETY

Contractor shall take all necessary precautions for the safety of employees on the work site and shall comply with all applicable provisions of federal, state and municipal safety and health laws and codes, including without limitation, all OSHA/WISHA requirements, Safety and Health Standards for Construction Work (Chapter 296-155 WAC), General Safety and Health Standards (Chapter 296-24 WAC), and General Occupational Health Standards (Chapter 296-62 WAC). Contractor shall erect and properly maintain, at all times, all necessary guards, barricades, signals and other safeguards at all unsafe places at or near the Work for the protection of its employees and the public, safe passageways at all road crossings, crosswalks, street intersections, post danger signs warning against any known or unusual hazards and do all other things necessary to prevent accident or loss of any kind. Contractor shall protect from danger all water, sewer, gas, steam or other pipes or conduits, and all hydrants and all other property that is likely to become displaced or damaged by the execution of the Work. The Contractor shall, at its own expense, secure and maintain a safe storage place for its materials and equipment and is solely responsible for the same.

12. PREVAILING WAGES

12.1 Wages of Employees. This contract is subject to the minimum wage requirements of Chapter 39.12 RCW and Chapter 49.28 RCW (as amended or supplemented). On Federal-aid projects, Federal wage laws and rules also apply. The Hourly minimum rates for wages and fringe benefits are listed in Appendix C.

The Contractor, any subcontractor, and all individuals or firms required by Chapter 39.12 RCW, Chapter 296-127 WAC, or the Federal Davis-Bacon and Related Acts (DBRA) to pay minimum prevailing wages, shall not pay any worker less than the minimum hourly wage rates and fringe benefits required by Chapter 39.12 RCW or the DBRA. Higher wages and benefits may be paid.

When the project is subject to both State and Federal hourly minimum rates for wages and fringe benefits and when the two rates differ for similar kinds of labor, the Contractor shall not pay less than the higher rate unless the state rates are specifically preempted by Federal law.

The Contractor shall ensure that any firm (Supplier, Manufacturer, or Fabricator) that falls under the provisions of Chapter 39.12 RCW because of the definition "Contractor" in Chapter 296-127-010 WAC, complies with all the requirements of Chapter 39.12 RCW.

12.2 Exemptions to Prevailing Wage. The prevailing wage requirements of Chapter 39.12 RCW, and as required in this Contract do not apply to:

- (1) Sole owners and their spouses;
- (2) Any partner who owns at least 30% of a partnership;
- (3) The President, Vice President and Treasurer of a corporation if each one owns at least 30% of the corporation.

12.3 Reporting Requirements. On forms provided by the Industrial Statistician of State L&I, the Contractor shall submit to the Engineer the following for itself and for each firm covered under Chapter 39.12 RCW that provided work and materials of the contract:

- (1) A copy of an approved "Statement of Intent to Pay Prevailing Wages" State L&I form number F700-029-000. The City will make no payment under this contract for the work performed until this statement has been approved by State L&I and a certified copy of the approved form has been submitted to the City.
- (2) A copy of an approved "Affidavit of Prevailing Wages Paid," State L&I form number F700-007-000. The City will not release to the contractor any funds retained under Chapter 60.28.011 RCW until all of the "Affidavit of Prevailing Wages Paid" forms have been approved by State L&I and a certified copy of all the approved forms have been submitted to the City.

The Contractor shall be responsible for requesting these forms from the State L&I and for paying any approval fees required by State L&I.

Certified payrolls are required to be submitted by the Contractor to the City, for the Contractor and all subcontractors or lower tier subcontractors.

12.4 Disputes. In the event any dispute arises as to what are the prevailing rates of wages for work of a similar nature and such dispute cannot be resolved by the City and the Contractor, the matter shall be referred for arbitration to the Director of the Department of Labor and Industries of the State of Washington and the decision therein shall be final and conclusive and binding on all parties involved in the dispute.

13. FAILURE TO PAY SUBCONTRACTORS

In the event the Contractor shall fail to pay any subcontractors or laborers, fail to pay for any materials, or fail to pay any insurance premiums, the City may terminate this Contract and/or the City may withhold from the money which may be due the Contractor an amount necessary for the payment of such subcontractors, laborers, materials or premiums.

14. OWNERSHIP OF DOCUMENTS

All originals and copies of work product, including plans, sketches, layouts, designs, design specifications, records, files, computer disks, magnetic media, all finished or unfinished documents or material which may be produced or modified by Contractor while performing the Work shall become the property of the City and shall be delivered to the City at its request.

15. CONFIDENTIALITY

Any records, reports, information, data or other documents or materials given to or prepared or assembled by the Contractor under this Contract will be kept as confidential and shall not be made available to any individual or organization by the Contractor without prior written approval of the City.

16. BOOKS AND RECORDS

The Contractor agrees to maintain books, records, and documents which sufficiently and properly reflect all direct and indirect costs related to the performance of this Contract and such accounting procedures and practices as may be deemed necessary by the City to assure proper accounting of all funds paid pursuant to this Contract. These records shall be subject at all reasonable times to inspection, review or audit by the City, its authorized representative, the State Auditor, or other governmental officials authorized by law to monitor this Contract.

17. CLEAN UP

At any time ordered by the City and immediately after completion of the Work, the Contractor shall, at its own expense, clean up and remove all refuse and unused materials of any kind resulting from the Work. In the event the Contractor fails to perform the necessary clean up, the City may, but in no event is it obligated to, perform the necessary clean up and the costs thereof shall be immediately paid by the Contractor to the City and/or the City may deduct its costs from any remaining payments due to the Contractor.

18. CONTRACTOR AND SUBCONTRACTOR RESPONSIBILITY:

18.1 Contractor Verification. The Contractor verifies that it has a certificate of registration with the State of Washington; has a current state unified business identifier number; is not disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065(3); has industrial insurance as required by Title 51 RCW, if applicable; has an employment security department number as required in Title 50 RCW, if applicable; has a state excise tax registration number as required in Title 82 RCW, if applicable; possesses a valid electrical contractor license as required by chapter 19.28 RCW, if applicable; and possesses an elevator contractor license as required by chapter 70.87 RCW, if applicable.

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

18.3 Subcontractor Verification. At the time of subcontract execution, the Contractor shall verify that each of its first tier subcontractors meets the following bidder responsibility criteria: Have a current certificate of registration in compliance with chapter 18.27 RCW, which must have been in effect at the time of subcontract bid submittal; Have a current Washington Unified Business Identifier (UBI) number; Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065(3); Have Industrial Insurance (workers' compensation) coverage for the subcontractor's employees working in Washington, as required in Title 51 RCW, if applicable; A

Washington Employment Security Department number, as required in Title 50 RCW, if applicable; A Washington Department of Revenue state excise tax registration number, as required in Title 82 RCW, if applicable; An electrical contractor license, if required by Chapter 19.28 RCW, if applicable; An elevator contractor license, if required by Chapter 70.87 RCW.

19. GENERAL PROVISIONS

19.1 Entire Contract. The Contract Documents contain all of the agreements of the Parties with respect to any matter covered or mentioned in this Contract and no prior agreements or understandings pertaining to any such matters shall be effective for any purpose.

19.2 Modification. No provisions of this Contract, including this provision, may be amended or added to except by agreement in writing signed by the Parties or their respective successors in interest.

19.3 Full Force and Effect. Any provision of this Contract, which is declared invalid, void or illegal, shall in no way affect, impair, or invalidate any other provision hereof and such other provisions shall remain in full force and effect.

19.4 Assignment. The Contractor shall not transfer or assign, in whole or in part, any or all of its obligations and rights hereunder without the prior written consent of the City. In the event the City consents to any such assignment or transfer, such consent shall in no way release the Contractor from any of its obligations or liabilities under this Contract.

19.5 Successors In Interest. Subject to the preceding Subsection, this Contract shall be binding upon and inure to the benefit of the Parties' successors in interest, heirs and assigns.

19.6 Attorney Fees. In the event the City or the Contractor defaults on the performance of any terms in this Contract, and the Contractor or City places the enforcement of the Contract or any part thereof, or the collection of any monies due, or to become due hereunder, or recovery of possession of any belongings, in the hands of an attorney, or file suit upon the same, each Party shall pay all its own attorneys' fees, costs and expenses. The venue for any dispute related to this Contract shall be King County, Washington.

19.7 No Waiver. Failure of the City to declare any breach or default immediately upon occurrence thereof, or delay in taking any action in connection with, shall not waive such breach or default. Failure of the City to declare one breach or default does not act as a waiver of the City's right to declare another breach or default.

19.8 Governing Law. This Contract shall be made in and shall be governed by and interpreted in accordance with the laws of the State of Washington.

19.9 Authority. Each individual executing this Contract on behalf of the City and Contractor represents and warrants that such individuals are duly authorized to execute and deliver this Contract on behalf of the Contractor or City.

19.10 Notices. Any notices required to be given by the City to Contractor or by the Contractor to the City shall be delivered to the Parties at the addresses set forth below. Any notices may be delivered personally to the addressee of the notice or may be deposited in the United States mail, postage prepaid, to the address set forth herein. Any notice so posted in the United States mail shall be deemed received three (3) days after the date of mailing.

19.11 Captions. The respective captions of the Sections of this Contract are inserted for convenience of reference only and shall not be deemed to modify or otherwise affect in any respect any of the provisions of this Contract.

19.12 Performance. Time is of the essence of this Contract and each and all of its provisions in which performance is a factor. Adherence to completion dates is essential to the Contractor's performance of this Contract.

19.13 Compliance with Ethics Code. If a violation of the City's Ethics Resolution No. 91-54, as amended, occurs as a result of the formation and/or performance of this Contract, this Contract may be rendered null and void, at the City's option.

19.14 Conflicting Provisions. In the event of a conflict between the terms and provisions of any of the Contract Documents, the Mayor or his or her designee shall issue an interpretation of the controlling document, which interpretation shall be final and binding.

DATED the day and year set forth above.

CITY OF FEDERAL WAY

By:

Jim Ferrell, Mayor
33325 8th Avenue South
Federal Way, WA 98003-6325

ATTEST:

City Clerk, Stephanie Courtney, CMC

APPROVED AS TO FORM:

City Attorney, J. Ryan Call

[CONTRACTOR'S NAME:]

By: _____
(Signature)

(Name)

(Address)

(Phone)

[Individual Notary]

STATE OF WASHINGTON)
) ss.
COUNTY OF _____)

On this day personally appeared before me, _____, to me known to be the individual described in and who executed the foregoing instrument, and on oath swore that he/she/they executed the foregoing instrument as his/her/their free and voluntary act and deed for the uses and purposes therein mentioned.

GIVEN my hand and official seal this _____ day of _____, 20__.

(typed/printed name of notary)
Notary Public in and for the State of Washington.
My commission expires _____

[Corporate Notary]

STATE OF WASHINGTON)
) ss.
COUNTY OF _____)

On this day personally appeared before me _____, to me known to be the _____ of _____ that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he/she was authorized to execute said instrument and that the seal affixed, if any, is the corporate seal of said corporation.

GIVEN my hand and official seal this _____ day of _____, 20__.

(typed/printed name of notary)
Notary Public in and for the State of Washington.
My commission expires _____

**EXHIBIT B
CITY OF FEDERAL WAY
CONTRACT CHANGE ORDER AGREEMENT**
Federal Way Panther Lake Trail, 550 SW Campus Drive, Federal Way, WA RFB # 18-010

PROJECT NUMBER

CHANGE ORDER NUMBER

EFFECTIVE DATE

PROJECT TITLE

CONTRACTOR

SUMMARY OF PROPOSED CHANGES:

The time provided for completion in the Contract is Unchanged Increased Decreased by _____ Calendar Days. This Document shall become an Amendment to the Contract and all provisions of the Contract not amended herein will apply to this Change Order.

Will this change affect expiration or extent of Insurance coverage?

Yes No

If "Yes" Will the Policies Be Extended?

Yes No

PRICE CHANGE LUMP SUM: INCREASE \$ _____
UNIT PRICE:

DECREASE \$ _____

THE ITEMS ARE APPROXIMATE OR ESTIMATED QUANTITIES INVOLVED IN THIS CHANGE

ITEM NO.	ITEM	QTY.	UNIT PRICE	ADD OR DELETE
_____	_____	_____	_____	_____

TOTAL NET CONTRACT:

INCREASE \$ _____

DECREASE \$ _____

STATEMENT:

Payment for the above work will be in accordance with applicable portions of the standard specifications, and with the understanding that all materials, workmanship and measurements shall be in accordance with the provisions of the standard specifications, the contract plans, and the special provisions governing the types of construction.

DEPARTMENT RECAP TO DATE:

ORIGINAL CONTRACT AMOUNT
PREVIOUS CHANGE ORDERS
THIS CHANGE ORDER
***ADJUSTMENTS**
NEW CONTRACT AMOUNT

\$ _____
\$ _____
\$ _____
\$ _____
\$ _____

CONTRACTOR'S SIGNATURE _____ DATE

DIRECTOR'S SIGNATURE _____ DATE

**EXHIBIT C
CONTRACTOR'S RETAINAGE AGREEMENT**

City of Federal Way
33325 8th Avenue South
Federal Way, WA 98003-6325
253-835-7000

Bid/Contract Number

IDENTIFICATION AND DESCRIPTION

Project Title _____
Contractor _____ Representative _____
Bid No. _____ Date _____ Administering Department _____
City Representative _____ Funding Source _____
Project Authority _____

RETAINAGE FORMULA

In accordance with applicable State Statutes, the following provisions will be made for the disposition of the retainage held for investment:

1. All investments selected below are subject to City approval.
2. Retainage under this agreement will be held in escrow by the _____ (referred to herein as the Bank), the terms of which are specified by separate escrow agreement. The cost of the investment program and the risk thereof is to be borne entirely by the contractor.
3. The final disposition of the contract retainage will be made in accordance with applicable statutes.

CONTRACTOR'S INSTRUCTIONS

Pursuant to RCW 60.28.010 I hereby notify the City of Federal Way of my instructions **to invest** **not to invest** the retainage withheld under the terms of this contract. If the investment option is selected, please provide the following information:

Name of Bank, Mutual Fund, or Savings & Loan Association: _____
Address: _____
Account #: _____ Contact Person: _____
Contractor: _____ Date: _____
By: _____ Title: _____
Address: _____ Phone: _____
Fed ID #: _____ Est. Completion Date: _____

CITY APPROVAL

Approval of Investment Program and Retainage Agreement

Finance Director Date

CERTIFICATION FOR RELEASE OF CONTRACT RETAINAGE

Contract No. _____ Project Title: _____

I hereby certify, as Contract Administrator for this Contract representing the City of Federal Way, that all work required by the above cited contract was completed on _____ and final acceptance by the City was granted on _____.

I also certify that no liens have been received within 30 days from the above date from any person, persons, mechanics, subcontractors or materialman who has performed any work or provided any material of subject contract.

Contract Administrator

Director of Administering Department

Also, please find attached certifications by the applicable state agencies of the receipt of: 1) Washington State Business Taxes (Washington State Dept. of Revenue); 2) Industrial Insurance Premiums (State Dept. of Labor & Industries); and 3) Employment Security, Unemployment Insurance Premiums (State of Washington Employment Security Dept.)

EXHIBIT D
RETAINAGE BOND TO CITY OF FEDERAL WAY
Federal Way Panther Lake Trail, 550 SW Campus Drive, Federal Way, WA RFB # 18-010

KNOW ALL PERSONS BY THESE PRESENTS that we, the undersigned, _____, as principal ("Principal"), and _____, a Corporation organized and existing under the laws of the State of _____, as a surety Corporation, and qualified under the laws of the State of Washington to become surety upon bonds of Contractors with Municipal Corporations, as surety ("Surety"), are jointly and severally held and firmly bonded to the City of Federal Way ("City") in the penal sum of: _____ (\$ _____) for the payment of which sum we bind ourselves and our successors, heirs, administrators or personal representatives, as the case may be.

A. This obligation is entered into in pursuant to the statutes of the State of Washington and the ordinances, regulations, standards and policies of the City, as now existing or hereafter amended or adopted.

B. Pursuant to proper authorization, the Mayor is authorized to enter into a certain contract with the Principal, providing for the _____ Project, which contract is incorporated herein by this reference ("Contract"), and

C. Pursuant to State law, Chapter 60.28 RCW, the City is required to reserve from the monies earned by the Principal pursuant to the contract, a sum not to exceed five percent (5%), said sum to be retained by the City as a trust fund for the protection and payment of any person or persons, mechanic, subcontractor or materialmen who shall perform any labor upon such contract or the doing of such work, and all persons who shall supply such person or persons or subcontractors with provisions and supplies for the carrying on of such work, and the State with the respect to taxes imposed pursuant to Title 82 RCW which may be due from said Principal. Every person performing labor or furnishing supplies towards completion of said improvement or work shall have a lien on said monies so reserved, provided that such notice of the lien of such claimant shall be given in the manner and within the time provided in RCW 39.08.030 as now existing and in accordance with any amendments that may hereafter be provided thereto; and

D. State law further provides that with the consent of the City, the Principal may submit a bond for all or any portion of the amount of funds retained by the public body in a form acceptable to the public body conditioned upon such bond any proceeds therefrom being made subject to all claims and liens and in the same manner and priority as set forth retained percentages pursuant to Chapter 60.28 RCW; and

E. The Principal has accepted, or is about to accept, the Contract, and undertake to perform the work therein provided for in the manner and within the time set forth, for the amount of \$ _____; and

F. The City is prepared to release any required retainage money previously paid by the Principal prior to acceptance and successful operation and fulfillment of all other terms of said contract upon being indemnified by these presents,

NOW, THEREFORE, if the Principal shall perform all the provisions of the Contract in the manner and within the time period prescribed by the City, or within such extensions of time as may be granted under the Contract, and shall pay all laborers, mechanics, subcontractors and material men or women, and all persons who shall supply the Principal or subcontractors with provisions and supplies for the carrying on of said work, and if the Principal shall pay to the State all taxes imposed pursuant to Title 82 RCW which may be due from such Principal as a result of this contract then and in the event this obligation shall be void; but otherwise it shall be and remain in full force and effect.

And the Surety, for value received, hereby further stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any change, extension of time, alterations or additions to the terms of the Contract or to the Work.

The Surety hereby agrees that modifications and changes may be made in the terms and provisions of the Contract without notice to Surety, and any such modifications or changes increasing the total amount to be paid the Principal shall automatically increase the obligation of the Surety on this Retainage Bond in a like amount, such increase, however, not to exceed twenty-five percent (25%) of the original amount of this bond without consent of the Surety.

Within forty-five (45) days of receiving notice that the Principal has defaulted on all or part of the terms of the Contract, the Surety shall make written commitment to the City that it will either: (a) cure the default itself within a reasonable time period, or (b) tender to the City, the amount necessary for the City to remedy the default, including legal fees incurred by the City, or (c) in the event that Surety's evaluation of the dispute is not complete or in the event the Surety disputes the City's claim of default, the Surety shall notify the City of its finding and its intent, if any, to interplead. The Surety shall then fulfill its obligations under this bond, according to the option it has elected. Should Surety elect option (a) to cure the default, the penal sum of the Bond shall be reduced in an amount equal to the costs actually incurred by the Surety in curing the default. If the Surety elects option (b), then upon completion of the necessary work, the City shall notify the Surety of its actual costs. The City shall return, without interest, any overpayment made by the Surety and the Surety shall pay to the City any actual costs which exceed the City estimate, limited to the bond amount. Should the Surety elect option (c), the Parties shall first complete participation in mediation, described in the below paragraph, prior to any interplead action.

In the event a dispute should arise between the Parties to this Bond with respect to the City's declaration of default by the Principal, the Parties agree to participate in at least four hours of mediation in accordance to resolve said dispute. The Parties shall proportionately share in the cost of the mediation. The mediation shall be administered by the Judicial Dispute Resolution, LLC, 1425 Fourth Avenue, Suite 300, Seattle, Washington 98101. The Surety shall not interplead prior to completion of the mediation.

The parties have executed this instrument under their separate seals this ____ day of _____, 20____, the name and corporate seal of each corporate party hereto affixed, and these presents duly signed by its undersigned representatives pursuant to authority of its governing body.

CORPORATE SEAL:

PRINCIPAL

By: _____

Title: _____

Address: _____

CORPORATE SEAL:

SURETY

By: _____

Attorney-in-Fact
(Attach Power of Attorney)

Title: _____

Address: _____

CERTIFICATES AS TO CORPORATE SEAL

I hereby certify that I am the (Assistant) Secretary of the Corporation named as Principal in the within bond; that _____, who signed the said bond on behalf of the Principal, was _____ of said Corporation; that I know his or her signature thereto is genuine, and that said bond was duly signed, sealed, and attested for and in behalf of said Corporation by authority of its governing body.

Secretary of Assistant Secretary

I hereby certify that I am the (Assistant) Secretary of the Corporation named as Surety in the within bond; that _____, who signed the said bond on behalf of the Surety, was _____ of the said Corporation; that I know his or her signature thereto is genuine, and that said bond was duly signed, sealed, and attested for and in behalf of said Corporation by authority of its governing body.

Secretary of Assistant Secretary

APPROVED AS TO FORM:

J. Ryan Call, City Attorney

EXHIBIT E

**NOTICE TO LABOR UNIONS OR OTHER EMPLOYMENT ORGANIZATIONS
NONDISCRIMINATION IN EMPLOYMENT**

TO: ALL EMPLOYEES

AND TO: _____
(Name of Union or Organization)

The undersigned currently holds contract(s) with _____ involving funds or credit of the City of Federal Way, Washington, or (a) subcontract(s) with a prime contractor holding such contract(s).

You are advised that, under the provisions of the above contract(s) or subcontract(s) and in accordance with Section 202 of Executive Order 11246 dated September 24, 1965, the undersigned is obliged not to discriminate against any employee or applicant of employment because of race, color, creed or national origin. This obligation not to discriminate in employment includes, but is not limited to, the following:

EMPLOYMENT, UPGRADING, TRANSFER OR DEMOTION

RECRUITMENT AND ADVERTISING

RATES OF PAY OR OTHER FORMS OF COMPENSATION

SELECTION FOR TRAINING INCLUDING APPRENTICESHIP, LAYOFF OR TERMINATION

This notice is furnished to you pursuant to the provisions of the above contract(s) or subcontractor(s) and Executive Order 11246.

Copies of this Notice will be posted by the undersigned in conspicuous places available to employees or applicants for employment.

Complaints may be submitted to: _____

City of Federal Way
33325 8th Avenue South
Federal Way, WA 98003

(Contractor or subcontractor)

Date

EXHIBIT F
CERTIFICATE OF INSURANCE

EXHIBIT G

**CITY OF FEDERAL WAY
PERFORMANCE/PAYMENT BOND**

KNOW ALL PEOPLE BY THESE PRESENTS:

We, the undersigned _____, ("Principal") and _____
_____, the undersigned corporation organized and existing under the laws
of the State of _____ and legally doing business in the State of Washington as a surety ("Surety"),
are held and firmly bonded unto the City of Federal Way, a Washington municipal corporation ("City") in the
penal sum of _____ Dollars and no/100 (\$_____) for the
payment of which we firmly bind ourselves and our legal representatives, heirs, successors and assigns,
jointly and severally.

This obligation is entered into an Agreement with the City dated _____, 20__ for _____
_____.

NOW, THEREFORE, if the Principal shall perform all the provisions of the Agreement in the manner and within
the time period prescribed by the City, or within such extensions of time as may be granted under the
Agreement, and shall pay all laborers, mechanics, subcontractors and material men or women, and all
persons who shall supply the Principal or subcontractors with provisions and supplies for the carrying on of
said work, and shall hold the City, their officials, agents, employees and volunteers harmless from any loss or
damage occasioned to any person or property by reason of any carelessness or negligence on the part of the
Principal, or any subcontractor in the performance of said work, and shall indemnify and hold the City
harmless from any damage or expense by reason of failure of performance as specified in the Agreement
within a period of one (1) year after its final acceptance thereof by the City, then and in the event this
obligation shall be void; but otherwise, it shall be and remain in full force and effect.

And the Surety, for value received, hereby further stipulates and agrees that no change, extension of time,
alteration or addition to the terms of the Agreement or to the work to be performed thereunder or the
specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby
waive notice of any change, extension of time, alterations or additions to the terms of the Agreement or to
the Work.

The Surety hereby agrees that modifications and changes may be made in terms and provisions of the
Agreement without notice to Surety, and any such modifications or changes increasing the total amount to be
paid the Principal shall automatically increase the obligation of the Surety on this Performance Bond in a like
amount, such increase, however, not to exceed twenty-five percent (25%) of the original amount of this
bond without the consent of the Surety.

Within forty-five (45) days of receiving notice that the Principal has defaulted on all or part of the terms of
the Agreement, the Surety shall make a written commitment to the City that it will either: (a) cure the default
itself within a reasonable time period, or (b) tender to the city, the amount necessary for the City to remedy
the default, including legal fees incurred by the City, or (c) in the event that Surety's evaluation of the dispute
is not complete or in the event the Surety disputes the City's claim of default, the Surety shall notify the City
of its finding and its intent, if any, to interplead. The Surety shall then fulfill its obligations under this bond,
according to the option it has elected. Should Surety elect option (a) to cure the default, the penal sum of the
Bond shall be reduced in an amount equal to the costs actually incurred by the Surety in curing the default. If
the Surety elects option (b), then upon completion of the necessary work, the City shall notify the Surety of
its actual costs. The City shall return, without interest, any overpayment made by the Surety and the Surety
shall pay to the City any actual costs which exceed the City estimate, limited to the bond amount. Should the
Surety elect option (c), the Parties shall first complete participation in mediation, described in the below
paragraph, prior to any interplead action.

In the event a dispute should arise between the Parties to this Bond with respect to the City's declaration of default by the Principal, the Parties agree to participate in at least four hours of mediation in accordance to resolve said dispute. The Parties shall proportionately share in the cost of the mediation. The mediation shall be administered by the Judicial Dispute Resolution, LLC, 1425 Fourth Avenue, Suite 300, Seattle, Washington 98101. The Surety shall not interplead prior to completion of the mediation.

DATED this ___ day of _____, 20__.

CORPORATE SEAL OF PRINCIPAL:

PRINCIPAL

By: _____
(Name of Person Executing Bond)

Its: _____
(Title)

(Address)

(Phone)

CERTIFICATE AS TO CORPORATE SEAL

I hereby certify that I am the (Assistant) Secretary of the Corporation named as Principal in the within bond; that _____, who signed the said bond on behalf of the Principal, was _____ of the said Corporation; that I know his or her signature thereto is genuine, and that said bond was duly signed, sealed, and attested for and in behalf of said Corporation by authority of its governing body.

Secretary of Assistant Secretary

CORPORATE SEAL OF SURETY:

SURETY

By: _____
Attorney-in-Fact
(Attach Power of Attorney)

(Name of Person Executing Bond)

APPROVED AS TO FORM:

City Attorney

(Address)

(Phone)

EXHIBIT H
TITLE VI ASSURANCES

During the performance of this contract, the contractor/consultant, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. Compliance with Regulations

The contractor shall comply with the Regulations relative to non-discrimination in federally assisted programs of United States Department of Transportation (USDOT), Title 49, Code of Federal Regulations, part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

2. Non-discrimination

The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, sex, or national origin in the selection and retention of sub-contractors, including procurement of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Exhibit E of the Regulations.

3. Solicitations for Sub-contracts, Including Procurement of Materials and Equipment

In all solicitations either by competitive bidding or negotiations made by the contractor for work to be performed under a sub-contract, including procurement of materials or leases of equipment, each potential sub-contractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to non-discrimination on the grounds of race, color, sex, or national origin.

4. Information and Reports

The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the contracting agency or the appropriate federal agency to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to WSDOT or the USDOT as appropriate, and shall set forth what efforts it has made to obtain the information.

5. Sanctions for Non-compliance

In the event of the contractor's non-compliance with the non-discrimination provisions of this contract, the contracting agency shall impose such contract sanctions as it or the USDOT may determine to be appropriate, including, but not limited to: Withholding of payments to the contractor under the contract until the contractor complies, and/or; Cancellation, termination, or suspension of the contract, in whole or in part

6. Incorporation of Provisions

The contractor shall include the provisions of paragraphs (1) through (5) in every sub-contract, including procurement of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The contractor shall take such action with respect to any sub-contractor or procurement as the contracting agency or USDOT may direct as a means of enforcing such provisions including sanctions for non-compliance. Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a sub-contractor or supplier as a result of such direction, the contractor may request WSDOT enter into such litigation to protect the interests of the state and, in addition, the contractor may request the USDOT enter into such litigation to protect the interests of the United States.

APPENDIX A

TECHNICAL SPECIFICATIONS

The following list of Divisions 1-33 comprise the Technical Specifications

DIVISION 1

Summary	011000
Project Management and Coordination	013100
Construction Progress Documentation	013200
Submittal Procedures	013300
Quality Requirements	014000
References	014200
Temporary Facilities and Controls	015000
Product Requirements	016000
Execution	017300
Construction Waste Management and Disposal	017419
Closeout Procedures	017700
Project Record Documents	017810
Operation and Maintenance Data	017820



DIVISION 3

Pervious Concrete	033110
-------------------	--------

SECTION 011000

SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes:

1. Project information.
2. Work by Owner.
3. Owner-furnished products.
4. Access to site.
5. Work restrictions.
6. Specification and drawing conventions.
7. Permits
8. Miscellaneous provisions.

- B. Related Section:

1. Division 1 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 PROJECT INFORMATION

1. As indicated on the drawing cover sheet.

1.4 WORK BY OTHERS:

- A. General: Cooperate fully with other contractors or Owner's own forces so work may be carried out smoothly, without interfering with or delaying work under this Contract or work by Owner. Coordinate the Work of this Contract with work performed by Owner. The site work contractor will be providing the grading and rock undercourse material for all pervious paving.

1.5 OWNER-FURNISHED PRODUCTS

- A. Owner will furnish products indicated. The Work includes receiving, unloading, handling, storing, protecting, and installing Owner-furnished products.
- B. Owner-Furnished Products:

1. Pedestrian Truss Bridge

1.6 ACCESS TO SITE

- A. General: Contractor shall have full use of Project site for construction operations.
- B. Use of Site: Limit use of Project site to work in areas agreed upon with the Owner. Do not disturb portions of Project site beyond those areas.
 - 1. Driveways, Walkways and Entrances: Keep driveways, parking lots, and entrances serving nearby public and private entities clear and available at all times. Do not use these areas for parking or storage of materials unless specifically indicated on the drawings.
 - a. Schedule deliveries to minimize use of streets and public right of ways.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.7 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
 - 1. Comply with limitations on use of public streets and other requirements of authorities having jurisdiction.
- B. Coordinate work on or across King County Aquatic Center property with the City of Federal Way.
- C. On-Site Work Hours: As allowed by the City of Federal Way city code.
- D. Hours for Utility Shutdowns: Do not interrupt utilities serving facilities occupied by Owner or others except as agreed by the Architect and with 72 hours' notice.
- E. Controlled Substances: Use of tobacco products and controlled substances on the Project site or the entire park is not permitted.

1.8 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 - 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 1 General Requirements: Requirements of Sections in Division 1 apply to the Work of all Sections in the Specifications.

- C. Drawing Coordination: Requirements for materials and products identified on the Drawings are described in detail in the Specifications. One or more of the following are used on the Drawings to identify materials and products:
1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.
 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

1.9 PERMIT REQUIREMENTS

- A. The City has applied for and has paid for the following permits, the contractor shall sign for and pick up:
1. Clearing and Grading
 2. Building

Contractor shall apply, obtain and pay for all other permits as required for completion of their portion of the project.

1.10 MISCELLANEOUS PROVISIONS

- A. Daily clean up: Contractor shall clean building interior at the end of each day to level required by the Owner for the next day's operations.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 013100

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General project coordination procedures.
 - 2. Key personnel.
 - 3. Coordination drawings.
 - 4. Requests for Information (RFIs).
 - 5. Project meetings.
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.
- C. Related Sections:
 - 1. Division 1 Section "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
 - 2. Division 1 Section "Execution Requirements" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 3. Division 1 Section "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

- A. RFI: Request from Owner, Architect, or Contractor seeking information from each other during construction.

1.4 GENERAL PROJECT COORDINATION PROCEDURES

- A. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections, that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 2. Coordinate installation of different components with other contractors to ensure maximum performance and accessibility for required maintenance, service, and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's construction schedule.
 2. Preparation of the schedule of values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Project closeout activities.
 8. Startup and adjustment of systems.
 9. Project closeout activities.
 10. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Deliver items specifically identified to the Owner, legally dispose of the other items.

1.5 KEY PERSONNEL

- A. Key Personnel Names: Within **15** days of notice to proceed, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and email addresses. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.
1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.6 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
1. Project name.
 2. Project number.
 3. Date.
 4. Name of Contractor.
 5. Name of Architect.
 6. RFI number, numbered sequentially.
 7. RFI subject.
 8. Specification Section number and title and related paragraphs, as appropriate.
 9. Drawing number and detail references, as appropriate.
 10. Field dimensions and conditions, as appropriate.
 11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 12. Contractor's signature.
 13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for coordination information already indicated in the Contract Documents.
 - d. Requests for adjustments in the Contract Time or the Contract Sum.
 - e. Incomplete RFIs or inaccurately prepared RFIs.
 2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 1 Section "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 5 calendar days of receipt of the RFI response.

- D. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within five calendar days if Contractor disagrees with response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Include the following:
 - 1. Project name.
 - 2. Name of contractor originating RFI.
 - 3. RFI number including RFIs that were dropped and not submitted.
 - 4. RFI description.
 - 5. Date the RFI was submitted.
 - 6. Date Architect's response was received.
 - 7. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

1.7 PROJECT MEETINGS

- A. Preconstruction Conference: Architect will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect.
 - 1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 2. Contractor shall schedule required pre-construction meetings with the City of Federal Way as required for permit requirements.
 - 3. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Lines of communications.
 - f. Procedures for processing field decisions and Change Orders.
 - g. Procedures for RFIs.
 - h. Procedures for testing and inspecting.
 - i. Procedures for processing Applications for Payment.
 - j. Distribution of the Contract Documents.
 - k. Submittal procedures.
 - l. Preparation of record documents.
 - m. Work restrictions.
 - n. Working hours.
 - o. Responsibility for temporary facilities and controls.
 - p. Construction waste management and recycling.
 - q. Parking availability.
 - r. Office, work, and storage areas.
 - s. Equipment deliveries and priorities.
 - t. First aid.
 - u. Security.

- v. Progress cleaning.
 - 4. Minutes: The Architect will record and distribute meeting minutes.
- B. Progress Meetings: Conduct progress meetings at regularly weekly intervals as agreed upon by the Contractor, the Architect and the Owner between the hours of 7 a.m. to 3 p.m.
- 1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Progress cleaning.
 - 10) Quality and work standards.
 - 11) Status of correction of deficient items.
 - 12) Field observations.
 - 13) Status of RFIs.
 - 14) Status of proposal requests.
 - 15) Pending changes.
 - 16) Status of Change Orders.
 - 17) Pending claims and disputes.
 - 18) Documentation of information for payment requests.
 - 3. Minutes: Architect shall record significant discussions and agreements achieved. Distribute the meeting minutes to all attendees.
 - 4. Schedule:

- a. **Schedule Updating:** Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 013200

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Start-up construction schedule.
 - 2. Contractor's construction schedule.
 - 3. Daily construction reports.
 - 4. Material location reports.
 - 5. Field condition reports.
 - 6. Special reports.
- B. Related Sections:
 - 1. Division 1 Section "Summary of Multiple Contracts" for preparing a combined Contractor's Construction Schedule.
 - 2. Division 1 Section "Submittal Procedures" for submitting schedules and reports.
 - 3. Division 1 Section "Quality Requirements" for submitting a schedule of tests and inspections.

1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.
- B. Cost Loading: The allocation of the schedule of values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum, unless otherwise approved by Architect.
- C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of the Project.

- D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- E. Event: The starting or ending point of an activity.
- F. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
 - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
 - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- G. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

1.4 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 - 1. Electronic file in original program and in PDF electronic format.
- B. Start-up construction schedule.
 - 1. Approval of cost-loaded start-up construction schedule will not constitute approval of schedule of values for cost-loaded activities.
- C. Start-up Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for activities.
- D. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
- E. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description, cost and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
 - 1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
 - 2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
 - 3. Total Float Report: List of all activities sorted in ascending order of total float.
- F. Daily Construction Reports: Submit at weekly intervals.
- G. Material Location Reports: Submit at monthly intervals.
- H. Field Condition Reports: Submit at time of discovery of differing conditions.
- I. Special Reports: Submit at time of unusual event.

1.5 QUALITY ASSURANCE

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work. The Architect shall review the project schedule only for end date compliance and for compliance with the phasing documents. This schedule is for the contractor's use only, and is not a part of the contract documents. Additional mobilizations, shorter or longer floats and the like, that are or are not shown on the Contractor's schedule are not cause for claims by the Contractor to the Owner.
- B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of final completion.
 - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- C. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
 - 1. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 - 2. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
 - 3. Startup and Testing Time: Include not less than 15 days for startup and testing.
 - 4. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
 - 5. Punch List and Final Completion: Include not more than 30 days for punch list and final completion.
- D. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
 - 1. Phasing: Arrange list of activities on schedule by phase.
 - 2. Work under More Than One Contract: Include a separate activity for each contract.
 - 3. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Partial occupancy before Substantial Completion.
 - e. Use of premises restrictions.

- f. Provisions for future construction.
 - g. Seasonal variations.
 - h. Environmental control.
4. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
- a. Structural completion.
 - b. Permanent space enclosure.
 - c. Completion of mechanical installation.
 - d. Completion of electrical installation.
 - e. Substantial Completion.
- E. Recovery Schedule: When periodic update indicates the Work is 10 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. CPM Schedule: Submit a comprehensive, fully developed, horizontal CPM-type, Contractor's construction schedule within 15 calendar days of date established for the Notice of Award. Base schedule on the start-up construction schedule and additional information received since the start of Project.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

2.3 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
 - 1. List of subcontractors at Project site.
 - 2. List of separate contractors at Project site.
 - 3. Approximate count of personnel at Project site.
 - 4. Equipment at Project site.
 - 5. Material deliveries.
 - 6. High and low temperatures and general weather conditions, including presence of rain or snow.
 - 7. Accidents.
 - 8. Meetings and significant decisions.
 - 9. Unusual events (refer to special reports).
 - 10. Stoppages, delays, shortages, and losses.
 - 11. Emergency procedures.
 - 12. Orders and requests of authorities having jurisdiction.
 - 13. Supplemental Instructions and Construction Change Directives received.
 - 14. Services connected and disconnected.
 - 15. Equipment or system tests and startups.

- B. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.4 SPECIAL REPORTS

- A. General: Submit special reports directly to Owner within one day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities.
 - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 - 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 - 3. As the Work progresses, indicate final completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Architect, Owner, separate contractors, and other parties identified by Contractor with a need-to-know schedule responsibility.
 - 1. Post copies in Project meeting rooms and temporary field offices.
 - 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION

SECTION 013300

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Sections:
 - 1. Division 1 Section "Project Management and Coordination" for submitting schedules and reports, including Contractor's construction schedule.
 - 2. Division 1 Section "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
 - 3. Division 1 Section "Operation and Maintenance Data" for submitting operation and maintenance manuals.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as action submittals.
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as informational submittals.
- C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.
- D. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.4 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or modifications to submittals noted by the Architect and additional time for handling and reviewing submittals required by those corrections.
1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
 2. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
 3. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Submittal category: Action, informational.
 - d. Name of subcontractor.
 - e. Description of the Work covered.
 - f. Scheduled date for Architect's final release or approval.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: Electronic copies of CAD Drawings of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.
1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings.
 - a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
 - b. Digital Drawing Software Program: The Contract Drawings are available in AutoCAD 2010-2015 formats.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the

Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 10 calendar days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Resubmittal Review: Allow 5 days for review of each resubmittal.
 4. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 10 days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.
- D. Identification and Information: Place a permanent label or title block on each paper copy submittal item for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Include the following information for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Contractor.
 - e. Name of subcontractor.
 - f. Name of supplier.
 - g. Name of manufacturer.
 - h. Submittal number or other unique identifier, including revision identifier.
 - i. Number and title of appropriate Specification Section.
 - j. Drawing number and detail references, as appropriate.
 - k. Location(s) where product is to be installed, as appropriate.
 - l. Other necessary identification.
- E. Identification and Information: Identify and incorporate information in each electronic submittal file as follows:
1. Assemble complete submittal package into a single indexed file with links enabling navigation to each item.
 2. Name file with submittal number or other unique identifier, including revision identifier.
 3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
 4. Include the following information on an inserted cover sheet:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name of Contractor.
 - e. Name of firm or entity that prepared submittal.
 - f. Name of subcontractor.
 - g. Name of supplier.
 - h. Name of manufacturer.
 - i. Number and title of appropriate Specification Section.

- j. Drawing number and detail references, as appropriate.
 - k. Location(s) where product is to be installed, as appropriate.
 - l. Related physical samples submitted directly.
 - m. Other necessary identification.
- 5. Include the following information as keywords in the electronic file metadata:
 - a. Project name.
 - b. Number and title of appropriate Specification Section.
 - c. Manufacturer name.
 - d. Product name.
- F. Options: Identify options requiring selection by the Architect.
- G. Deviations: Identify deviations from the Contract Documents on submittals.
- H. Transmittal: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will discard submittals received from sources other than Contractor.
 - 1. Transmittal Form: Provide locations on form for the following information:
 - a. Project name.
 - b. Date.
 - c. Destination (To:).
 - d. Source (From:).
 - e. Names of subcontractor, manufacturer, and supplier.
 - f. Category and type of submittal.
 - g. Submittal purpose and description.
 - h. Specification Section number and title.
 - i. Indication of full or partial submittal.
 - j. Drawing number and detail references, as appropriate.
 - k. Transmittal number.
 - l. Submittal and transmittal distribution record.
 - m. Remarks.
 - n. Signature of transmitter.
 - 2. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- I. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 - 1. Note date and content of previous submittal.
 - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are marked with approval notation from Architect.
- J. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

- K. Use for Construction: Use only final submittals that are marked with approval notation from Architect.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
 - 1. Submit electronic submittals via email as PDF electronic files (preferred). Paper copies will be accepted if no other option is available.
 - a. Architect will return one annotated file. Annotate and retain one copy of file as an electronic Project record document file.
 - 2. Action Submittals: Submit four paper copies of each submittal plus the number requested back, unless otherwise indicated.
 - 3. Informational Submittals: Submit four paper copies of each submittal plus the number requested back, unless otherwise indicated
 - 4. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 1 Section "Closeout Procedures."
 - 5. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 - a. Provide a digital signature with digital certificate on electronically-submitted certificates and certifications where indicated.
 - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.
 - 6. Test and Inspection Reports Submittals: Comply with requirements specified in Division 1 Section "Quality Requirements."
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 - 1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
 - 2. Mark each copy of each submittal to show which products and options are applicable.
 - 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.

4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams showing factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 5. Submit Product Data before or concurrent with Samples.
 6. Submit Product Data in the following format:
 - a. PDF electronic file, or:
 - b. Four paper copies of Product Data plus number of copies requested to be returned.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 2. Submit Shop Drawings in the following format:
 - a. PDF electronic file.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of applicable Specification Section.
 3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit two full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return one submittal with options selected.
5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit two sets of Samples. Architect will retain two Sample sets; remainder will be returned.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- E. Contractor's Construction Schedule: Comply with requirements specified in Division 1 Section "Construction Progress Documentation."
- F. Application for Payment: Comply with requirements specified in Division 1 Section "Payment Procedures."
- G. Schedule of Values: Comply with requirements specified in the project manual.
- H. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
 1. Name, address, and telephone number of entity performing subcontract or supplying products.
 2. Number and title of related Specification Section(s) covered by subcontract.
 3. Drawing number and detail references, as appropriate, covered by subcontract.
 4. Submit subcontract list in the following format:
 - a. PDF electronic file.
- I. Coordination Drawings: Comply with requirements specified in Division 1 Section "Project Management and Coordination."
- J. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

- K. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on American Welding Society (AWS) forms. Include names of firms and personnel certified.
- L. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- M. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- N. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- O. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- P. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- Q. Product Test Reports: Submit written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- R. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - 1. Name of evaluation organization.
 - 2. Date of evaluation.
 - 3. Time period when report is in effect.
 - 4. Product and manufacturers' names.
 - 5. Description of product.
 - 6. Test procedures and results.
 - 7. Limitations of use.
- S. Schedule of Tests and Inspections: Comply with requirements specified in Division 1 Section "Quality Requirements."
- T. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- U. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

- V. Field Test Reports: Submit reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- W. Maintenance Data: Comply with requirements specified in Division 1 Section "Operation and Maintenance Data."
- X. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 - 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Project Closeout and Maintenance/Material Submittals: Refer to requirements in Division 1 Section "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

- A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action or will provide an equivalent transmittal form.
- C. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- D. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.
- E. Incomplete submittals are not acceptable, will be considered nonresponsive, and will be returned without review.
- F. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION

SECTION 014000

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
- C. Related Sections:
 - 1. Division 1 Section "Construction Progress Documentation" for developing a schedule of required tests and inspections.
 - 2. Divisions 2 through 44 Sections for specific test and inspection requirements.

1.3 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Mockups: Full size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

1. Integrated Exterior Mockups: Mockups of the exterior envelope erected separately from the building but on the project site, consisting of multiple products, assemblies and subassemblies.
 2. Room Mockups: Mockups of typical interior spaces complete with wall, floor, and ceiling finishes, doors, windows, millwork, casework, specialties, furnishings and equipment, and lighting.
- D. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- E. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.
- F. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- H. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade or trades.
- I. Experienced: If not overridden by specific requirements in divisions 2-44: When used with an entity or individual, "experienced" means having successfully completed a minimum of five > previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 REPORTS AND DOCUMENTS

- A. **Manufacturer's Technical Representative's Field Reports:** Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of technical representative making report.
 2. Statement on condition of substrates and their acceptability for installation of product.
 3. Statement that products at Project site comply with requirements.
 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 6. Statement whether conditions, products, and installation will affect warranty.
 7. Other required items indicated in individual Specification Sections.
- B. **Factory-Authorized Service Representative's Reports:** Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of factory-authorized service representative making report.
 2. Statement that equipment complies with requirements.
 3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 4. Statement whether conditions, products, and installation will affect warranty.
 5. Other required items indicated in individual Specification Sections.
- C. **Permits, Licenses, and Certificates:** For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.6 QUALITY ASSURANCE

- A. **General:** Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. **Manufacturer Qualifications:** A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. **Fabricator Qualifications:** A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. **Installer Qualifications:** A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. **Professional Engineer Qualifications:** A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed

for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.

- F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
 - 1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
 - 2. Notify Architect three days in advance of dates and times when mockups will be constructed.
 - 3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at the Project.
 - 4. Demonstrate the proposed range of aesthetic effects and workmanship.
 - 5. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
 - 6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 - 7. Demolish and remove mockups when directed, unless otherwise indicated.
- J. Integrated Exterior Mockups: Coordinate installation of exterior envelope materials and products for which mockups are required in individual specification sections, along with supporting materials.

1.7 QUALITY CONTROL

- A. Owner Responsibilities: Independent quality-control services are indicated as Owner's responsibility. Owner may engage a qualified testing agency to perform these services.
 - 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform. Contractor shall coordinate and schedule Owner's testing agency.
 - 2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

- B. **Manufacturer's Field Services:** Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 1 Section "Submittal Procedures."
- C. **Manufacturer's Technical Services:** Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- D. **Retesting/Reinspecting:** Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- E. **Associated Services:** Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
 - 1. Access to the Work.
 - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 - 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 - 4. Facilities for storage and field curing of test samples.
 - 5. Delivery of samples to testing agencies.
 - 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 - 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- F. **Coordination:** Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
 - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- G. **Schedule of Tests and Inspections:** Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Coordinate and submit concurrently with Contractor's construction schedule. Update as the Work progresses.
 - 1. **Distribution:** Distribute schedule to Owner, Architect, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.8 SPECIAL TESTS AND INSPECTIONS

- A. **Special Tests and Inspections:** Owner may engage a qualified testing agency and/or special inspector to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Prepare a record of tests and inspections. Include the following:
 - 1. Date test or inspection was conducted.
 - 2. Description of the Work tested or inspected.
 - 3. Date test or inspection results were transmitted to Architect.
 - 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 1 Section "Execution Requirements."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION

SECTION 014200

REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the United States."
- B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

AA	Aluminum Association, Inc. (The) www.aluminum.org	(703) 358-2960
AAADM	American Association of Automatic Door Manufacturers www.aaadm.com	(216) 241-7333
AABC	Associated Air Balance Council www.aabchq.com	(202) 737-0202
AAMA	American Architectural Manufacturers Association www.aamanet.org	(847) 303-5664
AASHTO	American Association of State Highway and Transportation Officials www.transportation.org	(202) 624-5800
AATCC	American Association of Textile Chemists and Colorists www.aatcc.org	(919) 549-8141
ABAA	Air Barrier Association of America www.airbarrier.org	(866) 956-5888
ABMA	American Bearing Manufacturers Association www.abma-dc.org	(202) 367-1155
ACI	American Concrete Institute www.concrete.org	(248) 848-3700
ACPA	American Concrete Pipe Association www.concrete-pipe.org	(972) 506-7216
AEIC	Association of Edison Illuminating Companies, Inc. (The)	(205) 257-2530

	www.aeic.org	
AF&PA	American Forest & Paper Association www.afandpa.org	(800) 878-8878 (202) 463-2700
AGA	American Gas Association www.aga.org	(202) 824-7000
AGC	Associated General Contractors of America (The) www.agc.org	(703) 548-3118
AHAM	Association of Home Appliance Manufacturers www.aham.org	(202) 872-5955
AHRI	Air-Conditioning, Heating, and Refrigeration Institute www.ahrinet.org	(703) 524-8800
AI	Asphalt Institute www.asphaltinstitute.org	(859) 288-4960
AIA	American Institute of Architects www.aia.org	(800) 242-3837 (202) 626-7300
AISC	American Institute of Steel Construction www.aisc.org	(800) 644-2400 (312) 670-2400
AISI	American Iron and Steel Institute www.steel.org	(202) 452-7100
AITC	American Institute of Timber Construction www.aitc-glulam.org	(303) 792-9559
ALSC	American Lumber Standard Committee, Incorporated www.alsc.org	(301) 972-1700
AMCA	Air Movement and Control Association International, Inc. www.amca.org	(847) 394-0150
ANSI	American National Standards Institute www.ansi.org	(202) 293-8020
AOSA	Association of Official Seed Analysts, Inc. www.aosaseed.com	(405) 780-7372
APA	Architectural Precast Association www.archprecast.org	(239) 454-6989
APA	APA - The Engineered Wood Association www.apawood.org	(253) 565-6600
API	American Petroleum Institute www.api.org	(202) 682-8000
ARI	Air-Conditioning & Refrigeration Institute (Now AHRI)	

ARMA	Asphalt Roofing Manufacturers Association www.asphaltroofing.org	(202) 207-0917
ASCE	American Society of Civil Engineers www.asce.org	(800) 548-2723 (703) 295-6300
ASCE/SEI	American Society of Civil Engineers/Structural Engineering Institute (See ASCE)	
ASHRAE	American Society of Heating, Refrigerating and Air- Conditioning Engineers www.ashrae.org	(800) 527-4723 (404) 636-8400
ASME	ASME International (American Society of Mechanical Engineers International) www.asme.org	(800) 843-2763 (973) 882-1170
ASSE	American Society of Safety Engineers www.asse.org	(847) 699-2929
ASSE	American Society of Sanitary Engineering www.asse-plumbing.org	(440) 835-3040
ASTM	ASTM International (American Society for Testing and Materials International) www.astm.org	(610) 832-9500
ATIS	Alliance for Telecommunications Industry Solutions www.atis.org	(202) 628-6380
AWCI	Association of the Wall and Ceiling Industry www.awci.org	(703) 534-8300
AWCMA	American Window Covering Manufacturers Association (Now WCMA)	
AWI	Architectural Woodwork Institute www.awinet.org	(571) 323-3636
AWPA	American Wood Protection Association (Formerly: American Wood Preservers' Association) www.awpa.com	(205) 733-4077
AWS	American Welding Society www.aws.org	(800) 443-9353 (305) 443-9353
AWWA	American Water Works Association www.awwa.org	(800) 926-7337 (303) 794-7711
BHMA	Builders Hardware Manufacturers Association www.buildershardware.com	(212) 297-2122
BIA	Brick Industry Association (The)	(703) 620-0010

	www.bia.org	
BICSI	BICSI, Inc. www.bicsi.org	(800) 242-7405 (813) 979-1991
BIFMA	BIFMA International (Business and Institutional Furniture Manufacturer's Association International) www.bifma.com	(616) 285-3963
BISSC	Baking Industry Sanitation Standards Committee www.bissc.org	(866) 342-4772
BWF	Badminton World Federation (Formerly: IBF - International Badminton Federation) www.internationalbadminton.org	6-03-9283 7155
CCC	Carpet Cushion Council www.carpetcushion.org	(610) 527-3880
CDA	Copper Development Association www.copper.org	(212) 251-7200
CEA	Canadian Electricity Association www.canelect.ca	(613) 230-9263
CEA	Consumer Electronics Association www.ce.org	(866) 858-1555 (703) 907-7600
CFFA	Chemical Fabrics & Film Association, Inc. www.chemicalfabricsandfilm.com	(216) 241-7333
CGA	Compressed Gas Association www.cganet.com	(703) 788-2700
CIMA	Cellulose Insulation Manufacturers Association www.cellulose.org	(888) 881-2462 (937) 222-2462
CISCA	Ceilings & Interior Systems Construction Association www.cisca.org	(630) 584-1919
CISPI	Cast Iron Soil Pipe Institute www.cispi.org	(423) 892-0137
CLFMI	Chain Link Fence Manufacturers Institute www.chainlinkinfo.org	(301) 596-2583
CRRC	Cool Roof Rating Council www.coolroofs.org	(866) 465-2523 (510) 485-7175
CPA	Composite Panel Association www.pbmdf.com	(703) 724-1128
CPPA	Corrugated Polyethylene Pipe Association www.plasticpipe.org	(800) 510-2772 (202) 462-9607

CRI	Carpet and Rug Institute (The) www.carpet-rug.com	(706) 278-3176
CRSI	Concrete Reinforcing Steel Institute www.crsi.org	(847) 517-1200
CSA	Canadian Standards Association	(800) 463-6727 (416) 747-4000
CSA	CSA International (Formerly: IAS - International Approval Services) www.csa-international.org	(866) 797-4272 (416) 747-4000
CSI	Cast Stone Institute www.caststone.org	(717) 272-3744
CSI	Construction Specifications Institute (The) www.csinet.org	(800) 689-2900 (703) 684-0300
CSSB	Cedar Shake & Shingle Bureau www.cedarbureau.org	(604) 820-7700
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute) www.cti.org	(281) 583-4087
DHI	Door and Hardware Institute www.dhi.org	(703) 222-2010
ECA	Electronic Components Association www.ec-central.org	(703) 907-8024
EIA	Electronic Industries Alliance www.eia.org	(703) 907-7500
EIMA	EIFS Industry Members Association www.eima.com	(800) 294-3462 (770) 968-7945
EJCDC	Engineers Joint Contract Documents Committee www.ejdc.org	(703) 295-5000
EJMA	Expansion Joint Manufacturers Association, Inc. www.ejma.org	(914) 332-0040
ESD	ESD Association (Electrostatic Discharge Association) www.esda.org	(315) 339-6937
ETL SEMCO	Intertek ETL SEMCO (Formerly: ITS - Intertek Testing Service NA) www.intertek-etlsemko.com	(800) 967-5352
FIBA	Federation Internationale de Basketball (The International Basketball Federation)	41 22 545 00 00

	www.fiba.com	
FIVB	Federation Internationale de Volleyball (The International Volleyball Federation) www.fivb.org	41 21 345 35 35
FM Approvals	FM Approvals LLC www.fmglobal.com	(781) 762-4300
FM Global	FM Global (Formerly: FMG - FM Global) www.fmglobal.com	(401) 275-3000
FRSA	Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc. www.floridarroof.com	(407) 671-3772
FSA	Fluid Sealing Association www.fluidsealing.com	(610) 971-4850
FSC	Forest Stewardship Council www.fsc.org	49 228 367 66 0
GA	Gypsum Association www.gypsum.org	(202) 289-5440
GANA	Glass Association of North America www.glasswebsite.com	(785) 271-0208
GRI	(Part of GSI)	
GS	Green Seal www.greenseal.org	(202) 872-6400
GSI	Geosynthetic Institute www.geosynthetic-institute.org	(610) 522-8440
HI	Hydraulic Institute www.pumps.org	(973) 267-9700
HI	Hydronics Institute www.gamanet.org	(908) 464-8200
HMMA	Hollow Metal Manufacturers Association (Part of NAAMM)	
HPVA	Hardwood Plywood & Veneer Association www.hpva.org	(703) 435-2900
HPW	H. P. White Laboratory, Inc. www.hpwhite.com	(410) 838-6550
IAS	International Approval Services (Now CSA International)	

IBF	International Badminton Federation (Now BWF)	
ICEA	Insulated Cable Engineers Association, Inc. www.icea.net	(770) 830-0369
ICRI	International Concrete Repair Institute, Inc. www.icri.org	(847) 827-0830
IEC	International Electrotechnical Commission www.iec.ch	41 22 919 02 11
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The) www.ieee.org	(212) 419-7900
IES	Illuminating Engineering Society www.ies.org	(212) 248-5000
IESNA	Illuminating Engineering Society of North America (Now IES)	
IEST	Institute of Environmental Sciences and Technology www.iest.org	(847) 981-0100
IGCC	Insulating Glass Certification Council www.igcc.org	(315) 646-2234
IGMA	Insulating Glass Manufacturers Alliance www.igmaonline.org	(613) 233-1510
ILI	Indiana Limestone Institute of America, Inc. www.iliai.com	(812) 275-4426
ISO	International Organization for Standardization www.iso.ch	41 22 749 01 11
	Available from ANSI www.ansi.org	(202) 293-8020
ISSFA	International Solid Surface Fabricators Association www.issfa.net	(877) 464-7732 (702) 567-8150
ITS	Intertek Testing Service NA (Now ETL SEMCO)	
ITU	International Telecommunication Union www.itu.int/home	41 22 730 51 11
KCMA	Kitchen Cabinet Manufacturers Association www.kcma.org	(703) 264-1690
LPI	Lightning Protection Institute www.lightning.org	(800) 488-6864
MBMA	Metal Building Manufacturers Association	(216) 241-7333

	www.mbma.com	
MFMA	Maple Flooring Manufacturers Association, Inc. www.maplefloor.org	(888) 480-9138
MFMA	Metal Framing Manufacturers Association, Inc. www.metalframingmfg.org	(312) 644-6610
MH	Material Handling (Now MHIA)	
MHIA	Material Handling Industry of America www.mhia.org	(800) 345-1815 (704) 676-1190
MIA	Marble Institute of America www.marble-institute.com	(440) 250-9222
MPI	Master Painters Institute www.paintinfo.com	(888) 674-8937 (604) 298-7578
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc. www.mss-hq.com	(703) 281-6613
NAAMM	National Association of Architectural Metal Manufacturers www.naamm.org	(630) 942-6591
NACE	NACE International (National Association of Corrosion Engineers International) www.nace.org	(800) 797-6623 (281) 228-6200
NADCA	National Air Duct Cleaners Association www.nadca.com	(202) 737-2926
NAGWS	National Association for Girls and Women in Sport www.aahperd.org/nagws/	(800) 213-7193, ext. 453 (703) 476-3400
NAIMA	North American Insulation Manufacturers Association www.naima.org	(703) 684-0084
NBGQA	National Building Granite Quarries Association, Inc. www.nbgqa.com	(800) 557-2848
NCAA	National Collegiate Athletic Association (The) www.ncaa.org	(317) 917-6222
NCMA	National Concrete Masonry Association www.ncma.org	(703) 713-1900
NCPI	National Clay Pipe Institute www.ncpi.org	(262) 248-9094
NCTA	National Cable & Telecommunications Association www.ncta.com	(202) 775-2300

NEBB	National Environmental Balancing Bureau www.nebb.org	(301) 977-3698
NECA	National Electrical Contractors Association www.necanet.org	(301) 657-3110
NeLMA	Northeastern Lumber Manufacturers' Association www.nelma.org	(207) 829-6901
NEMA	National Electrical Manufacturers Association www.nema.org	(703) 841-3200
NETA	InterNational Electrical Testing Association www.netaworld.org	(888) 300-6382 (269) 488-6382
NFHS	National Federation of State High School Associations www.nfhs.org	(317) 972-6900
NFPA	NFPA (National Fire Protection Association) www.nfpa.org	(800) 344-3555 (617) 770-3000
NFRC	National Fenestration Rating Council www.nfrc.org	(301) 589-1776
NGA	National Glass Association www.glass.org	(866) 342-5642 (703) 442-4890
NHLA	National Hardwood Lumber Association www.natlhardwood.org	(800) 933-0318 (901) 377-1818
NLGA	National Lumber Grades Authority www.nlga.org	(604) 524-2393
NOFMA	NOFMA: The Wood Flooring Manufacturers Association (Formerly: National Oak Flooring Manufacturers Association) www.nofma.com	(901) 526-5016
NOMMA	National Ornamental & Miscellaneous Metals Association www.nomma.org	(888) 516-8585
NRCA	National Roofing Contractors Association www.nrca.net	(800) 323-9545 (847) 299-9070
NRMCA	National Ready Mixed Concrete Association www.nrmca.org	(888) 846-7622 (301) 587-1400
NSF	NSF International (National Sanitation Foundation International) www.nsf.org	(800) 673-6275 (734) 769-8010
NSSGA	National Stone, Sand & Gravel Association www.nssga.org	(800) 342-1415 (703) 525-8788

NTMA	National Terrazzo & Mosaic Association, Inc. (The) www.ntma.com	(800) 323-9736 (540) 751-0930
NTRMA	National Tile Roofing Manufacturers Association (Now TRI)	
NWFA	National Wood Flooring Association www.woodfloors.org	(800) 422-4556 (636) 519-9663
NWWDA	National Wood Window and Door Association (Now WDMA)	
PCI	Precast/Prestressed Concrete Institute www.pci.org	(312) 786-0300
PDCA	Painting & Decorating Contractors of America www.pdca.com	(800) 332-7322 (314) 514-7322
PDI	Plumbing & Drainage Institute www.pdionline.org	(800) 589-8956 (978) 557-0720
PGI	PVC Geomembrane Institute http://pgi-tp.cee.uiuc.edu	(217) 333-3929
PLANET	Professional Landcare Network www.landcarenetwork.org	(800) 395-2522 (703) 736-9666
PTI	Post-Tensioning Institute www.post-tensioning.org	(602) 870-7540
RCSC	Research Council on Structural Connections www.boltcouncil.org	
RFCI	Resilient Floor Covering Institute www.rfci.com	(301) 340-8580
RIS	Redwood Inspection Service www.redwoodinspection.com	(925) 935-1499
SAE	SAE International www.sae.org	(877) 606-7323 (724) 776-4841
SCTE	Society of Cable Telecommunications Engineers www.scte.org	(800) 542-5040 (610) 363-6888
SDI	Steel Deck Institute www.sdi.org	(847) 458-4647
SDI	Steel Door Institute www.steeldoor.org	(440) 899-0010
SEFA	Scientific Equipment and Furniture Association www.sefalabs.com	(877) 294-5424 (516) 294-5424
SEI/ASCE	Structural Engineering Institute/American Society of Civil	

	Engineers (See ASCE)	
SGCC	Safety Glazing Certification Council www.sgcc.org	(315) 646-2234
SIA	Security Industry Association www.siaonline.org	(866) 817-8888 (703) 683-2075
SJI	Steel Joist Institute www.steeljoist.org	(843) 626-1995
SMA	Screen Manufacturers Association www.smainfo.org	(561) 533-0991
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association www.smacna.org	(703) 803-2980
SMPTE	Society of Motion Picture and Television Engineers www.smpete.org	(914) 761-1100
SPFA	Spray Polyurethane Foam Alliance www.sprayfoam.org	(800) 523-6154
SPIB	Southern Pine Inspection Bureau www.spib.org	(850) 434-2611
SPRI	Single Ply Roofing Industry www.spri.org	(781) 647-7026
SSINA	Specialty Steel Industry of North America www.ssina.com	(800) 982-0355 (202) 342-8630
SSPC	SSPC: The Society for Protective Coatings www.sspc.org	(877) 281-7772 (412) 281-2331
STI	Steel Tank Institute www.steeltank.com	(847) 438-8265
SWI	Steel Window Institute www.steelwindows.com	(216) 241-7333
SWRI	Sealant, Waterproofing, & Restoration Institute www.swrionline.org	(816) 472-7974
TCNA	Tile Council of North America, Inc. www.tileusa.com	(864) 646-8453
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance www.tiaonline.org	(703) 907-7700
TMS	The Masonry Society www.masonrysociety.org	(303) 939-9700

TPI	Truss Plate Institute, Inc. www.tpinst.org	(703) 683-1010
TPI	Turfgrass Producers International www.turfgrasssod.org	(800) 405-8873 (847) 649-5555
TRI	Tile Roofing Institute www.tilerroofing.org	(312) 670-4177
UL	Underwriters Laboratories Inc. www.ul.com	(877) 854-3577 (847) 272-8800
UNI	Uni-Bell PVC Pipe Association www.uni-bell.org	(972) 243-3902
USAV	USA Volleyball www.usavolleyball.org	(888) 786-5539 (719) 228-6800
USGBC	U.S. Green Building Council www.usgbc.org	(800) 795-1747
USITT	United States Institute for Theatre Technology, Inc. www.usitt.org	(800) 938-7488 (315) 463-6463
WASTEC	Waste Equipment Technology Association www.wastec.org	(800) 424-2869 (202) 244-4700
WCLIB	West Coast Lumber Inspection Bureau www.wclib.org	(800) 283-1486 (503) 639-0651
WCMA	Window Covering Manufacturers Association www.wcmanet.org	(212) 297-2122
WCSC	Window Covering Safety Council www.windowcoverings.org	(800) 506-4636 (212) 297-2109
WDMA	Window & Door Manufacturers Association www.wdma.com	(800) 223-2301 (847) 299-5200
WI	Woodwork Institute (Formerly: WIC - Woodwork Institute of California) www.wicnet.org	(916) 372-9943
WIC	Woodwork Institute of California (Now WI)	
WMMPA	Wood Moulding & Millwork Producers Association www.wmmpa.com	(800) 550-7889 (530) 661-9591
WSRCA	Western States Roofing Contractors Association www.wsrca.com	(800) 725-0333 (650) 570-5441
WWPA	Western Wood Products Association www.wwpa.org	(503) 224-3930

C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

DIN	Deutsches Institut f?r Normung e.V. www.din.de	49 30 2601-0
IAPMO	International Association of Plumbing and Mechanical Officials www.iapmo.org	(909) 472-4100
ICC	International Code Council www.iccsafe.org	(888) 422-7233
ICC-ES	ICC Evaluation Service, Inc. www.icc-es.org	(800) 423-6587 (562) 699-0543
UBC	Uniform Building Code (See ICC)	

D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CE	Army Corps of Engineers www.usace.army.mil	(202) 761-0011
CPSC	Consumer Product Safety Commission www.cpsc.gov	(800) 638-2772 (301) 504-7923
DOC	Department of Commerce www.commerce.gov	(202) 482-2000
DOD	Department of Defense http://.dodssp.daps.dla.mil	(215) 697-6257
DOE	Department of Energy www.energy.gov	(202) 586-9220
EPA	Environmental Protection Agency www.epa.gov	(202) 272-0167
FAA	Federal Aviation Administration www.faa.gov	(866) 835-5322
FCC	Federal Communications Commission www.fcc.gov	(888) 225-5322
FDA	Food and Drug Administration www.fda.gov	(888) 463-6332
GSA	General Services Administration www.gsa.gov	(800) 488-3111

HUD	Department of Housing and Urban Development www.hud.gov	(202) 708-1112
LBL	Lawrence Berkeley National Laboratory www.lbl.gov	(510) 486-4000
NCHRP	National Cooperative Highway Research Program (See TRB)	
NIST	National Institute of Standards and Technology www.nist.gov	(301) 975-6478
OSHA	Occupational Safety & Health Administration www.osha.gov	(800) 321-6742 (202) 693-1999
PBS	Public Buildings Service (See GSA)	
PHS	Office of Public Health and Science www.hhs.gov/ophs	(202) 690-7694
RUS	Rural Utilities Service (See USDA)	(202) 720-9540
SD	State Department www.state.gov	(202) 647-4000
TRB	Transportation Research Board http://gulliver.trb.org	(202) 334-2934
USDA	Department of Agriculture www.usda.gov	(202) 720-2791
USPS	Postal Service www.usps.com	(202) 268-2000

E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ADAAG	Americans with Disabilities Act (ADA)	(800) 872-2253
	Architectural Barriers Act (ABA)	(202) 272-0080
	Accessibility Guidelines for Buildings and Facilities Available from U.S. Access Board www.access-board.gov	
CFR	Code of Federal Regulations	(866) 512-1800
	Available from Government Printing Office	(202) 512-1800
	www.gpoaccess.gov/cfr/index.html	

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 015000

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Sections:
 - 1. Division 1 Section "Summary" for limitations on work restrictions and utility interruptions.

1.3 USE CHARGES

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's other contractors, Architect, testing agencies, and authorities having jurisdiction.
- B. Sewer Service: Contractor shall pay for temporary portable toilets.
- C. Temporary Water Service: Coordinate any temporary water with local utility at the contractor's cost. Provide connections and extensions of services as required for construction operations.
- D. Temporary Electric Power Service: Coordinate any temporary power with PSE at the contractor's cost. Provide connections and extensions of services as required for construction operations.

1.4 INFORMATIONAL SUBMITTALS

- A. Moisture-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage, including delivery, handling, and storage provisions for materials subject to water absorption or water damage, discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water damaged Work.

1. Indicate sequencing of work that requires water, and describe plans for dealing with water from these operations. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.

1.5 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.
- C. Accessible Temporary Egress: Comply with applicable provisions in ICBO as adopted by Washington State.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10 mils (0.25 mm) minimum thickness, with flame-spread rating of 15 or less per ASTM E 84.
- B. Security Fence: Portable Chain-Link Fencing: Minimum 2-inch, 0.148-inch- thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized-steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top and bottom rails. Provide concrete or steel bases for supporting posts.

2.2 TEMPORARY FACILITIES

- A. Field Offices, General: If desired, the Contractor may, at his/her expense, furnish and install a field office building at no additional cost to the Owner.

2.3 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate staging and storage areas where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service.
- B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
- C. Water Service: Install temporary service.
- D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- E. Electric Power Service: Install temporary service.
- F. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
- G. Telephone Service: Ensure telephone service for use by all construction personnel.
 - 1. Post a list of important telephone numbers.
 - a. Police and fire departments.
 - b. Ambulance service.
 - c. Contractor's home office.
 - d. Architect's office.
 - e. Engineers' offices.
 - f. Owner's office.
 - g. Principal subcontractors' field and home offices.
 - 2. Provide superintendent with cellular telephone.

3.3 SUPPORT FACILITIES INSTALLATION

- A. Traffic Controls: Comply with requirements of authorities having jurisdiction.
 - 1. Protect existing site improvements to remain including curbs, pavement, and utilities.
 - 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- B. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations. Locate temporary roads and paved areas as indicated and as required for operations.
 - 1. Provide dust-control treatment that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.
- C. Temporary Use of Permanent Roads and Paved Areas: Locate temporary roads and paved areas in same location as permanent roads and paved areas. Construct and maintain temporary roads

and paved areas adequate for construction operations. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.

1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
 2. Prepare subgrade and install subbase and base for temporary roads and paved areas according to Section 312000 "Earth Moving."
 3. Recondition base after temporary use, including removing contaminated material, regrading, proofrolling, compacting, and testing.
 4. Delay installation of final course of permanent hot-mix asphalt pavement until immediately before Substantial Completion. Repair hot-mix asphalt base-course pavement before installation of final course according to Section 321216 "Asphalt Paving."
- D. Traffic Controls: Comply with requirements of authorities having jurisdiction.
1. Protect existing site improvements to remain including curbs, pavement, and utilities.
 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- E. Parking: Use designated areas of Owner's existing parking areas or on-site for construction personnel as directed by the Architect. Do not use surrounding street parking.
- F. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties nor endanger permanent Work or temporary facilities.
 2. Remove snow and ice as required to minimize accumulations.
- G. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.
1. Identification Signs: Provide Project identification signs as indicated on Drawings.
 2. Temporary Signs: Provide other signs as required to inform public and individuals seeking entrance to Project.
 - a. Provide temporary, directional signs for public and visitors.
 3. Maintain and touchup signs so they are legible at all times.
- H. Waste Disposal Facilities: Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."
- I. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."
- J. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
 - 1. Comply with work restrictions specified in Section 011000 "Summary."
- C. Temporary Erosion and Sedimentation Control: Comply with City Permit Requirements.
- D. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings or authorities having jurisdiction, whichever is more stringent.
 - 1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant- protection zones.
 - 2. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
 - 3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project site during the course of Project.
 - 4. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.
- A. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.
 - 1. Extent of Fence: As required to enclose the portion determined sufficient to accommodate construction operations and prevent damage and vandalism.
- B. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each work day.
- C. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- D. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.
- E. Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.
 - 1. Prohibit smoking in construction areas.
 - 2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.

3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

3.5 MOISTURE CONTROL

- A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work.

3.6 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
 2. Remove paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
 3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 1 Section "Closeout Procedures."

END OF SECTION 015000

SECTION 016000

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Sections:
 - 1. Division 1 Section "References" for applicable industry standards for products specified.

1.3 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.4 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
 - 2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
 - a. Form of Approval: As specified in Division 1 Section "Submittal Procedures."
 - b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 1 Section "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
 - 1. Store products to allow for inspection and measurement of quantity or counting of units.
 - 2. Store materials in a manner that will not endanger Project structure.

3. Store products that are subject to damage by the elements, under cover in a weather-tight enclosure above ground, with ventilation adequate to prevent condensation.
4. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage and liquids from freezing.
7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 3. Refer to Divisions 2 through 16. Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 1 Section "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 4. Where products are accompanied by the term "as selected," Architect will make selection.

5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
6. Or Equal: For products specified by name and accompanied by the term or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures:

1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
3. Products:
 - a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience may be considered by the Architect under terms of this section.
4. Manufacturers:
 - a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience may be considered by the Architect under terms of this section.
5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Division 1 Section "Substitution Procedures" for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300

EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. Installation of the Work.
4. Cutting and patching.
5. Coordination of Owner-installed products.
6. Progress cleaning.
7. Starting and adjusting.
8. Protection of installed construction.

- B. Related Requirements:

1. Section 011000 "Summary" for limits on use of Project site.
2. Section 013300 "Submittal Procedures" for submitting surveys.
3. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.
4. Section 311000 "Site Clearing" for demolition and removal of selected portions of the asphalt.

1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For land surveyor and professional engineer.

- B. Certificates: Submit certificate signed by land surveyor & professional engineer certifying that location and elevation of improvements comply with requirements.
- C. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

1.5 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.
- B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 - 1. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
 - 2. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the site or building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, and other construction affecting the Work.
 - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
 - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility and Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Division 1 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.
- B. General: Engage a Professional land surveyor to lay out the Work using accepted surveying practices.
 - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
 - 2. Establish limits on use of Project site.
 - 3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 - 4. Inform installers of lines and levels to which they must comply.
 - 5. Check the location, level and plumb, of every major element as the Work progresses.
 - 6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
 - 7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.4 FIELD ENGINEERING AND SURVEYING

- A. Identification: Owner will identify existing benchmarks, control points, and property corners.
- B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
 - 1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
 - 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

- C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
 - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
 - 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
 - 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

3.5 INSTALLATION OF WORK

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with

integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary."
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.
- G. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.

- H. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.7 COORDINATION OF OWNER-INSTALLED PRODUCTS

- A. Site Access: Provide access to Project site for Owner's construction personnel.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel.
 - 1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
 - 2. Preinstallation Conferences: Include Owner's construction personnel at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

3.8 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
 - 4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls." and Section 017419 "Construction Waste Management and Disposal."
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.9 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.10 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION

SECTION 017419

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Salvaging nonhazardous demolition and construction waste.
 - 2. Recycling nonhazardous demolition and construction waste.
 - 3. Disposing of nonhazardous demolition and construction waste.

1.3 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 PERFORMANCE REQUIREMENTS

- A. General: Maximize end-of-Project rates for salvage/recycling in contractor directed plan. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials.

1.5 INFORMATIONAL SUBMITTALS

- A. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- B. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

1.6 QUALITY ASSURANCE

- A. Waste Management Coordinator Qualifications: Experienced firm, with a record of successful waste management coordination of projects with similar requirements.
- B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

1.7 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to ASTM E 1609 and requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
 - 1. Comply with operation, termination, and removal requirements in Section 015000 "Temporary Facilities and Controls."
- B. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.
- C. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.

2. Comply with Section 015000 "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

- A. Salvaged Items for Reuse in the Work: Salvage items for reuse and handle as follows:
 1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
 3. Store items in a secure area until installation.
 4. Protect items from damage during transport and storage.
 5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.
- B. Salvaged Items for Sale and Donation: Not permitted on Project site.
- C. Salvaged Items for Owner's Use: Salvage items for Owner's use:
 1. Any items as noted by Owner.

3.3 RECYCLING WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
- C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.
 1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.

3.4 RECYCLING CONSTRUCTION WASTE

- A. Packaging:
 1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.

2. Polystyrene Packaging: Separate and bag materials.
3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Wood Materials:

1. Clean Cut-Offs of Lumber and recycle.

3.5 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Burning: Burning of waste materials is permitted only at designated areas on Owner's property, provided required permits are obtained. Provide full-time monitoring for burning materials until fires are extinguished.

D. Disposal: Remove temporary soil waste materials and dispose of at designated spoil areas on Owner's property.

E. Disposal: Remove waste materials from Owner's property and legally dispose of them.

END OF SECTION 017419

SECTION 017700

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
- B. Related Sections:
 - 1. Division 1 Section "Execution" for progress cleaning of Project site.
 - 2. Division 1 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 3. Division 1 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 4. Divisions 2 through 34 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete with request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 3. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 4. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 - 5. Complete startup testing of systems.
 - 6. Submit test/adjust/balance records.
 - 7. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.

8. Advise Owner of changeover in heat, water, and other utilities.
9. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
10. Complete final cleaning requirements, including touchup painting.
11. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

1.4 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Attachment G, Item 4 "Compensation" of Public Works Contract for Federal Way Panther Lake
2. Submit copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.5 WARRANTIES

A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.

- g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Sweep concrete floors broom clean in unoccupied spaces.
 - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
 - j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - k. Remove labels that are not permanent.
 - l. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates.
 - m. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - n. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
 - o. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - p. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - q. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter upon inspection.
 - r. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - s. Leave Project clean and ready for occupancy.
- C. Construction Waste Disposal: Comply with waste disposal requirements in Division 1 Section "Temporary Facilities and Controls."

END OF SECTION 017700

SECTION 017810

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for project record documents, including the following:
 - 1. Record Drawings.
 - 2. Record Product Data.
 - 3. Miscellaneous Record submittals.
- B. Related Sections:
 - 1. Division 1 Section "Execution" for final property survey.
 - 2. Division 1 Section "Closeout Procedures" for general closeout procedures.
 - 3. Division 1 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 4. Divisions 2 through 44 Sections for specific requirements for project record documents of the Work in those Sections.

1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit copies of record Drawings as follows:
 - a. Submittal: Submit **one paper copy set** of marked-up record prints. Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable. Make revisions and re-submit.
- B. Reports: Submit written report indicating items incorporated in Project record documents concurrent with progress of the Work, including modifications, concealed conditions, field changes, product selections, and other notations incorporated.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings.

1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Record and check the markup before enclosing concealed installations.
 - e. Cross-reference record prints to corresponding archive photographic documentation.
 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Depths of foundations below first floor.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Changes made by Change Order or Change Directive.
 - k. Changes made following Architect's written orders.
 - l. Details not on the original Contract Drawings.
 - m. Field records for variable and concealed conditions.
 - n. Record information on the Work that is shown only schematically.
 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Utilize personnel proficient at recording graphic information in production of marked-up record prints.
 4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize record prints and newly prepared record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 2. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Architect.
 - e. Name of Contractor.

2.2 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 - 3. Note related Change Orders, record Specifications and record Drawings where applicable.
- B. Format: Submit record Product Data as paper copy of marked up paper copy of Product Data.
 - 1. Include record Product Data directory organized by specification section number and title, electronically linked to each item of record Product Data.

2.3 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as paper copy of marked up miscellaneous record submittals.
 - 1. Include miscellaneous record submittals directory organized by specification section number and title, electronically linked to each item of miscellaneous record submittals.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and modifications to project record documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's reference during normal working hours.

END OF SECTION 017810

SECTION 017820

OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory.
 - 2. Emergency manuals.
 - 3. Operation manuals for systems, subsystems, and equipment.
 - 4. Product maintenance manuals.
 - 5. Systems and equipment maintenance manuals.
- B. Related Sections:
 - 1. Division 1 Section "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
 - 2. Divisions 2 through 33 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 CLOSEOUT SUBMITTALS

- A. Manual Content: Operations and maintenance manual content is specified in individual specification sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
 - 1. Where applicable, clarify and update reviewed manual content to correspond to modifications and field conditions.
- B. Format: Submit operations and maintenance manuals in the following format:

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

- A. Organization: Include a section in the directory for each of the following:
 - 1. List of documents.
 - 2. List of systems.
 - 3. List of equipment.
 - 4. Table of contents.
- B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
- C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
- D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

2.2 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 - 1. Title page.
 - 2. Table of contents.
 - 3. Manual contents.
- B. Title Page: Include the following information:
 - 1. Subject matter included in manual.
 - 2. Name and address of Project.
 - 3. Name and address of Owner.
 - 4. Date of submittal.
 - 5. Name and contact information for Contractor.
 - 6. Name and contact information for Construction Manager.
 - 7. Name and contact information for Architect.
 - 8. Name and contact information for Commissioning Agent.
 - 9. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
 - 10. Cross-reference to related systems in other operation and maintenance manuals.

- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
 - 1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.
 - 1. Binders: Heavy-duty, three-ring, vinyl-covered, **loose-leaf** binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
 - b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, subject matter of contents. Indicate volume number for multiple-volume sets.
 - 2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
 - 3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment.
 - 4. Supplementary Text: Prepared on 8-1/2-by-11-inch white bond paper.
 - 5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.3 EMERGENCY MANUALS

- A. Content: Organize manual into a separate section for each of the following:
 - 1. Type of emergency.
 - 2. Emergency instructions.
 - 3. Emergency procedures.

- B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
1. Fire.
 2. Flood.
 3. Gas leak.
 4. Water leak.
 5. Power failure.
 6. Water outage.
 7. System, subsystem, or equipment failure.
 8. Chemical release or spill.
- C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- D. Emergency Procedures: Include the following, as applicable:
1. Instructions on stopping.
 2. Shutdown instructions for each type of emergency.
 3. Operating instructions for conditions outside normal operating limits.
 4. Required sequences for electric or electronic systems.
 5. Special operating instructions and procedures.

2.4 OPERATION MANUALS

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
 2. Performance and design criteria if Contractor is delegated design responsibility.
 3. Operating standards.
 4. Operating procedures.
 5. Operating logs.
 6. Wiring diagrams.
 7. Control diagrams.
 8. Piped system diagrams.
 9. Precautions against improper use.
 10. License requirements including inspection and renewal dates.
- B. Descriptions: Include the following:
1. Product name and model number. Use designations for products indicated on Contract Documents.
 2. Manufacturer's name.
 3. Equipment identification with serial number of each component.
 4. Equipment function.
 5. Operating characteristics.
 6. Limiting conditions.
 7. Performance curves.
 8. Engineering data and tests.

9. Complete nomenclature and number of replacement parts.
- C. Operating Procedures: Include the following, as applicable:
1. Startup procedures.
 2. Equipment or system break-in procedures.
 3. Routine and normal operating instructions.
 4. Regulation and control procedures.
 5. Instructions on stopping.
 6. Normal shutdown instructions.
 7. Seasonal and weekend operating instructions.
 8. Required sequences for electric or electronic systems.
 9. Special operating instructions and procedures.
- D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
- E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.5 PRODUCT MAINTENANCE MANUALS

- A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- C. Product Information: Include the following, as applicable:
1. Product name and model number.
 2. Manufacturer's name.
 3. Color, pattern, and texture.
 4. Material and chemical composition.
 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
1. Inspection procedures.
 2. Types of cleaning agents to be used and methods of cleaning.
 3. List of cleaning agents and methods of cleaning detrimental to product.
 4. Schedule for routine cleaning and maintenance.
 5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.

2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
 - 1. Standard maintenance instructions and bulletins.
 - 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 - 3. Identification and nomenclature of parts and components.
 - 4. List of items recommended to be stocked as spare parts.
- D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
 - 1. Test and inspection instructions.
 - 2. Troubleshooting guide.
 - 3. Precautions against improper maintenance.
 - 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - 5. Aligning, adjusting, and checking instructions.
 - 6. Demonstration and training video recording, if available.
- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
 - 1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 - 2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.
- B. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- C. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- D. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
 1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
 1. Do not use original project record documents as part of operation and maintenance manuals.
 2. Comply with requirements of newly prepared record Drawings in Division 1 Section "Project Record Documents."
- G. Comply with Division 1 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION

SECTION 03311

PERVIOUS CONCRETE PAVEMENT

PART 1 - GENERAL

1.0 RELATED DOCUMENTS

1.0.1 Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.0.2 SUMMARY

1.02.1 Work Included: Pervious (AKA Porous) concrete, including formwork, concrete materials, mix design, placement procedures, and finishes, including the parking lot and the sidewalks and path up to and including the circular feature.

1.02.2 Work not included:

1. Extruded Curb.
2. Regular (non-pervious) Concrete.
3. Bridge concrete and apron.

1.1 Scope

1.1.1 This guide specification covers the construction and placement of pervious concrete pavement.

1.1.2 The provisions of this guide specification shall govern unless otherwise specified in the Contract Documents. In case of conflicting requirements, the Contract Documents shall govern.

1.1.3 Work of the Pervious Concrete Pavement shall conform to all requirements of ACI 522.1 Specification for Pervious Concrete Pavement published by the American Concrete Institute, Farmington Hills, Michigan, except as modified by these Contract Documents.

1.2 Definitions

1.2.1 These definitions are to assist in interpreting the provisions of this specification.

accepted—accepted by or acceptable to the architect.

Architect—the Architect, architectural firm, issuing project drawings and project specifications or administering the work under the contract documents.

cold weather—a period when for more than three successive days the average daily outdoor temperature drops below 40 °F (5 °C). The average daily

temperature is the average of the highest and lowest temperature during the period from midnight to midnight. When temperatures above 50 °F (10 °C) occur during more than half of any 24 h duration, the period shall no longer be regarded as cold weather.

construction joint—a joint constructed from two separate placements where the first has undergone final setting before the next placement.

contraction joint—formed, sawed, or tooled groove in a concrete structure to create a weakened plane and regulate the location of cracking resulting from the dimensional change of different parts of the structure.

contractor—the person, firm, or corporation with whom the owner enters into an agreement for construction of the work.

contract documents—documents, including project drawings and project specifications, covering the required work.

hot weather—any combination of the following conditions that tend to impair the quality of freshly mixed or hardened concrete by accelerating the rate of moisture loss and rate of cement hydration, or otherwise resulting in detrimental results.

- a. high ambient temperature;
- b. high concrete temperature;
- c. low relative humidity;
- d. wind velocity; and
- e. solar radiation.

isolation joint—a separation between adjoining parts of a concrete structure, usually a vertical plane, at a designed location such as to interfere least with performance of the structure, yet such as to allow relative movement in three directions and avoid formation of cracks elsewhere in the concrete.

mild exposure condition—absence of exposure to freezing and thawing or to deicing agents.

moderate exposure condition—exposure to a climate where the concrete will not be in a saturated condition when exposed to freezing and will not be exposed to deicing agents or other aggressive chemicals.

owner—the corporation, association, partnership, individual, or public body or authority with whom the contractor enters into an agreement and for whom the work is accomplished.

panel—an individual concrete slab bordered by joints or slab edges.

parking lot—an area used to park automobiles, trucks, or both.

pavement (pervious concrete)—a layer of pervious concrete over areas such as roads, sidewalks, canals, playgrounds, and those used for storage or parking.

permitted—permitted by the architect/engineer.

placing contractor—the person, firm, or corporation with whom owner or contractor enters into an agreement for placement of the work.

project drawings—the drawings that, along with the project specifications, addenda, bulletins, and change orders, constitute the descriptive information for constructing the work required or referred to in the contract documents.

project specifications—the written documents that specify requirements for a project in accordance with service parameters and other specific criteria established by the owner.

reference standards—standardized mandatory language documents of a technical society, organization, or association, including the building codes of local or state authorities, which are referenced in the contract documents.

severe exposure condition—exposure to deicing chemicals or other aggressive agents or where the concrete can become saturated by continual contact with moisture or free water before freezing.

subbase (also called base)—a layer in the pavement system between the subgrade and the concrete pavement.

subgrade—the soil prepared and compacted to support the pavement system.

submittal—documents that are required by the contract documents to be turned in to the architect/engineer for action as described in the contract documents.

tolerances—as applied to Section 3.10—plus (+) tolerance increases the amount or dimension to which it applies or raises a level alignment. Minus (–) tolerance decreases the amount or dimension to which it applies or lowers a level alignment. A nonsigned tolerance means + or –. Where only one signed tolerance is specified (+ or –), there is no limit in the other direction.

unreinforced concrete pavement—concrete pavement that does not contain distributed deformed steel reinforcing bars or welded wire fabric.

work—the entire construction of separately identifiable parts that are required to be furnished under the contract documents.

1.3 — Reference organizations

ACI: American Concrete Institute
P.O. Box 9094
Farmington Hills, MI 48333-9094

1.3.2 ASTM:

ASTM International
100 Barr Harbor Drive
West Conshohocken, PA 19428

1.4 — Referenced standards

1.4.1 ACI standards

301 Specifications for Structural Concrete
305.1 Standard Specification for Hot Weather Concreting
306.1 Standard Specification for Cold Weather Concreting
308.1 Standard Specification for Curing Concrete

1.4.2 ASTM standards

ASTM C 29, Test for Unit Weight and Voids in Aggregate
ASTM C 33, Specifications for Concrete Aggregates
ASTM C 42, Test Methods for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
ASTM C 94, Standard Specification for Ready-Mixed Concrete

ASTM C 117, Test Method for Material Finer than 75 μm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C 138, Test Method for Unit Weight, Yield, and Air Content (Gravimetric) of Concrete
ASTM C 140, Methods of Sampling and Testing Concrete Masonry Units
ASTM C 150, Specifications for Portland Cement (Types I or II only)
ASTM C 172, Practice of Sampling Fresh Concrete
ASTM C 260, Specification for Air-Entraining Admixtures for Concrete
ASTM C 494, Specification for Chemical Admixtures for Concrete
ASTM C 595, Specifications for Blended Hydraulic Cements (Types IP or IS only)
ASTM C 618, Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete
ASTM C 989, Specification for Ground Granulated Blast Furnace Slag for Use in Concrete and Mortars
ASTM C 1077, Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation
ASTM C 1602, Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D 448, Specification for Standard Sizes of Coarse Aggregates for Highway Construction
ASTM D 698, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³))
ASTM D 994 Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type)
ASTM D 1557, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³(2,700 kN-m/m³))
ASTM D1751 Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
ASTM D1752 Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction
ASTM D3385 Standard Test Method for Infiltration Rate of Soils in Field Using Double-Ring Infiltrometer
ASTM E 329, Standard Recommended Practice for Inspection and Testing Agencies for Concrete, Steel and Bituminous Materials as Used in Construction

1.5 Submittals

1.5.1 Submit drawings and documentation as required in this specification.

1.5.2 Obtain written acceptance of submittals before using the materials or methods requiring acceptance.

1.5.3 Responsibilities of Contractor

- 1.5.3.1 Placing contractor—Submit data on qualifications of pervious concrete installer for acceptance. Before construction, placing contractor shall:
 - 1.5.3.1.a Furnish a proposed mix design with proportions of materials for acceptance.
 - 1.5.3.1.b Provide in-site pavement test results including void content and unit weight of proposed mix design.
 - 1.5.3.1.c Provide a sample of product (test panels). Place, joint and cure two test panels, each to be a minimum of 225 sq. ft. at the required project thickness to demonstrate to the architect's satisfaction that in-place unit weights can be achieved and a satisfactory pavement can be installed at the site location.

- 1.6 Quality assurance
 - 1.6.1 General—Concrete materials and operations may be tested and inspected by Owner as work progresses. Failure to detect defective work or material early will not prevent rejection if a defect is discovered later nor shall it obligate Architect for final acceptance.
 - 1.6.1.1 Contractor qualification—Unless otherwise approved by Architect, Contractor shall provide evidence of employment of one (1) NRMCA certified Pervious Concrete Craftsman who must be on site, overseeing each placement crew, during all concrete placement, or the contractor shall provide evidence of employment of five (5) NRMCA certified Pervious Concrete Technicians, who have received hands-on training in the construction of pervious concrete pavements, and who must be on site, working as members of each placement crew, during all concrete placement, or, with the approval of Architect, contractor may provide written and photographic evidence of project experience and proficiency in successfully completing pervious concrete pavement construction, and submit evidence of completion of a nationally recognized pervious concrete craftsman certification program.

 - 1.6.2 Test Panels— Test panels may be placed at any of the specified pervious concrete pavement placement locations. Test panels shall be tested for thickness in accordance with ASTM C 42; void structure in accordance with ASTM C 138; and for core unit weight in accordance with ASTM C 140, Paragraph 6.3.
 - 1.6.2.1 Satisfactory performance of the test panels will be determined by:
 - 1.6.2.1a Compacted thickness no less than 1/4" of specified thickness.
 - 1.6.2.1b Void Content \pm three (3) percent of the of the design void content.
 - 1.6.2.1c Unit weight \pm five (5) pcf of the design unit weight.
 - 1.6.2.2 If measured void structure is outside specified limits or if measured thickness is greater than 1/4" less than the specified thickness or if measured unit weight is less than five (5) pcf below design unit weight, the test panel shall be removed at contractor's expense and disposed of in an approved landfill.
 - 1.6.2.3 If the test panel meets the above-mentioned requirements, it can be left in-place and included in the completed work.

 - 1.6.3 Testing agencies—The Owner shall hire a testing agencies that perform testing services on concrete materials shall meet the requirements of ASTM C 1077.

- 1.6.4 Testing responsibilities of Contractor
- 1.6.4.1 General: Owner's use of testing services will not relieve Contractor of the responsibility to furnish materials and construction in full compliance with the Contract Documents.
- 1.6.4.2 Duties and responsibilities— Unless otherwise specified in the Contract Documents, Contractor shall assume the following duties and responsibilities:
- 1.6.4.2.a Qualify proposed materials and establish mixture proportions.
- 1.6.4.2.b Furnish any necessary labor to assist Owner's testing agency in obtaining and handling samples at the project site or at the source of materials.
- 1.6.4.2.c Advise Owner's testing agency at least 24 hr in advance of operations to allow for completion of quality tests and for assignment of personnel.
- 1.6.5—Testing and Acceptance:
- 1.6.5.1 A minimum of one test for each day's placement of pervious concrete in accordance with ASTM C 172 and ASTM C 29 to verify unit weight shall be conducted. Delivered unit weights are to be determined in accordance with ASTM C 29 using a 0.25 cubic foot cylindrical metal measure. The measure is to be filled and compacted in accordance with ASTM C 29 paragraph 11, jiggling procedure. The unit weight of the delivered concrete shall be \pm five (5) pcf of the design unit weight.
- 1.6.5.2 Test panels shall have two cores taken from each panel in accordance with ASTM C 42 at a minimum of seven (7) days after placement of the pervious concrete. The cores shall be measured for thickness, void structure, and unit weight. Untrimmed, hardened core samples shall be used to determine placement thickness. The average of all production cores shall not be less than the specified thickness with no individual core being more than 1/4inch less than the specified thickness. After thickness determination, the cores shall be trimmed and measured for unit weight in the saturated condition as described in Paragraph 6.3.1 "Saturation" of ASTM C 140, Standard Methods of Sampling and Testing Concrete Masonry Units. The trimmed cores shall be immersed in water for 24 hours, allowed to drain for one (1) minute, surface water removed with a damp cloth, then weighed immediately. The range of satisfactory unit weight values are \pm five (5) pcf of the design unit weight.
- 1.6.5.3 After a minimum of seven (7) days following each placement, three cores shall be taken in accordance with ASTM C 42. The cores shall be measured for thickness and unit weight determined as described above for test panels.
- 1.6.5.4 Core holes shall be filled with concrete meeting the pervious mix design.

SECTION 2— PRODUCTS

- 2.1— Concrete—Comply with ASTM C94 and the following requirements:
- 2.1.1 Aggregates —Maximum aggregate size shall not exceed one-third of the pavement thickness.
- 2.1.2 Submit documentation describing concrete mixture proportions in accordance with ACI 301.

- 2.2— Isolation joint material
 - 2.2.1 For isolation joint materials, comply with ASTM D 994, D 1751, or ASTM D 1752.

- 2.3— Forms
 - 2.3.1 Forms shall be made of steel or wood or other material capable of supporting concrete and mechanical concrete placing equipment that is sufficiently rigid to maintain the specified tolerances.
 - 2.3.2 Forms shall be clean and free of dirt, rust, and hardened concrete.

- 2.4— ADA Truncated Domes
 - 2.4.1 Shall be a cast in place tactile surface as manufactured by ADA solutions, www.adatile.com, or approved equal. Color shall be yellow. One set of ADA Truncated Domes shall be provided (furnished and installed) by the contractor

SECTION 3—EXECUTION

- 3.1— Subgrade preparation
 - 3.1.1 Fine grade new or existing subgrade as required in the contract documents.
 - 3.1.2 Construct subgrade to ensure that the required pavement thickness is obtained in all locations.
 - 3.1.3 Regrade and recompact subgrade disturbed by concrete delivery vehicles or other construction equipment.
 - 3.1.4 Do not use loose material to obtain final subgrade elevation.
 - 3.1.5 Subgrade permeability shall be determined in accordance with ASTM D 3385 before concrete placement to ensure conformance with contract documents

- 3.2—Subbase
 - 3.2.1 Use only when required by contract documents. If used, prepare subbase in accordance with Section 3.1, Subgrade preparation.

- 3.3— Setting forms
 - 3.3.1 Set, align, and brace forms so that the pavement will meet the tolerances specified in Section 3.10, Tolerances.
 - 3.3.2 Apply form release agent to inside face of forms before placing concrete.
 - 3.3.3 The edge of previously placed concrete may be used as a form. Do not apply form release agent to previously placed concrete.
 - 3.3.4 Placement width shall not exceed twenty (20) feet unless successfully demonstrated otherwise and accepted by Architect.

- 3.4— Batching, mixing, and delivery
 - 3.4.1 Comply with ASTM C 94 except that discharge shall be completed within sixty (60) minutes of the introduction of mix water to the cement -- this time can be

- increased to 90 minutes when utilizing a hydration stabilizer. Further, water addition is permitted at the point of discharge provided the design w/c ratio is not exceeded.
- 3.5— Placing and finishing fixed-form pavement
 - 3.5.1 Deposit concrete directly from the transporting equipment onto the subgrade or subbase as appropriate.
 - 3.5.2 Do not place concrete on frozen subgrade or subbase.
 - 3.5.3 Other methods of conveying the concrete may be used when specified or permitted by the architect/engineer.
 - 3.5.4 Deposit concrete between the forms to a uniform height.
 - 3.5.5 Spread the concrete using a come-along, short-handle, square-ended shovel or rake.
 - 3.5.6 Foot-traffic shall not be allowed on the fresh concrete.
 - 3.5.7 Strike off concrete between forms using a form riding paving machine or vibrating screed. Other strike-off devices may be used, when accepted.
 - 3.5.8 Do not use steel trowels or power finishing equipment.
 - 3.5.9 Finish the pavement to the elevations and thickness specified in the project drawings and meet the requirements of Section 3.9, Tolerances.

 - 3.6— Placing and finishing slipform pavement
 - 3.6.1 When accepted, slipform equipment may be permitted.
 - 3.6.2 Deposit and finish concrete in accordance with Section 3.5.

 - 3.7—Final surface texture
 - 3.7.1 Final surface texture shall be achieved by compacting the fresh concrete using a full-width steel roller, that provides a minimum compactive pressure to achieve the requirements of Section 3.9 Tolerances.
 - 3.7.2 Other methods of producing final surface texture may be permitted when specified and accepted.
 - 3.7.3 Hand tools shall be used to compact the concrete along the slab edges immediately adjacent to forms.

 - 3.8— Edging
 - 3.8.1 Edge top surface edges to a radius of 1/4 in. (6 mm).

 - 3.9 Tolerances (see 1.2, Definitions—Tolerances)
 - 3.9.1 Construct pavement to comply with the following tolerances:
 - Elevation: 3/4 in. (19 mm)
 - Thickness: +1 in., -1/4 in. (+10 mm, -6 mm)
 - 3.9.1.1 Pavement must be mechanically swept before testing for compliance with tolerances.
 - 3.9.2 Joint spacing: See section 3.12, below.

 - 3.10— Curing
 - 3.10.1 Curing procedures shall begin immediately after the final placement operations.

- 3.10.2 Begin curing within twenty (20) minutes of concrete discharge unless longer working time is approved by the architect/engineer.
- 3.10.3 The pavement surface shall be covered with a minimum six (6) mil thick polyethylene sheet Sheeting shall be cut to a minimum the full lane width.
- 3.10.4 A fog shall be sprayed above the surface, before covering, when required due to hot weather conditions.
- 3.10.5 Cover all exposed edges with curing material.
- 3.10.6 Curing material shall be secured, without using dirt.
- 3.10.7 Cure pavement uninterrupted for a minimum of 7 days, unless otherwise specified.

3.11— Hot- and cold-weather construction

- 3.11.1 In hot weather, protect fresh concrete with windbreaks, shading, or fog spraying to prevent cracking at locations other than contraction joints.
- 3.11.2 If required, submit detailed procedures for the production, transportation, placement, protection, curing, and temperature monitoring of concrete during hot weather.
- 3.11.3 In cold weather, comply with ACI 306.1.

3.12— Jointing

- 3.12.1 Construct joints at the locations, depths, and with dimensions indicated on the project drawings or accepted drawings submitted by the contractor.
- 3.12.2 If jointing requirements are not indicated on the project drawings, the contractor shall submit drawings describing proposed jointing in accordance with Section 1.4, Submittals, and the requirements of 3.13.2.1 through 3.13.2.9. The contractor shall not proceed with work until the jointing requirements are accepted by the architect.
 - 3.12.2.1 Indicate locations of contraction joints, construction joints, and isolation joints. Spacing between contraction joints shall not exceed 15 feet unless otherwise approved by the Architect.
 - 3.12.2.2 The larger dimension of a panel shall not exceed 125% of the smaller dimension.
 - 3.12.2.3 The minimum angle between two intersecting joints shall be 80 degrees, unless otherwise specified or permitted.
 - 3.12.2.4 Joints shall intersect pavement free edges at 90-degree angles and shall extend straight for a minimum of 1-1/2 ft (0.5 m) from the pavement edge, where possible.
 - 3.12.2.5 Align joints of adjacent panels.
 - 3.12.2.6 Align joints in attached curbs with joints in pavement.
 - 3.12.2.7 Ensure joint depths, widths, and dimensions are as specified.
 - 3.12.2.8 Minimum contraction joint depth, using a conventional saw, or specialty tools, shall be 1/4 of the pavement thickness. Minimum joint width for saw cutting is 1/8 in. (3 mm). When using an early-entry dry-cut saw, the depth of the cut shall be at least 1 in. (25 mm).
 - 3.12.2.9 Use isolation joints only where pavement abuts buildings, foundations, manholes, and other fixed objects.
- 3.12.3 Construct contraction joints by one of the following methods:

- 3.12.3.1 Tool contraction joints in fresh concrete immediately after the concrete has been compacted to the specified depth and width.
 - 3.12.3.3 Saw-cut concrete after concrete has hardened sufficiently to prevent aggregate being dislodged and soon enough to control pavement cracking. Discontinue sawing joint if a crack precedes the saw-cut. Resume sawing at the next joint location.
 - 3.12.4 Extend isolation joints through the full depth of the pavement. Fill the entire isolation joint with isolation joint material, unless otherwise required by project drawings or by accepted jointing drawings submitted by the contractor. (See Section 2.4.)
- 3.13— Opening to traffic
- 3.13.1 Do not open the pavement to vehicular traffic until the concrete has cured for at least 7 days or until the pavement is accepted by the architect for opening to traffic

END OF SECTION 033110