



**INGLESMOOR HIGH SCHOOL
CONCERT HALL + MUSIC BUILDING**
Northshore School District No. 417

PROJECT MANUAL – VOLUME 1 of 3

April 13, 2020

PROJECT MANUAL

For

**Inglemoor High School
Concert Hall + Music Building**

Northshore School District
3330 Monte Villa Parkway
Bothell, WA 98021

DATE: April 13, 2020

Owner

Northshore School District	Dr. Michelle Reid, Superintendent Dr. Joe Paperman, Chief Operating Officer Dugan Harman, Deputy Superintendent 3330 Monte Villa Parkway Bothell, WA 98021	(425) 408-7701	office
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Capital Projects

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Owner's Surveyor

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Owner's Land Use Planning Consultant

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Owner's Environmental Consultant

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VOLUME 1, DATED APRIL 13, 2020
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END OF SECTION 00 1115

SECTION 00 1116 – INVITATION TO BIDDERS

PROJECT: Inglemoor High School Concert Hall + Music Building Project

LOCATION: 15500 Simond Road NE
Kenmore, WA 98028

OWNER: Northshore School District NO. 417
22105 23rd Dr. SE
Bothell, WA 98021
Contact: Ashley Clericus
Phone: (425) 408-7651
Email: aclericus@nsd.org

GCCM: Cornerstone General Contractors, Inc
11805 North Creek Parkway South, Ste #115
Bothell, WA 98011
Contact: Sam Comer
Phone: (425) 481-7460
Email: sam@cornerstonegci.com

ARCHITECT: Hutteball & Oremus Architecture, Inc.
4010 Lake Washington Blvd NE, Suite 320
Kirkland, WA 98033
Contact: Kevin Oremus
Phone: (425) 828-8948
Email: koremus@hoarch.com

For the following bid packages, sealed bids must be submitted by email to Ashley Clericus (aclericus@nsd.org), Northshore School District No. 417, at time and dates listed below.

BID PACKAGE		BUDGET	BID DATE/TIME
BP-03.1	Structures	\$ 4,630,000	May 04, 2020 / 2:00PM
BP-08.2	Openings	\$ 490,000	May 04, 2020 / 2:00PM
BP-10.1	Construction Specialties	\$ 600,000	May 04, 2020 / 2:00PM

IT IS THE INTENT OF CORNERSTONE GENERAL CONTRACTORS, INC. TO BID ON BID PACKAGES BP-03.1, BP-08.2 AND BP-10.1 AS A TRADE CONTRACTOR. FOR THIS REASON, THE OWNER WILL EXCLUSIVELY MANAGE THE BIDDING PROCESS FOR THESE BID PACKAGES.

For the following bid packages, sealed bids must be received at Cornerstone General Contractors, Inc. offices, located at 11805 N. Creek Pkwy S, Suite #115, Bothell, WA 98011 at time and dates listed below

BID PACKAGE		BUDGET	BID DATE/TIME
BP-06.0	Casework & Finish Carpentry	\$ 760,000	May 05, 2020 / 2:00PM
BP-07.1	Metal Panels, Siding & Flashings	\$ 1,590,000	May 05, 2020 / 2:00PM
BP-07.2	Thermoplastic Membrane Roofing	\$ 420,000	May 05, 2020 / 2:00PM
BP-08.1	Aluminum Window Systems & Glass	\$ 680,000	May 05, 2020 / 2:00PM
BP-09.1	Framing & GWB	\$ 2,470,000	May 05, 2020 / 2:00PM
BP-09.2	Acoustical Ceilings and Treatments	\$ 360,000	May 05, 2020 / 2:00PM
BP-09.3	Carpet & Resilient	\$ 180,000	May 05, 2020 / 2:00PM
BP-09.4	Tiling	\$ 150,000	May 05, 2020 / 2:00PM
BP-09.5	Painting, Coatings & Sealants	\$ 190,000	May 05, 2020 / 2:00PM
BP-21.1	Fire Sprinklers	\$ 270,000	May 05, 2020 / 2:00PM
BP-22.1	Mechanical	\$ 2,610,000	May 05, 2020 / 2:00PM
BP-31.1	Site Development	\$ 3,160,000	May 05, 2020 / 2:00PM
BP-32.1	Landscape & Irrigation	\$ 250,000	May 05, 2020 / 2:00PM

BID DOCUMENTS: Bid Contractors may obtain one set of plans and specifications from DRSi upon receipt of a refundable deposit of \$200.00 made payable to Cornerstone General Contractors, Inc.

DRSi
12880 NE 21st PL
Bellevue, WA 98005
Phone: (425) 882-2600

Plans and specifications may also be viewed at Builders Exchange at www.bxwa.com under Cornerstone General Contractor's Inc, link, Projects Bidding (no password required). Or on the Owner's website at <http://www.nsd.org/business>.

BONDS: For all bids that exceed \$300,000 a Performance and Payment Bond is required. Bid Bond in the amount of 5% of the total bid is required for ALL bids that exceed \$300,000.

PREBID MEETING: Date/Time: April 23, 2020 @ 2:00 PM

To Respect Social Distancing guidelines the prebid meeting will be held online via Zoom. Please contact Sam Comer via phone 425-481-7460 or email sam@cornerstonegci.com to obtain zoom meeting information.

Site visits are permitted by appointment only. Please contact Sam Comer via phone 425-481-7460 or email sam@cornerstonegci.com to set up a site visit appointment.

Site Location: Inglemoor High School
15500 Simond Road NE
Kenmore, WA 98028

***Bidders are encouraged to attend pre-bid meeting but it is not mandatory.**

TRADE UNIONS: Trade Contractor recognizes Cornerstone has an agreement with the following Union; Pacific Northwest Regional Council of Carpenters. In accordance with RCW 39.10.380 Subcontractor Bidding Procedure, Trade Contractors shall be obligated and bound to such agreements for work claimed by the Carpenters Union. Should any of Trade Contractor work (including work of lower tier subcontractors) be claimed by this Union, Subcontractor will enter into an agreement with this Union for performance of the claimed work on this project.

SCOPE: See Section 002410 – General Scope of Work and Section 002413 – Specific Scope of Work.

NOTES: **Cornerstone General Contractors Inc. is acting as a construction manager for the Northshore School District, not as a general contractor on this project. For this reason, all rules for public bidding must be followed by all contractors bidding these packages. Bids must be submitted as indicated in the Instructions to Bidders. Faxed bids, bids which are not on the proper bid form, and bids that do not fulfill the requirements of the Instructions to Bidders, cannot be accepted. All bids shall remain valid for a period of 90 calendar days. Refer to RCW 39.10.380, Cornerstone General Contractors has a labor agreement with the Pacific Northwest Regional Council of Carpenters.**

END OF SECTION 00 1116

SECTION 00 2113 – INSTRUCTIONS TO BIDDERS

PART 1 - GENERAL

1.1 EXPLANATION TO PROSPECTIVE BIDDERS

- A. Work pursuant to the Contract shall commence based on a Notice to Proceed issued by the GC/CM Contractors, in its sole discretion. Provided, you are hereby notified that the Owner has and/or is in the process of submitting for the applicable site and building permits. Owner reserves the right, in its sole discretion, to terminate this Invitation to Bid and any contract awarded thereto should the contract requirements turn out to be substantially changed during the applicable permit review periods.
- B. In accordance with RCW 39.04.380 effective March 30, 2012 the state of Washington is enforcing a **Reciprocal Preference for Resident Contractors**. Any public works bid received from a non-resident contractor from a state that provides an in-state percentage bidding preference, a comparable percentage disadvantage must be applied to the bid of that non-resident contractor.

A nonresident contractor from a state that provides a percentage bid preference means a contractor that:

- 1. is from a state that provides a percentage bid preference to its resident contractors bidding on public works contracts; and
- 2. at the time of bidding on a public works project, does not have a physical office located in Washington.

The state of residence for a nonresident contractor is the state in which the contractor was incorporated or, if not a corporation, the state where the contractor's business entity was formed.

This section does not apply to public works procured pursuant to RCW 39.04.155, 39.04.280, or any other procurement exempt from competitive bidding.

- C. Any prospective bidder desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must make a request in writing to the Owner or Construction Manager five (5) calendar days prior to the bid date. Oral explanations or instructions given before the award of a contract will not be binding. Any information given a prospective bidder concerning a solicitation will be furnished promptly to all other prospective bidders as an amendment to the solicitation, if that information is necessary in submitting bids or if the lack of it would be prejudicial to other prospective bidders. The term Trade Contractor as referenced throughout these documents refers to Contractors who are bidding on any of the Bid Packages. In addition, the term Contractor when used in the Specifications refers to the Trade Contractor or its subcontractors performing the work.

Please send all questions for BP-03.1, BP-08.2 and BP-10.1 via email to the Owner, Ashley Clericus, at aclericus@nsd.org. Please send all other questions via Email to the GC/CM, Sam Comer at sam@cornerstonegci.com.

- D. The Owner and GC/CM Contractor encourage participation in all of the contracts by MWBE firms certified by the Office of Minority and Women's Business Enterprises (OMWBE). Participation may be either direct basis in response to this invitation or as a subcontractor to a bidder. However, unless required by federal statutes, regulations, grants or contract terms referenced in the contract documents, no preference will be included in the evaluation of bids, no minimum level of MWBE participation shall be required as a condition for receiving an award, and bids will not be rejected or considered non-responsive on that basis. Any affirmative action requirements set forth in federal regulations or statutes included or referenced in the contract documents will apply.

While there are currently no specific inclusion goals directed in the contract, The Owner and GC/CM Contractor believe that diverse backgrounds, perspectives, ideas, and experiences maximize productivity, performance and innovation. As such The Owner and GC/CM Contractor aspire to reach inclusion goals for the Inglemoor High School Concert Hall + Music Building Project as follows:

- 30% Local Businesses and Crafts
- 10% Minority-Owned Business Enterprises (MBE)
- 6% Women-Owned Business Enterprises (WBE)
- 5% Small-Business Enterprises (SBE)
- 5% Veteran-Owned Business Enterprises (VBE)

The Owner and GC/CM encourage vendors and subcontractors to aspire to achieve the same diversity and inclusion benchmarks.

- E. In accordance with RCW 39.04.320 the state of Washington requires 15% **Apprenticeship Participation** for this project. Bidders may contact the Department of Labor and Industries, Specialty Compliance Services Division, Apprenticeship Section, P.O. Box 44530, Olympia, WA 98504-4530, by phone at (360) 902-5320, and email at thum235@lni.wa.gov, to obtain information on available apprenticeship programs.

1.2 PREPARATION OF BIDS

- A. Bids must be: (1) submitted on the bid proposal forms provided in Section 00 41 13 of the project Bidding Requirements Manual, without alteration, addition or qualification; and (2) signed in ink or electronically. The person signing the bid must be initial each change appearing on any bid form. If the bid is made by a corporation, it shall be signed by the corporation's authorized designed. The address of the bidder shall be typed or printed on the bid form in the space provided.
- B. The bid form may require bidders to submit bid prices for one or more items on various basis, including (1) lump sum base bid; (2) lump sum Bid Item prices; (3) unit prices; or (4) any combination of the items 1-3 above.

- C. If the solicitation includes alternate bid items, failure to bid on the alternates may disqualify the bid. **If bidding on all items is not required, bidders should insert the words, "no bid" in space provided for any item on which no price is submitted.**
- D. Substitute bid proposals will not be considered unless this solicitation authorizes their submission.

1.3 BID GUARANTEE

- A. A bid guarantee in the amount of 5% of the base bid amount is required for all **bids exceeding \$300,000.00**. Failure of the bidder to provide a bid guarantee shall render the bid non-responsive. Acceptable forms of bid guarantee are: A bid bond or postal money order, or certified check or cashier's check made payable to Cornerstone General Contractors, Inc.
- B. The Construction Manager will return bid guarantees to unsuccessful bidders as soon as practical, but no sooner than the execution of a contract with the successful bidder. The successful bidder's bid guarantee will be returned with its official notice to proceed with the work of the contract.

1.4 PERFORMANCE & PAYMENT BOND

- A. For Bid Packages in excess \$300,000 a performance and payment bond, naming the GC/CM as Obligee, in the amount of 100% of the Bid Package contract value, will be required from the Trade Contractor. The cost of this bond is to be included in the Base Bid for this work. An A. B. Best Rated Surety Company must issue this bond, and it must be issued on the Forms included in Spec. Section 00 52 13. The Bond shall be forwarded to the GC/CM within 10 calendar days of receiving award.

1.5 ADDITIVE OR DEDUCTION BID ITEMS

- A. The low bidder, for purposes of award, shall be the responsive bidder offering the low aggregate amount for the base bid amount, plus the additive and/or deductive bid alternates selected by the Owner and GC/CM.
- B. The bidder agrees to hold all Bid Item prices for ninety (90) days from the date of bid opening unless otherwise noted.

1.6 ACKNOWLEDGEMENT OF ADDENDA

- A. Bidders shall acknowledge receipt of all addenda to this solicitation by identifying the addenda numbers in the space provided for this purpose on the bid proposal form. Failure to do so may result in the bid being declared non-responsive.

1.7 SITE INVESTIGATION AND CONDITION AFFECTING THE WORK

- A. The Contractor acknowledges that it has taken steps necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to (1) the nature of the facilities being demolished, (2) the nature of the occupied school campus, (3) conditions bearing upon transportation, disposal, handling, and storage of materials, (4) the availability of labor, water, electric power, and road, (5) uncertainties of weather, river stages, tides, or similar physical conditions at the site; (6) the conformation and conditions of the ground, and (7) the character of equipment and facilities needed preliminary to and during the work. The contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including exploratory work done by the Owner, as well as from the drawings, and specifications made a part of this contract. All documents are available for review and are issued with the Contract Documents. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work.

1.8 BID AMOUNTS

- A. The prices shown for each item on the bid proposal shall include all labor, material, equipment, overhead and compensation to complete all the work for that item.
- B. If applicable, the actual cost of the building permit (only) and the public utility hookup fees will be a direct reimbursement to the Contractor or paid directly to the permitting agency by the Owner. Fees for the permits shall not be included by the Bidder in the bid amount.
- C. The Bidder agrees to hold the base bid prices for ninety (90) days from the date of bid opening.

1.9 TAXES

- A. The bid amount shall not include Washington State Sales Tax (WSST) on the total submitted bid. All other taxes imposed by law shall be included in the bid amount.

NOTE: Contractor must bond for the contract amount plus WSST.

1.10 INSURANCE

- A. Bidders shall include the minimum insurance requirements listed in Section 005213 in their bid amount.
- B. Builders Risk coverage is being carried by the GCCM. Trade Contractors shall be responsible for all losses related to their scope of work up to the policy deductible amount

of **\$10,000.00** per occurrence. Trade Contractors may choose to carry additional coverage or gap coverage at their option.

1.11 SUBMISSION OF BID

- A. Bids must be submitted at the location and at or before the time specified in the Invitation to Bid.
- B. Bids for bid packages for BP-03.1, BP-08.2 and BP-10.1 must be submitted by email to Owner, Ashley Clericus, at aclericus@nsd.org. Bids for all other bid packages must be submitted in a sealed envelope addressed to the Construction Manager. The following information shall be in the subject line of the email or on the front of the envelope:
 - 1. the project name and description- Bid Package #_____
 - 2. the name of the bidder.
- C. Prior to the bid opening, the GC/CM and Owner will designate the official bid clock. Any part of the bid proposal or bid modification not received prior to the times specified, per the designated bid clock, will not be considered and the bid will be returned to the bidder unopened.
- D. All bids will be formally opened immediately following the time specified for submittal of bids. The Owner will conduct its bid opening virtually. A link to this meeting will be available on Owner's website at <http://www.nsd.org/business>.
- E. A bid may be withdrawn in person or by email by a bidder's authorized representative before the time established for receipt of bids.

1.12 RETENTION BONDS

- A. All costs shall be included in bidders price should bidder wish to provide a bond in lieu of retainage held in an escrow account. Bidders shall comply with all requirements of RCW 60.28.011 as amended by House Bill 1538.

1.13 BID RESULTS

- A. After the Bid Opening, Bidders may obtain the bid results by email from the Construction Manager. Bid tabulation for BP-03.1, BP-08.2 and BP-10.1 will be posted on Owner's website at <http://www.nsd.org/business>. Do not telephone the Owner, Architect or Construction Manager for bid result information.

Send email requests to: sam@cornerstonegci.com

1.14 BIDDER RESPONSIBILITY AND RESPONSIVENESS

- A. Unless otherwise noted, the GC/CM will evaluate bids in response to the solicitation.

- B. Before award of a public works contract, a bidder must meet the following responsibility criteria to be considered a responsible bidder and qualified to be awarded a public works project. The bidder must:
1. At the time of bid submittal, have a certificate of registration in compliance with chapter 18.27 RCW;
 2. Have a current state unified business identifier number;
 3. If applicable, have industrial insurance coverage for the bidder's employees working in Washington as required in Title 51 RCW; an employment security department number as required in Title 50 RCW; and a state excise tax registration number as required in Title 82 RCW;
 4. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065(3);
 5. If bidding on a public works project subject to the apprenticeship utilization requirements in RCW 39.04.320, not have been found out of compliance by the Washington state apprenticeship and training council for working apprentices out of ratio, without appropriate supervision, or outside their approved work processes as outlined in their standards of apprenticeship under chapter 49.04 RCW for the one-year period immediately preceding the date of the bid solicitation; and
 6. Have received training on the requirements related to public works and prevailing wage under this chapter and chapter [39.12](#) RCW. The bidder must designate a person or persons to be trained on these requirements. The training must be provided by the department of labor and industries or by a training provider whose curriculum is approved by the department. The department, in consultation with the prevailing wage advisory committee, must determine the length of the training. Bidders that have completed three or more public works projects and have had a valid business license in Washington for three or more years are exempt from this subsection.
 7. Within the three-year period immediately preceding the date of the bid solicitation, not have been determined by a final and binding citation and notice of assessment issued by the department of labor and industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW 49.48.082, any provision of chapter 49.46, 49.48, or 49.52 RCW.
- C. A Trade Contractor's bid will be considered responsive if it meets the following requirements:
1. is received by the proper time and at the proper place;
 2. is submitted by a licensed/registered contractor within the State of Washington who is not banned from bidding by the Department of Labor and Industries;
 3. is submitted on the proper form, without alteration, addition or qualification.
 4. is accompanied by the appropriate bid guarantee;
 5. includes the full scope of work as defined on the Bid Form;
 6. fulfills all Subcontract Reporting Requirements; and
 7. is submitted by a qualified contractor.
- D. The Owner or GC/CM may reject any and all bids at its discretion, and waive minor irregularities in bids received.

- E. The GC/CM may negotiate bid price adjustments with the low responsive bidder, including changes in the contract plans and specifications, to bring the bid within budget per RCW 39.04.015.

1.15 PROTESTS

- A. Any actual or prospective Bidder, or subcontractor or supplier 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 Owner in accordance with the Owner's Protest Procedure. The Protest Procedure can be found on the Owner's website at <http://www.nsd.org/business>.
- B. Failure to comply with the Protest Procedure will render a protest untimely or inadequate and may result in rejection thereof by the District.

END OF SECTION 00 2113

SECTION 00 2205 – GC/CM PROCESS

PART 1 - THE ARCHITECT

4.1 DEFINITION

- A. The Architects/Engineers and their consultants, are the design professionals or organizations whose names appear on the Contract Documents and identified as such in the Agreement, referred to throughout the Contract Documents as singular in number and masculine in gender. The term Architect, or Engineer, means the Architect, or Engineer, and his authorized representatives.
- B. For reference ease, the term Architect or Architect/Engineer is used. For Contract Documents developed by the engineering disciplines, the term Engineer will be substituted for Architect.
- C. A Consultant is any person or firm who has provided specialized design services for the Project, in consultation or collaboration with the Architect/Engineer or the Owner and whose design services are represented in the Contract Documents. The Consultant, or his representative, shall have the authority to make decisions on his design to the extent authorized by the Architect or the Owner.
- D. Nothing contained in the Contract Documents shall create any contractual relationship between the Architect, and the Trade Contractor

4.2 ARCHITECT/ENGINEER DUTIES DURING CONSTRUCTION

- E. The Architect/Engineer shall at all times have access to the Work wherever it is in preparation or progress.
- F. When directed by the Construction Manager, the Trade Contractor shall provide safe and convenient facilities for such access so the Architect/Engineer may perform his functions under the Contract Documents.
- G. The Architect/Engineer will visit the site to familiarize himself with the progress and quality of Work and to consult and advise the Construction Manager on matters in need of interpretation or modification.
- H. The Architect/Engineer will, in the first instance, interpret the requirements of the Drawings and Specifications. The Architect/Engineer will, within a reasonable time, render such interpretations as are necessary for the proper execution or progress of the Work.
- I. All interpretations and decisions of the Architect/Engineer shall be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. All requests for interpretations shall be directed through the

Construction Manager. The Architect/Engineer shall not be liable to the Trade Contractor for the results of any interpretation or decision rendered in good faith in such capacity.

- J. The Architect/Engineer, the Construction Manager and the Owner will have authority to reject Work which does not conform to the Contract Documents. Rejected Work shall be immediately removed from production or the site. Whenever, in the reasonable opinion of the Architect or Owner, it is considered necessary or advisable to insure the proper implementation of the intent of the Contract Documents, they will have authority to require special inspection or testing of the Work whether or not such Work be then fabricated, installed or completed. However, neither the Architect/Engineer's or Owner's authority to act, nor any decision made by them in good faith either to exercise or not to exercise such authority, shall give rise to any duty or responsibility of the Architect/Engineer or Owner to the Trade Contractor, any Trade Subcontractor, any of their agents or employees, or any other person performing any of the Work.
- K. The Architect will review shop drawings and samples required by the Contract Documents.
- L. The Architect/Engineer along with the Construction Manager will conduct inspections to determine the date of final completion, will receive and review written warranties and related documents required by the Contract and assembled by the Trade Contractor.
- M. The Architect/Engineer will communicate with the Trade Contractors through the Construction Manager.

PART 2 - THE OWNER

4.3 DEFINITION

- A. The Owner is the NORTHSHORE SCHOOL DISTRICT NO. 417, herein referred to as the Owner.
- B. Unless otherwise indicated, all papers and formal written notice required to be delivered to the Owner shall be delivered to Northshore School District No. 417, 22105 23rd DR SE. Bothell, WA 98021, Attention: Dri Ralph.
- C. The Owner shall at all times have access to the Work.

4.4 INFORMATION AND SERVICES PROVIDED BY THE OWNER

- D. Except as may otherwise be required by the Contract Documents, the Owner shall furnish the Geotechnical Report, good faith survey and As-builts to the existing school available during the bid period.
- E. Information or services under the Owner's control shall be furnished by the Owner with reasonable promptness to minimize delay in the orderly progress of the Work.

- F. During progress of the Work, the Owner will issue instructions to the Trade Contractor only through the Construction Manager.
- G. The Owner, in consultation with the Architect and the Construction Manager when appropriate, will decide on proposed changes in the work.

PART 3 - CONSTRUCTION MANAGER (GC/CM)

4.5 DEFINITION

- A. The Construction Manager, CORNERSTONE GENERAL CONTRACTORS INC., is the person or entity who has entered into an agreement with the Owner to serve as Construction Manager and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Construction Manager means the Construction Manager acting through his authorized representative.
- B. It is the intent of the GC/CM Process that the Construction Manager shall direct and schedule the performance of all Work and the Trade Contractors are to follow all such directions and schedules.

4.6 ADMINISTRATION OF THE CONSTRUCTION CONTRACT

- A. The Construction Manager through its authorized representative will provide the general administration of the Construction Contract, functioning through a general, routine review and examination of the Work to (1) judge the Trade Contractor's performance of the Work under the Contract; (2) assist in avoiding defects, deficiencies and omission in the Work; (3) assist the Trade Contractor in interpreting the Contract Documents, when necessary; (4) make determinations on questionable or ambiguous matters relating to the Work; (5) determine amounts due the Trade Contractor for periodic payments; (6) make other judgments and determinations as may be necessary for the satisfactory completion of the Work to fulfill the intent of the Contract Documents.
- B. The Construction Manager will be the Owner's construction representative during construction until final payment and shall have the responsibility to supervise and coordinate the Work of all Trade Contractors.
- C. The Construction Manager shall prepare and update all Construction Schedules and shall direct the Work with respect to such schedules.
- D. The Construction Manager will consult with the Architect/Engineer at his discretion for interpretations, decisions on the quality of materials and workmanship, intent of the Contract Documents, progress of the Work and similar Contract matters, when necessary.
- E. The Construction Manager will receive and review the Trade Contractor's submittals of the Performance Bond (if required), and insurance evidence.

- F. The Construction Manager shall supervise, coordinate and provide general direction of the Work to be performed through to completion and shall see that the materials furnished and the Work performed are in accordance with the Drawings and Specifications and other Contract Documents. His supervision shall in no way supersede or dilute the Trade Contractor's obligation to perform the Work in conformance with all Contract requirements.
- G. The Construction Manager is empowered by the Owner to act on its behalf with respect to the proper execution of the Work and shall give instructions to require such corrective measures as may be necessary in his opinion to insure the proper execution of the Contract or to protect the interest of the Owner.
- H. Except as otherwise provided herein, the Construction Manager shall determine the amount, quality, acceptability, fitness and progress of the Work covered by the Contract. The Construction Manager shall be, in the first instance, the interpreter of those requirements of the Contract Documents related to the inclusion of any portion of the Work within the scope of the Work to be performed by a Trade Contractor, and those requirements of the Contract Documents related to the progress of the Work and the judge of the performance of such requirements by a Trade Contractor.
- I. The Construction Manager will review the Trade Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for conformance to the appropriate Scope of Work established by the Contract Documents. Any notations, comments or dimensions indicated on these submittals are for information only and are not to be construed as substitutes for the Trade Contractor's own verification of dimensions and coordination with proceeding, following and adjoining work, nor do they modify or waive any of the Trade Contractor's contractual responsibilities or requirements as set forth in the Contract Documents.
- J. The Construction Manager will be continuously represented at the site by a construction supervisory staff for the coordination and direction of the work of the various Trade Contractors. The Construction Manager will generally determine if the Work is in accordance with the Contract Documents but will not be responsible to make exhaustive or continuous on site inspections to check quality or quantity of the Work, which shall be the Trade Contractor's responsibility.
- K. The Construction Manager, Architect/Engineer, and the Owner will not be responsible for construction means, methods, techniques, progress, sequences or procedures, or for safety precautions and programs in connection with the Work, and they will not be responsible for the Trade Contractor's failure to carry out the Work in accordance with the Contract Documents. Neither the titles nor functions of the Construction Manager or their representatives shall be construed as (1) assuming or imposing any of the Trade Contractor's responsibilities on the Construction Manager; (2) being responsible in any way for the performance, acts, omissions or inaction of the Trade Contractor, his Trade Subcontractors, anyone employed directly or indirectly by any of them or any one for whose acts they may be liable.
- L. The Construction Manager will establish procedures for coordination among the Owner, the Architect/Engineer, the various Trade Contractors and the Construction Manager itself with respect to all aspects of the Project and implement such procedures.

- M. The Construction Manager will schedule and conduct job meetings to be attended by the various Trade Contractors and representatives of the Owner and the Architect/Engineer to discuss such matters as procedures, progress, problems, and scheduling.
- N. The Construction Manager will determine the adequacy of the Trade Contractor's personnel and equipment and the availability of necessary materials and supplies and take the action necessary to maintain the job schedule.
- O. The Construction Manager will receive and review all requests or recommendations for changes.
- P. The Construction Manager will implement the procedures for the processing of all changes.
- Q. The Construction Manager will review the Trade Contractor's Request for Payment and determine the amounts due the Trade Contractor, based on the Contract requirements and the Construction Manager's evaluation of the progress of the Work.
- R. Requests for required interpretations, clarifications and similar matters arising out of the Contract Documents, or the construction, shall be made to the Construction Manager, who will consult with the Architect/Engineer when necessary or advisable. The Construction Manager's interpretation and decisions shall be consistent with the intent of the Contract Documents.
- S. The Construction Manager shall have the right and authority to reject any of the Work which does not conform to the Contract Documents and to order special inspections or testing.
- T. The Construction Manager will conduct inspections with the Owner to determine the dates of Substantial Completion and the date of final completion, will receive and review written guarantees and related documents required by the Contract and assembled by the Trade Contractor.
- U. It shall be the duty of the various Trade Contractors to comply with all procedures established and/or implemented by the Construction Manager.
- V. The Construction Manager may call for meetings of the Trade Contractors, Trade Subcontractors, and material suppliers as it deems necessary for the proper coordination of the Work. Such meetings shall be held at the site on regular working days during regular working hours, unless otherwise directed by the Construction Manager. Attendance shall be mandatory for all parties notified to attend and Trade Contractors, Trade Subcontractors and material suppliers are required to have a responsible member of their organization in attendance.
- W. In no event shall any act or omission on the part of the Construction Manager relieve the Trade Contractor from his obligation to perform his Work in full compliance with the Contract.

3.3 CONSTRUCTION MANAGER'S RIGHT TO STOP THE WORK

- A. If the Trade Contractor fails to correct defective Work or persistently fails to supply materials or equipment in accordance with the Contract Documents, does not allow others sufficient time to perform their work or otherwise is in substantial violation of the Contract, the Construction Manager may order the Trade Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated.

3.4 CONSTRUCTION MANAGER'S RIGHT TO CARRY OUT THE WORK

- A. If the Trade Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents, fails to perform any provision of the Contract, or fails to commence and continue correction of such default or neglect with diligence and promptness, the Construction Manager may, after seventy two (72) hours written notice to the Trade Contractor and his Surety, require the Surety to promptly assume its principal obligations in accordance with the terms of the Contract. Should the Surety fail to assume the obligations within five (5) days after receipt of the written notice, the Construction Manager without prejudice to any other remedy he may have, may make good such deficiencies. In such case an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Trade Contractor or the Surety, the cost of correcting such deficiencies, including compensation for the Architect/Engineer's and Construction Manager's additional services made necessary by such default, neglect or failure. If the payments then or thereafter due the Trade Contractor, or the Surety, are not sufficient to cover such amount, the Trade Contractor or his Surety, shall pay the difference to the Construction Manager.

PART 4 - THE TRADE CONTRACTOR

4.1 DEFINITION

- A. The Trade Contractor is the person or organization identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Trade Contractor means the Contractor or his authorized representative.
- B. The Contractual Agreements with the Trade Contractors will be with the Construction Manager. The Contract obligation with the Trade Subcontractor is solely with the person or entity with whom he has his Agreement.

4.2 REVIEW OF CONTRACT DOCUMENTS

- A. The Trade Contractor shall carefully study and compare the Contract Documents and shall at once report to the Construction Manager any error or alleged error, inconsistency or omission he may discover. The Trade Contractor shall obtain necessary drawings, specifications or instructions when required to satisfactorily complete any of the Work which appears unclear to the Trade Contractor.

4.3 SUPERVISION AND CONSTRUCTION PROCEDURES

- A. The Trade Contractor shall supervise and direct the Work, using his best skill and attention. He shall be solely responsible for all construction means, methods, techniques, sequences, programs, safety and procedures and for coordinating all portions of the Work under the Contract subject to the overall coordination of the Construction Manager.
- B. The Trade Contractor shall give the Construction Manager proper prior notice, on the forms provided, if any services or utilities will be shut off, disconnected or affected in any way for any length of time. Do not interrupt services or utilities prior to obtaining written directions and approvals from the Construction Manager. Certain work activities may also need to be performed during other than normal working hours. All utility or systems shut downs must be coordinated with the appropriate utility company.
- C. The Trade Contractor shall be responsible to the Owner and the Construction Manager for the acts and omissions of his employees and all his Trade Subcontractors and their agents and employees and other persons performing any of the Work under a contract with the Trade Contractor.
- D. Observations, inspections, tests and approvals by persons other than the Trade Contractor shall in no way relieve the Trade Contractor from his obligations to perform the Work in accordance with the Contract Documents.

4.4 LABOR AND MATERIALS

- A. Unless otherwise specifically noted, the Trade Contractor shall provide and pay for all labor, material, equipment, facilities, systems, tools, temporary facilities, construction equipment and machinery, transportation and services and related items to properly execute and satisfactorily complete the Work.
- B. The Trade Contractor shall employ and assign labor that is skilled and competent in the assigned tasks and shall at all times enforce strict discipline and good order among his employees.
- C. The Trade Contractor shall provide and perform all Work to comply with the requirements of the Contract Documents.

4.5 WARRANTY

- A. The Trade Contractor warrants to the Owner and the Construction Manager all materials and equipment furnished under the Contract, as a permanent part of the Project, will be new unless otherwise specified, and that all Work will be of first quality as acceptable to the Owner and Construction Manager, free from faults and defects and in conformance with the Contract Documents. Incompetent or careless work and work not conforming to these standards including substitutions not properly approved and authorized may be considered defective. If required by the Construction Manager, the Trade Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

4.6 TAXES

- A. The Trade Contractor shall pay all applicable Federal, State and Local taxes on consumables, labor burden, rental equipment, etc. that is not incorporated into the project. Sales tax is not to be added to the overall contract price. The GC/CM billing to the Owner will address the Sales Tax requirement of the overall Contract.

4.7 PERMITS, FEES AND NOTICES

- A. Trade Contractors are required to pay all permits fees associated with their work. The Main Building Permit will be obtained and paid for by the Owner. The Main Mechanical and Main Electrical Permit will be reimbursed at COST to the Applicable Trade Contractors acquiring these said permits.
- B. The Trade Contractor shall give all notices and comply with all codes, laws, ordinances, rules and regulations of any public authority having jurisdiction which bears on the performance of the Work.

4.8 CASH ALLOWANCES

- A. By executing the Agreement, the Trade Contractor represents the Contract Sum includes all cash allowances stated in the Contract Documents.

4.9 SUPERINTENDENT

- A. Pursuant to Bid Package Staffing requirements stipulated in Section 002413 the Trade Contractor shall employ a competent Superintendent and necessary assistants who shall be in attendance at the Project site during the progress of the Work. The Superintendent shall be satisfactory to the Construction Manager, and shall not be changed except with the consent of the Construction Manager, unless the Superintendent proves to be unsatisfactory to the Trade Contractor and ceases to be in his employ. The Superintendent shall be the exclusive representative of the Trade Contractor and all communications given to the Superintendent shall be as binding as if given to the Trade Contractor. When requested by the Trade Contractor, important communications will be confirmed in writing.
- B. Unless specifically approved by the Construction Manager, the Trade Contractor's Superintendent shall be present during all working hours from start to completion of the Work.

4.10 RESPONSIBILITY FOR THOSE PERFORMING THE WORK

- A. The Trade Contractor shall be responsible to the Construction Manager for the acts and omissions of all his employees and all Trade Subcontractors, their agents and employees, and all other persons performing any of the Work under a contract with the Trade Contractor.

4.11 PROGRESS SCHEDULE

- A. The Trade Contractor shall prepare and submit to the Construction Manager all scheduling information required in Section 003113 – Construction Scheduling.

4.12 DRAWINGS AND SPECIFICATIONS AT THE SITE

- A. The Trade Contractor shall maintain at the site for his use one copy of all Drawings, Specifications, Addenda, approved Shop Drawings, Change Orders and other Modifications, in good order and marked to record all changes made during construction. These drawings marked to record all changes during construction, and approved Shop Drawings, Product Data and Samples shall be delivered to the Construction Manager for the Owner upon completion of the Work.
- B. At completion of work and before final certificate is issued, the Trade Contractor shall turn over to the Construction Manager, all sets of Drawings which were stamped and approved by the Building Department, and all permits or certificates issued for the Work.

4.13 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. Shop Drawings are drawings, diagrams, schedules and other data especially prepared for the Work by the Trade Contractor or any Trade Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.
- B. Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Trade Contractor to illustrate a material, product or system for some portion of the Work.
- C. Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.
- D. The Trade Contractor shall review, approve and submit through the Construction Manager with reasonable promptness and in such sequence as to cause no delay in the Work or in the Work of any separate contractor, all Shop Drawings, Product Data and Samples required by the Contract Documents.
- E. By approving and submitting Shop Drawings, Product Data and Samples, the Trade Contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, or will do so, and that he has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.
- F. The Construction Manager, if he finds such submittals to be in order, will forward them to the Architect/Engineer. If the Construction Manager finds them not to be complete or in proper form, he may return them to the Trade Contractor for correction or completion.
- G. The Trade Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Architect/Engineer's review of Shop Drawings, Product Data or Samples unless the Trade Contractor has specifically

informed the Architect/Engineer and Construction Manager in writing of such deviation at the time of submission and the Architect/Engineer has given written approval to the specific deviation. The Trade Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data or Samples by the Architect/Engineer's review thereof.

- H. The Trade Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data or Samples, to revisions other than those requested by the Architect/Engineer or Construction Manager on previous submittals.
- I. No portion of the Work requiring submission of a Shop Drawing, Product Data or Sample shall be commenced until the submittal has been reviewed by the Architect/Engineer. All such portions of the Work shall be in accordance with reviewed submittals.
- J. For detailed requirements for submission of Shop Drawings, Product Data, and Samples, refer to Section 01 of the project specifications and elsewhere in the Contract Documents.

4.14 USE OF SITE

- A. The Trade Contractor shall confine operations at the site to areas designated by the Construction Manager, permitted by law, ordinances, permits, the Contract Documents and shall not unreasonably encumber the site with any materials, equipment or debris. The Project site is an occupied high school campus and all work shall be conducted so as to minimize disruption to the campus and allow full use and occupancy by the school.

4.15 CLEANING UP

- A. The Trade Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. At the completion of the Work he shall remove all his waste materials and rubbish from and about the Project as well as all his tools, construction equipment, machinery and surplus materials.
- B. At the completion of the Project, the Trade Contractor shall perform all cleaning to leave the Work "thoroughly clean" as required by the Contract Documents, unless otherwise specified.
- C. If the Trade Contractor fails to maintain the premises or clean up as specified, the Construction Manager may do so after twenty-four (24) hour written notice, with the cost paid for by the Trade Contractor. The 24 hour requirement will be waived for issues regarding personal and project safety.
- D. Daily cleanup by every Trade Contractor is mandatory.

4.16 CONSTRUCTION MANAGER'S RIGHT TO CLEAN UP

- A. If a dispute arises between the separate Trade contractors as to their responsibility for cleaning up as required by Section 4.15, or elsewhere in the Contract Documents, the

Construction Manager may clean up and backcharge the trade contractors at a rate of \$85.00 per hour plus material, equipment and dump fees or at cost, whichever is greater.

4.17 COMMUNICATIONS

- A. The Trade Contractor shall forward all communications to the Owner and Architect/Engineer through the Construction Manager.

4.18 ROYALTIES AND PATENTS

- A. The Trade Contractor shall pay all royalties and license fees and shall secure to the Owner and Construction Manager for all times the free and undisputed right to the use of any and all patented design, process, method or product used in performance of the Work. The Trade Contractor shall defend all suits or claims for infringement of any patent rights and shall save the Owner and Construction Manager harmless from loss on account thereof.

4.19 INDEMNIFICATION

- A. The Trade Contractor shall indemnify and hold harmless the Owner, the Construction Manager and the Architect/Engineer and their agents and employees from and against all claims, damages, losses, and expenses including, but not limited to attorney's fees arising out of or resulting from the performance, or lack of performance, of the Work, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, including personal injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting therefrom, and (2) is caused in whole or in part by any negligent act or omission of the Trade Contractor, any Trade Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder except to the extent prohibited by RCW 4.24.115.
- B. In any and all claims against the Owner, the Construction Manager or the Architect/Engineer or any of their agents or employees by any employee of the Trade Contractor, and Trade Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Paragraph 4.19 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Trade Contractor or any Trade Subcontractor under workmen's compensation acts, disability benefit acts or other employee benefit acts.
- C. The obligations of the Trade Contractor under this Paragraph 4.19 shall not extend to the liability of the Construction Manager and the Architect/Engineer, his agents or employees arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications, or (2) the giving of or the failure to give directions or instructions by the Owner, the Construction Manager or the Architect/Engineer, their agents or employees provided such giving or failure to give is the primary cause of the injury or damage.

- D. In the event that any party is requested but refuses to honor the indemnity obligations hereunder, then the party refusing to honor such request shall, in addition to all other obligations, pay the cost of bringing any such action, including attorneys' fees, to the party requesting indemnity.

PART 5 – TRADE SUBCONTRACTORS

5.1 DEFINITION

- A. A Trade Subcontractor is a person or organization who has a direct contract with the Trade Contractor to perform any of the Work at the site, or to furnish materials, equipment or systems specifically fabricated for the Work. The term Trade Subcontractor is referred to throughout the Contract Documents as if singular in number and masculine in gender and means a Trade Subcontractor or his authorized representative.
- B. Nothing contained in the Contract Documents shall create any contractual relation between the Owner, Construction Manager or the Architect/Engineer and any Trade Subcontractor or Trade Sub subcontractor.

5.2 SUBCONTRACTUAL RELATIONS

- A. By an appropriate agreement, written where legally required for validity, the Trade Contractor shall require each Subcontractor, to the extent of the work to be performed by the Subcontractor, to be bound to the Trade Contractor by the terms of the Contract Documents, and to assume toward the Trade Contractor all the obligations and responsibilities which the Trade Contractor, by these Documents, assumes toward the Owner, the Construction Manager, or the Architect/Engineer. Said agreement shall preserve and protect the rights of the Owner, the Construction Manager and the Architect/Engineer under the Contract Documents with respect to the Work to be performed by the Subcontractor so that the subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the Trade Contractor Subcontractor agreement, the benefit of all rights, remedies and redress against the Trade Contractor that the Trade Contractor, by these Documents, has against the Owner or Construction Manager. Where appropriate, the Trade Contractor shall require each Subcontractor to enter into similar agreements with his Sub subcontractor. The Trade Contractor shall make available to each proposed Subcontractor, prior to the execution of the Subcontract, copies of the Contract Documents to which the Subcontractor will be bound by this Section, and shall identify to the Subcontractor any terms and conditions of the proposed Subcontract which may be at variance with the Contract Documents. Each Subcontractor shall similarly make copies of such Documents available to his Sub subcontractors.
- B. The Trade Contractor shall continue to be fully responsible to the Construction Manager and the Owner for the proper, complete, and timely execution of all Work covered by his Contract, even after a portion of such Work has been subcontracted to a Subcontractor acceptable to the Construction Manager. Prior to awarding any Subcontract, the Trade Contractor shall assure himself that the Subcontractor is thoroughly familiar with the conditions under which his portion of the Work is to be performed and the Subcontractor's proposal to the Trade Contractor includes all labor, material, and

appurtenances necessary to complete his portion of the Work in accordance with the Contract Documents.

- C. The Trade Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to bind Subcontractors to the Trade Contractor by the terms of the Contract Documents, to require Subcontractors to comply with the Contract Documents, and to give the Trade Contractor the same power as regards terminating any subcontract that the Construction Manager may exercise over the Trade Contractor under any provision of the Contract Documents.
- D. All Work performed for the Trade Contractor by a Subcontractor shall be pursuant to an appropriate agreement between the Trade Contractor and Subcontractor (and where appropriate between Subcontractors and Sub subcontractors) which shall contain provisions that:
 - 1. Require that such Work be performed and guaranteed in accordance with the requirements of the Contract Documents;
 - 2. Require submission to the Trade Contractor of applications for payment under each subcontract to which the Trade Contractor is a party, in reasonable time to enable the Trade Contractor to apply for payment;
 - 3. Require that all claims for additional costs, extensions of time, damages for delays or otherwise with respect to subcontracted portions of the Work shall be submitted in writing to the Trade Contractor (via any Subcontractor or Sub subcontractor where appropriate) in sufficient time so that the Trade Contractor may comply in the manner provided in the Contract Documents for like claims by the Trade Contractor;

5.3 PAYMENTS TO TRADE SUBCONTRACTORS

- A. The Trade Contractor shall pay each Trade Subcontractor, upon receipt of payment from the Construction Manager an amount equal to the percentage of completion allowed to the Trade Contractor on account of such Subcontractor's Work, less the 5 percent retained from payments to the Trade Contractor. The Trade Contractor shall also require each Subcontractor to make similar payments to his subcontractors.
- B. If payment is not made for any cause which is the fault of the Trade Contractor and not the fault of a particular Trade Subcontractor, the Trade Contractor shall pay that Trade Subcontractor on demand, made at any time after the payment should otherwise have been made, for his Work to the extent completed, less the retained percentage.
- C. The Trade Contractor shall pay each Trade Subcontractor a just share of any insurance moneys received by the Trade Contractor. The Trade Contractor shall require each Subcontractor to make similar payments to his subcontractors.
- D. The Owner or the Construction Manager may, on request and at its discretion, furnish to any Subcontractor, if practicable, information regarding percentages of completion certified to the Trade Contractor on account of Work done by such Subcontractors.
- E. Neither the Owner nor the Construction Manager shall have any obligation to pay or to see to the payment of any moneys to any Trade Subcontractors.

PART 6 – SEPARATE TRADE CONTACTS

6.1 MUTUAL RESPONSIBILITY OF TRADE CONTRACTORS

- A. The Trade Contractor shall afford the Construction Manager and other Trade Contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and shall connect and coordinate his work with others under the general direction of the Construction Manager.
- B. Any costs caused by defective or ill-timed work shall be borne by the party responsible thereof.
- C. Should the Trade Contractor wrongfully cause damage to the Work or property of the Owner or to other Work on the site, the Trade Contractor shall promptly remedy such damage.
- D. The Trade Contractor, and his Trade Subcontractors, shall cooperate with and coordinate their work with each other and all other Trade Contractors and the Construction Manager to facilitate general progress of the Project and to prevent delaying the progress of other Trade Contractors. The Trade Contractor shall give reasonable notice and afford other Trade Contractors reasonable opportunity for the introduction and storage of their materials and equipment and the installation or execution of their work, and shall properly connect and coordinate his Work with theirs. The Trade Contractor, and his Trade Subcontractors, shall obtain layout drawings, roughing in detail sheets and other pertinent information directly from the other Trade Contractors to coordinate all phases of the Work, and all Trade Contractors shall within a reasonable time provide such necessary information. For coordination with the Owner's equipment or materials, information shall be obtained from the Construction Manager. After timely notification by the Trade Contractor of the need to accomplish a particular phase or element of the Work, the other Trade Contractors shall, within a reasonable time, perform their work so as not to delay or impede the Trade Contractor.
- E. If any part of the Trade Contractor's Work depends for proper execution or results upon the work of any other separate Trade Contractor, the Trade Contractor shall inspect, including measurements and inspection of work already in place, and shall promptly report to the Construction Manager any apparent or alleged discrepancies or defects in such work that render it unsuitable for such proper execution and results. Failure of the Trade Contractor so to inspect and report shall constitute an acceptance of the other Trade Contractor's work as fit and proper to receive his Work, except as to defects which may develop in the other separate contractor's work after the execution of the Trade Contractor's Work.
- F. Should the Trade Contractor cause delay or damage to any work which is not insured, or property of any separate Trade Contractor on the Project, the Trade Contractor shall, upon due notice, settle with such other Trade Contractor by agreement or arbitration, if he will so settle. If such separate Trade Contractor sues the Owner or Construction Manager on account of any delay or damage alleged to have been so sustained, the Owner or Construction Manager shall notify the Trade Contractor who shall defend such proceedings at the Trade Contractor's expense, and if any judgment or award against the Owner or Construction Manager arises therefrom the Trade Contractor shall pay or

satisfy it and shall reimburse the Owner or Construction Manager for all attorney's fee and court costs which the Owner or Construction Manager has incurred.

END OF SECTION 00 2205

SECTION 00 2217 - SAFETY

PART 1 - GENERAL

1.1 SUMMARY

- A. During construction of the Inglemoor High School Concert Hall + Music Building project, the protection of Students, Teachers, the public, project staff, and all trades people involved in the project from construction accidents will be of primary importance.
- B. Safety on the project site must never be compromised. Construction activities on the project shall be conducted to meet or exceed all applicable local, State and Federal safety and health laws, regulations and standards.
- C. All personnel on site must attend Construction Managers Safety site orientation.
- D. Smoking or tobacco products are not allowed on site.
- E. Each employee on the project shall assume responsibility for safety as a personal duty.
- F. No one is allowed to work in a manner that endangers anyone's life or health.
- G. Whenever the term "contractor" is used herein, it shall mean the Trade Contractor (i.e., subcontractor) or lower tiered Trade Contractor (i.e., sub-subcontractor) who is performing the work.

1.2 SUBMITTALS

A. PRIOR TO CONSTRUCTION

Construction safety is of primary importance to the Owner and to the Construction Manager. To help achieve the commitment of a safe workplace, the following submittals will be required from all contractors and all lower tier contractors who perform work on the project site:

- 1. A written copy of contractor's Project Specific Safety Program that outlines procedures that will be adhered to by contractor's employees.
- 2. A written copy of contractor's Hazard Communication Program that outlines procedures that will be implemented on the project site. Specifics of this program shall include:
- 3. One copy of all Material Safety Data Sheets (MSDS) for all materials that will be used on the project site
- 4. Names of all First Aid/CPR trained people who will be working on the project site.
- 5. Names of all trained Competent Persons when required for work activities that involve fall protection, scaffolding, excavations and trenching, or any other work activity requiring a Competent Person not addressed herein

B. DURING CONSTRUCTION

1. Conduct weekly safety meeting and submit a copy of the minutes of each meeting to the Construction Manager within 24 hours of the meeting.
2. In the event of an accident, each contractor or lower tier contractor involved in the incident shall notify the Construction Manager immediately so that the appropriate procedures can commence. Parties involved in an accident shall complete and submit an Accident Analysis form and copies of any photographs taken of the incident, and any additional incident reports required to properly document the incident. All required documentation shall be completed and submitted to the Construction Manager within 24 hours of the incident.
3. All employees directly involved in an incident that results in personal injury, property damage or reasonable cause shall be screened for alcohol and drugs. Failure to comply shall result in immediate dismissal from the project site.
4. Contractors who employ the use of a crane on-site (boom truck, mobile crane, tower crane, etc) are required to submit evidence of current licenses and certifications of the crane and operator which validate both are within Washington State guidelines of safe operation.

1.3 CONSTRUCTION MANAGER'S RIGHT TO SUSPEND CONTRACTOR PERSONNEL

- A. The Construction Manager shall, upon witnessing an unsafe act, issue a written warning/dismissal notice to the offending employee, contact that employee's supervisory person and advise them of the incident, and send a copy of the warning / dismissal notice to the contractor's main office. If the employee receives a second unsafe act offense, employee shall be suspended from the project site for two (2) working days without pay. If the employee receives a third unsafe act offense, employee shall be dismissed from the project site and not allowed employment on the site again. An employee shall also be dismissed from the project site if found to have in their possession either alcohol or a non-prescription related drug while on the project site or found to be in violation of contractor's safety policies or procedures.
- B. Contractor shall not allow any employee to work on a school site where that employee may have contact with children, if that employee has plead guilty to or been convicted of any felony crime specified under RCW 28A.400.322, as now existing or hereafter amended. Trade Contractor shall provide written documentation stating that proper background checks have been performed and that all employees are in compliance with RCW requirements. Failure to comply with this section shall be grounds for immediate termination of the contract.

ALL REQUIREMENTS OF THIS SECTION SHALL BE IMPLEMENTED FOR THE SAFETY OF EMPLOYEES AND THE SUCCESS OF THE PROJECT.

END OF SECTION 00 2217

SECTION 00 2410 – GENERAL SCOPE OF WORK

PART 1 - GENERAL

1.1 SUMMARY

- A. In addition to the remainder of the contract documents, this section includes a description of the scope of work that applies to all bid packages. Should there be a discrepancy and/or conflict between this section and the contract documents, this section in complement to the specific scope of work shall take precedence.
- B. The Division 00 Bidding Requirements, Specifications and Drawings, along with any addenda issued during the bid period, make up a complete set of Bidding Documents. Bidders shall familiarize themselves with all of this information, as it will become the Contract Documents at the time of Award.

PART 2 - PRODUCTS

2.1 GENERAL ITEMS

- A. **PERFORMANCE & PAYMENT BOND:** For Bid Packages in excess \$300,000 a performance and payment bond, naming the GC/CM as Obligee, in the amount of 100% of the Bid Package contract value (including sales tax), will be required from the Trade Contractor. The cost of this bond is to be included in the Base Bid for this work. An A. M. Best Rated Surety Company must issue this bond, and it must be issued on the Forms included in Spec. Section 005213. The Bond shall be forwarded to the GC/CM within 10 calendar days of receiving award.
- B. **SITE INVESTIGATION:** Bidder acknowledges that he has reviewed and understands the geotechnical reports and site assessments referenced in the document list. Bidder also acknowledges he has visited the site and familiarized himself with the general physical constraints of the site and adjacent areas. Bidder also acknowledges he has reviewed and understands the project phasing and schedule.
- C. **STAFFING:** Project Staffing shall include all Executives, Project Managers, Superintendents, Non-Working Foreman, Project Engineers and other support and/or technical staff needed for a job of this size and complexity and includes management of specific items noted herein and elsewhere in the Contract Documents: This includes, but is not limited to (1) safety program implementation and management; (2) document review and coordination; (3) submittal process; (4) prevailing wage requirements; (5) WSSP administrative processes; (6) meeting attendance; (7) change management; (8) monthly billing process, including all lien waivers and other requirements in 005213 – Form of Contract; and (9) closeout processes (punchlist, as-builts, warranty, etc..).
- D. **PERMITS:** The Owner will pay for the General Building Permit and for the Street Improvement Permit. The applicable Trade Contractors will be reimbursed at cost for the

Mechanical Permit and Electrical Permit. The Owner will also pay utility purveyor development fees and water meter fees. Each Trade Contractor will be responsible for obtaining and paying for all other permits, licenses and fees necessary to complete the work of their Bid Package.

- E. **ALLOWANCES:** Selected Bid Packages have stipulated Allowances which are to be included within Bidder's Base Bid amount, including markup. Allowances are to be used at exclusive discretion and direction of the GC/CM for added scope not already within the Bid Package but determined by the GC/CM to be appropriately performed by the Trade Contractor. Any amounts not used upon final contract completion will be deducted via Change Order from the Trade Contractor's contract. Allowance work shall be performed at agreed upon lump sum or unit costs, or in the absence thereof, at Trade Contractor's (or sub-tier subcontractor, if appropriate) actual cost for materials, labor with associated burden and taxes, and equipment at 100% AED rates (such rates shall include all fuel and maintenance costs, no additional cost for these items will be considered). No additional administration costs, markups or fee for Trade Contractor or sub-tier subcontractor(s) will be allowed on allowance expenditures.
- F. **PHASING REQUIREMENTS:** The Project will be performed on a fully occupied and operational high school campus and therefore must follow a strict phase sequence that has been planned and is communicated in these documents. Reference Section 003113 for an overall description of phasing areas and associated dates. Bidders shall allow for the phasing sequence, durations, necessary manpower, equipment and work hours in their bids to achieve the required schedule and phasing.
- G. **OCCUPIED HIGH SCHOOL CAMPUS:** The full scope of the Inglemoor High School Concert Hall + Music Building Project occurs within a fully operating school and district admin campus. The Inglemoor High School Campus will remain in continuous and normal operation during the full construction period. As such, the 'Work' shall be performed in a manner that allows for full use and occupancy and minimizes disruption to the existing facilities and educational experience of the students and teachers when school is in session. Bidders shall allow for this in their bids.
- H. **STUDENT ARRIVAL/DISMISSAL:** The designated Student Drop-off, Bus Lane and Bus Drop-off area(s) must remain open and unobstructed for school buses and students from 7:00 to 8:00 AM and 2:00 to 3:00 PM Monday through Friday during the school calendar year when school is in session. Extreme caution and care must be taken by drivers to avoid pedestrians. No deliveries are allowed at either entrance during the time frames listed. On-site student traffic and bus traffic is very congested during these time frames and must be given priority.
- I. **MAINTENANCE OF STUDENT ACCESS & PATHWAYS:** ADA access/egress to and from occupied buildings and parking lots must be maintained at all times for students/faculty. These requirements are depicted on the drawings. This requirement is a life safety and occupancy requirement that will be routinely inspected by the Fire Department and Building Official. All Trade Contractors shall make provisions to accommodate this requirement in their bids and shall execute the Work in adherence with this requirement. Note to Bidders: Pay special attention to this requirement as it pertains to the existing academic building and portables to remain open during construction. These areas require student/faculty access/egress through construction

zones which will complicate work activities and schedules in these areas and may require 'out-of sequence' work.

- J. **UTILITY SHUT DOWNS & INTERRUPTIONS:** All shutdowns must be scheduled with the GC/CM, surrounding neighborhoods and appropriate utility companies a minimum of 5 days in advance (or longer if required by utility company). Trade Contractor shall anticipate that any shutdown which effects temporary services shall be performed outside of normal working hours. In the event that a Trade Contractor's work causes or contributes to an unscheduled outage, the Trade Contractor is responsible for immediate corrections.
- K. **MOBILIZATIONS/DEMOBILIZATIONS:** Trade Contractor includes multiple mobilizations/demobilizations as needed to support the overall project schedule. See section 00 31 13 – Construction Schedule for schedule information.
- L. **LOCATES:** Known existing utilities are shown in the Contract Documents. Each Trade Contractor is responsible to perform locates (public & private) prior to digging activities. Where new work is shown to attach to an existing utility, the Trade Contractor shall pot-hole in order to locate the utility P.O.C. prior to running the new line. Each Trade Contractor shall take reasonable precautions to minimize the impact of damage to unknown and unidentified utilities and shall alert GC/CM if encountered.
- M. **PROTECTION:** Each Trade Contractor is responsible for protecting existing property and improvements adjacent to the work area effected by its work and/or activities. Each Trade Contractor shall be responsible for all costs associated with repairing any damages caused by their work. Each Trade Contractor acknowledges that there are significant areas of exposed slab in the finish condition of the building. Provide all necessary means to eliminate staining of the slabs due to Trade Contractors Work (rust stains, oil stains, etc).
- N. **NORMAL PROJECT SHIFT START TIME:** The standard project shift will start at 7:00 AM, Monday through Friday.
- O. **FIELD MEASUREMENTS:** Each Trade Contractor shall be responsible for taking field measurements necessary to coordinate work with other trades. Field measurements shall be taken in a timely manner in order to not delay the project.
- P. **PENETRATIONS:** Each Trade Contractor shall be responsible to patch, repair, seal and/or firestop/smoke seal/acoustic seal all penetrations made by their work. Trade Contractors shall provide all layout for its penetrations.
- Q. **BACKING & SUPPORTS:** Each Trade Contractor shall design, engineer, furnish layout, and install all backing, seismic supports, seismic bracing, anchors and miscellaneous metal supports required to install their work, unless specifically excluded in section 00 24 13 – Bid Package Specific Scope of Work.
- R. **CORE DRILLING/SAWCUTTING:** Trade Contractor shall provide all saw cutting and core drilling required for execution of its work.

- S. SLEEVING: Trade Contractor shall furnish, layout and install sleeving and blockouts required for its work unless specifically excluded in section 00 24 13 – Specific Scope of Work.
- T. DEWATERING: Each Trade Contractor shall be responsible for casual dewatering necessary to perform their work including removal of rainwater on floors, trenches, footings, etc.
- U. PAY APPLICATION PROCESS: The billing procedures outlined in Exhibit D of section 005213 – Form of Contract will be strictly enforced. Trade Contractor acknowledges that it has read and understands these requirements. These requirements are in addition to those required in Section 01 of the project specifications.
- V. TRADE UNIONS: Trade Contractor recognizes Cornerstone has agreements with the following Unions; Pacific Northwest Regional Council of Carpenters. In accordance with RCW 39.10.380 Subcontractor Bidding Procedure, Trade Contractors shall be obligated and bound to such agreements. Should any of Trade Contractor work (including work of lower tier subcontractors) be claimed by those Unions, Subcontractor will enter into an agreement with those Unions.
- W. SUBSTANTIAL/FINAL COMPLETION DATES: Trade Contractor acknowledges that dates for Substantial Completion and Final Completion for their work is tied to the overall project Substantial and Final Completion dates.
- X. WARRANTIES: In addition to special warranties required in Trade Contractors Specification Sections, Trade Contractor shall provide a minimum 12 month warranty in compliance with section 01 of the project specifications.

2.2 TEMPORARY FACILITIES & SERVICES

- A. SCOPE OF TEMPORARY MEASURES: Section 01 of the projection specifications includes a detailed description for the various temporary measures that may be required during the course of construction. Any temporary measures required by Trade Contractor to perform its work, but not specifically included herein or elsewhere in the Contract Documents to be by others shall be provided by Trade Contractor.
- B. CHEMICAL TOILET FACILITIES: Adequate chemical toilet facilities shall be furnished, handled, moved and maintained, per WISHA standards, by the GC/CM for the joint use by all Trades.
- C. SITE SECURITY: Perimeter site fence and gates will be installed by the GC/CM. Modifications of the perimeter fence and subsequent restoration shall be by the applicable Trade Contractor. A security service is not being provided on the Project. Trade Contractors who require security services shall provide this at their own expense.
- D. DUMPSTERS: Waste and Recycling Dumpsters will be provided by the GC/CM. This project will have a waste recycling program in place to meet project WSSP goals. Each Trade Contractor is responsible for sorting and placing its own rubbish into the proper dumpsters (this includes transporting debris from “tipplers” or similar to the dumpsters). The GC/CM provided dumpsters may not be used for debris generated from demolition,

utility removal, site clearing, roofing, masonry and concrete activities. That debris shall be properly disposed of by the applicable Trade Contractor in accordance with project WSSP requirements for sorting, disposal and documentation of waste stream materials.

- E. **CONSTRUCTION WATER:** Temporary construction water will be available for joint use by all Building Trade Contractors via fire hydrant meter from the nearest active fire hydrant location. Trade Contractors are responsible to provide any needed distribution from the hydrant meter locations to suit their specific needs. See 002413 – Bid Package Specific Scope of Work for additional scope for certain Bid Packages.
- F. **DRINKING WATER:** Trade Contractor shall provide separate drinking water for their personnel.
- G. **TEMPORARY POWER:** The GC/CM and ECCM Trade Contractor is responsible to install and maintain the Project's temporary power throughout construction areas as described below: The GC/CM will supply the necessary PDU's, spider boxes and power cord between spider boxes. Within the building, Spider boxes will be located approximately every 100 feet o.c. at each floor and 1 in each Mechanical Roof area. Any damage to the GC/CM's equipment will be the responsibility of the party who caused the damage. Any Trade Contractor's tools and equipment that requires special connections to the temporary power are the responsibility of the Trade Contractor requiring such. Temporary power capacity is limited and priority for its use will be given to general project needs such as general lighting and temporary power distribution for hand tools. Trade Contractors shall provide all extension cords needed to support its work and shall roll up and inspect its cords on a bi-weekly basis. Any damaged or other deficient cords shall be repaired or removed from the project site. Trade Contractors shall not impede installation or remove temporary power systems.
- H. **TEMPORARY LIGHTING:** The GC/CM and ECCM Trade Contractor is responsible to install, maintain and eventually remove the Project's temporary lighting in new construction areas. The GC/CM will supply temp light strings and bulbs in sufficient quantity for temporary lighting to at a minimum cover all corridors and stairwells. This lighting shall be maintained and adjusted during the course of construction and throughout the different stages of construction. Temporary lighting needed in advance of this stage is considered task lighting by the applicable Trade Contractors. Task lighting is the responsibility of each Trade Contractor for his own work. Trade Contractors shall not impede installation or remove temporary lighting.
- I. **FIELD OFFICES:** Each Trade Contractor requiring site offices shall provide its own field office, connection to the GCCM's electrical service, utilities, telephone, fax machine, etc. for its own use. On-site space for Trade Contractor field offices is restricted but will be made available for primary Trade Contractors. Primary Trade Contractors shall anticipate moving their trailer on two separate occasions through the course of construction to accommodate ongoing site construction activities.
- J. **TEMPORARY EDGE/OPENING PROTECTION & GUARDRAILS:** Perimeter safety cable rails, leading edge and protection of openings greater than 24" square, in conformance with WISHA regulations, shall be provided by the Structures (BP-03.1) Trade Contractor and removed by the Framing and Drywall (BP-09.1) Trade Contractor. Roofs will not have rails. Trade Contractors whose work is contained in openings are required to protect those openings in conformance with WISHA regulations. Trade

Contractors shall not use cable railings for fall protection. Fall protection equipment shall be furnished and installed in accordance with manufacturers requirements back to main building structural elements by each Trade Contractor.

- K. VERTICAL ACCESS: The GCCM will provide stair and/or ladder access to second floor and main roof areas upon completion of concrete slab on metal deck activities for each building.
- L. TEMPORARY BUILDING HEATING: Temporary 'general' building heat will be provided by the GC/CM once the building is adequately dried-in and enclosed. Temporary heat will be provided in order to promote the general progress of building finishes such as drywall, paint and floor finishes. See 002413 – Specific Scope of Work for additional scope for certain Bid Packages. Trade Contractors shall reinstall temporary heat measures removed during the course of performing their work.
- M. PROJECT SIGNS: Trade Contractor or Subcontractor signs will not be allowed to be erected on the project site.

2.3 MEETINGS & COORDINATION

- A. ELECTRONIC DOCUMENTATION: This project will utilize an online depository for all project documentation. Trade Contractor shall provide all project information in PDF format. This includes, but is not limited to, RFI's, submittals (product data, shop drawings, etc...), billings and associated backup, change order requests; meeting minutes, closeout documentation (as-builts, O&M, etc...) and other project information. Trade contractor is required to submit items electronically as directed and set up by the GCCM.
- B. INSPECTION COORDINATION: Trade Contractor is required to coordinate with Owner's Special Inspection Agency for all required special inspections under their bid package. Trade Contractor is also responsible to coordinate all inspections required with appropriate authorities having jurisdiction for work under their bid package.
- C. TRADE CONTRACTOR COORDINATION: Each Trade Contractor shall conduct his work in full coordination and cooperation with all other Trade Contractors in order to achieve the required project schedule dates and properly mesh each other's Work. Bidders understand that multiple activities by multiple Trade Contractors will occur simultaneously and consecutively within common work areas. All activities shall be coordinated to achieve the best and most workable process possible in order to prosecute the 'Work'. See 002413 – Specific Scope of Work for additional scope for certain bid packages.
- D. BIM COORDINATION: This project will be utilizing Building Information Modeling (BIM) as a collaborative tool for planning, design, estimating, coordination, construction and post occupancy facility management. Trade Contractor is required to be fully adept in this technology for use on project. Trade Contractor to provide BIM coordination and detailing services for the Project with integration into the Project 3D Model as follows:
 - 1. Trade Contractor shall use AutoCAD, Revit and/or Navisworks compatible software to deliver 3-dimensional coordination between their work and the work of other trades.

2. Trade Contractor shall provide the appropriate personnel to participate in weekly coordination meetings through completion of the MEP coordination effort. Trade Contractor BIM model shall be updated on weekly basis and uploaded to project website prior to weekly coordination meetings until project is fully coordinated.
3. Trade Contractor shall develop and implement detailed 3D model(s) for their respective scope(s) of work defined herein.
 - a. BP-03.1 Required Modeling: Cast-in-place concrete model shall include all building footings, footing shadows, concrete walls, curbs, slabs on grade, thickened slabs, slabs on metal deck, slab openings, mechanical penetrations, concrete stairs, ramps, etc..

Structural Steel model is to include all steel provided under this bid package including but not limited to beams, columns, gussets, connections, braces, fall arrest / fall protection, metal stairs, lintel angles, bent plates, beam/joist embeds, guardrails, railings, gratings, metal ladders, steel frames, etc. Also, and in addition, BP-03.1 is also required to model the following: Steel Joists including joist spacing, elevation, slope, joist depth, chord widths, seat heights, general joist geometry and bridging.
 - b. BP-21.1 Required Modeling: All fire sprinkler piping, hangers, seismic bracing, riser, drops, heads, etc. shall be fully modeled and coordinated with the work of other trades and spacial restrictions. Fully coordinated shop drawings and 3D model shall be submitted for review by the design team.
 - c. BP-22.1 Required Modeling: All piping (including underground piping), equipment, insulation, ductwork, penetrations, devices, access panels, vaults, grease interceptor, and concrete equipment pads shall be fully modeled and coordinated with the work of other trades and spacial restrictions. Fully coordinated shop drawings and 3D model shall be submitted for review by the design team.
 - d. ECCM Required Modeling: All underground feeders, conduit 2" and greater, large grouping of smaller diameter conduits, any other conduit that is critical to the coordination with other trades, cable tray, equipment, switchgear, devices, lighting fixtures, access panels, vaults, and concrete equipment pads shall be modeled and coordinated with the work of other trades and spacial restrictions. Fully coordinated shop drawings and 3D model shall be submitted for review by the design team.
 - e. Each Trade Contractor shall provide preliminary clash detection between its work and the work of other trades to minimize conflicts in the consolidated model assembled by the MCCM.
4. BP-22.1 shall take the lead position in the MEP Coordination effort including hosting coordination meetings (either in person or on-line), establishing and documenting trade zoning, providing FTP or other method for deposit of electronic media from MEP coordination participants, assembling electronic media from all other trades, running clash detection reports and preparing meeting minutes and issue resolution logs.
5. The GCCM will provide an oversight role in the MEP coordination process. This includes attendance at coordination meetings, developing a schedule of deliverables, assuring accountability of all trade contractors to complete their work to support established dates and facilitating input from design team (when needed).
6. Provide separate underground and penetration drawings to support the project schedule. This includes dimensional information for penetrations through structural

- elements (e.g. CMU, steel, concrete, etc.) needed early to support structure fabrication and concrete foundations activities.
7. Provide early detailing information (dimensioned drawings) for coordination with steel and joist fabricator such as equipment sizes, attachments and loading information and other attachments/hangers at steel joists locations.
- E. **DOCUMENT REVIEW:** Trade Contractor's shall anticipate time in their planning and execution for normal document review and coordination between their work and other work elements. This includes time for the GC/CM and Design team to respond to questions that may come up through this process. When questions do arise, Trade Contractors shall submit written questions with specific information regarding conflicts or clarifications.
1. When possible, Trade Contractor shall provide suggestions that result in no changes to cost and/or time elements of the project.
 2. Architect will reply to questions within 7 calendar days.
- F. **MEETINGS:** Trade Contractor shall attend meetings as requested by the GC/CM to support coordination and proper execution of the work. Trade Contractor's representative at these meeting shall be authorized to make decisions relevant to the topics beings discussed in the meeting. These meetings include weekly Trade Contractor coordination meetings, weekly MEP system coordination meetings, periodic cost proposal meetings, monthly billing review meetings, schedule review meetings, weekly safety meetings, meetings with local jurisdictional authorities, periodic quality assurance meetings, commissioning meetings, project closeout meetings; and other meetings necessary to properly execute the work.
- G. **SUBMITTALS:** Trade Contractor shall provide required submittals not less than 42 calendar days (or earlier to support procurement activities) prior to commencement of work at the project site. Trade Contractor shall anticipate calendar days for design team reviews. Submittals shall be provided in complete packages and be clearly marked with the relevant specification section and associated paragraph reference for each item submitted. All deviations must be clearly noted and accompanied by a properly completed and signed substitution request. Note, submittals are only reviewed for general conformance to the contract documents. This does not relieve Trade Contractor or Supplier from full compliance with the contract documents and scope of work.
- H. **SURVEY & LAYOUT REQUIREMENTS:** The GC/CM will provide the following initial survey: 4 corners for each building, 1 datum bench mark for each building, 4 grid offset control lines in both the North/South and East/West directions located on every floor of the structure for each building. Any re-survey of GC/CM provided points required due to Trade Contractor's negligence will be the responsibility of the negligent party. Additional survey requirements by Trade Contractors beyond provisions from GC/CM shall be the responsibility of each Trade Contractor for the work in their own Bid Package. See 002413 – Specific Scope of Work for additional scope for certain bid packages.

2.4 SITE LOGISTICS & DELIVERIES

- A. **NOISE & HAUL ROUTES:** Each Trade Contractor shall comply with work hour, noise and haul route restrictions required by the Authorities Having Jurisdiction.

- B. **DELIVERIES:** Trade Contractor shall provide 5 days' notice of major material deliveries and be onsite to receive all deliveries unless otherwise coordinated with GC/CM Superintendent. Trade Contractor acknowledges that this project is in an active high school campus and that there is major congestion for deliveries between the hours of 7AM-9AM and 2PM-3PM.
- C. **STAGING & LAYDOWN:** Staging, laydown and stockpile space is limited and will be used at the direction and discretion of the GC/CM's Superintendent based on the Project's overall priorities and needs. Storage of materials out of sequence or in excess of what needed to support ongoing work activities is prohibited. Each Trade Contractor shall coordinate deliveries to occur on an 'as needed' or 'just-in-time' basis for their work. Deliveries must be scheduled in advance with the GC/CM's superintendent. Off-site storage costs, if applicable, must be borne by the bidder of each Bid Package. Reference 'IHSCCH Logistics Plan - Section 002410 – Exhibit A' at the end of this section for overall site logistics information for the project.
- D. **TRAFFIC CONTROL:** Each Trade Contractor is responsible to provide traffic control for their Work. Certified flaggers shall be used whenever the Work occurs within public and/or occupied areas of the streets and roads. In addition, Trade Contractors shall provide 'spotters' for any construction vehicle backing up outside of the construction fences. Delivery vehicles shall not be allowed to stage in public areas while waiting for unload. Work within public right of way will require a certified traffic control plan with approval by the City of Seattle.
- E. **HOISTING:** All Trade Contractors shall provide their own hoisting. The GC/CM will maintain an 8,000# reach forklift on-site. Use of GC/CM's forklift must be scheduled in advance and have permission of GC/CM Superintendent. The GC/CM will have discretion to determine priority for its use. In addition, Trade Contractors must provide properly trained and certified personnel to operate the GC/CM forklift and must provide a copy of the certification for the GC/CM to have on file. Those Trade Contractors who will require heavy and/or dedicated use of a forklift or a higher capacity forklift shall provide their own. The intent of the GC/CM supplied forklift is for unloading material from delivery vehicles and stocking materials to lay-down areas on-site or into the buildings. See 002413 – Specific Scope of Work (By Bid Package) for additional scope for certain Bid Packages. Trade Contractor is responsible for all damage or incidental damages resulting for their equipment usage.
- F. **PARKING:** ALL Trade Contractors supervisors and employees are required to park in the Project's designated parking area located on the project site. No residential street parking is allowed.
 - 1. Due to the close proximity of residential homes to the project site, idling vehicles, loitering around vehicles (especially in the morning) and loud music or conversation are strictly prohibited.
 - 2. Garbage must be picked up and disposed of properly.
 - 3. Fluids leaking from any vehicles are prohibited and must be properly cleaned up immediately.
- G. **HOUSEKEEPING REQUIRMENTS:** Housekeeping will be strictly enforced to ensure the construction areas, site, grounds, streets and property are maintained free of accumulation of dirt, waste materials rubbish and debris. Each Trade Contractor shall clean-up all such materials generated by their operations at such frequency as required

to maintain a clean and orderly site, but not less than daily. Each Trade Contractor shall provide their own trash boxes, cans, brooms, etc and transport their debris to the Project's main dumpsters. Should any Trade Contractor fail to comply with these housekeeping requirements, the GC/CM will in the most expeditious manner available perform these tasks on behalf of the negligent party and the cost thereof shall be charged back to the responsible Trade Contractor. Note, only water will be allowed inside the building. All food and other beverages shall be limited to trailer and/or designated eating areas.

- H. COMPOSITE CLEANUP REQUIREMENTS: All Trade Contractors shall participate in a weekly cleanup for general material accumulation of debris not specific to any one company or trade but specific to the composite of all companies and trades. Trade Contractors shall provide 1 worker for each 10 workers on their daily average work crews. Trade Contractors with crews of less than 10 workers shall provide a minimum of 1 worker. Weekly composite cleanup will occur on Fridays and shall be a minimum of 4 hours in duration, however longer durations may be required to accomplish cleaning requirements.
- I. TOOL/MATERIAL STORAGE: All materials, tools equipment, etc. in buildings to be stored on wheels unless coordinated otherwise with GC/CM.
- J. STREET CLEANING: Each Trade Contractor shall keep the paved roads on and off site clean of debris resulting from their construction activities and deliveries.

END OF SECTION 00 2410

IHSCH SITE LOGISTICS PLAN

JUNE 2020 - AUGUST 2020

ARCHITECT STAMP

CONSULTANT STAMP



PROJECT INFORMATION

**Inglemoor High School
Concert Hall
+ Music
Building**

15500 Simonds Rd NE
Kenmore, WA 98028

NORTHSHORE SCHOOL
DISTRICT No. 417



LEGEND

- Construction Area
- Contractor Trade Parking
- School/Public Access Route
- Contractor Walk Route
- Bus Drop-Off Route
- Parent Drop-Off Route
- Construction Delivery Route
- Emergency Vehicle Route

****THIS EXHIBIT IS MEANT TO E VIEWED IN COLOR****



SHEET NUMBER

IHSCH SITE LOGISTICS PLAN

SEPTEMBER 2020 - JUNE 2021

ARCHITECT STAMP

CONSULTANT STAMP

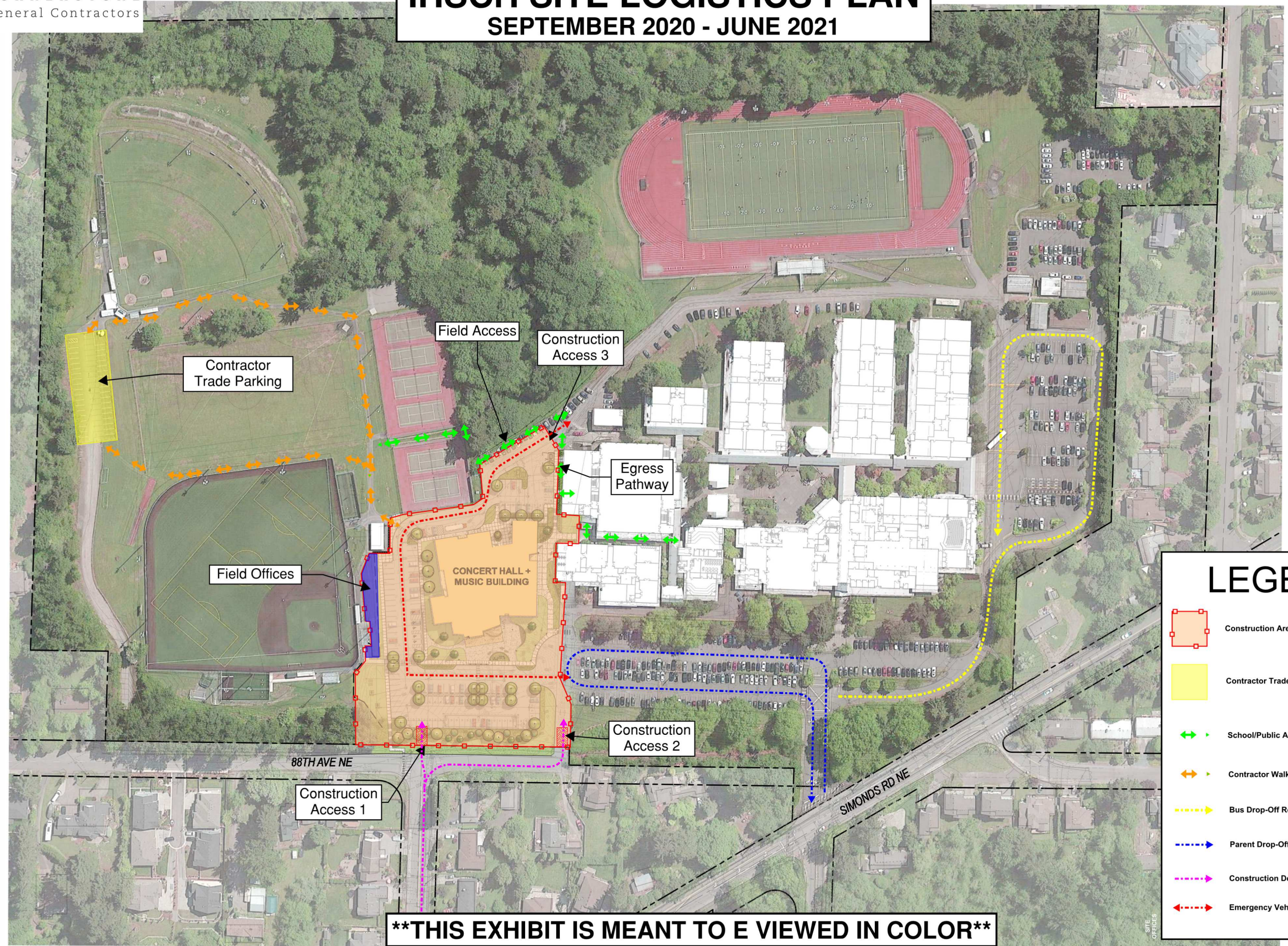


PROJECT INFORMATION

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WEISMANDESIGNGROUP

LANDSCAPE CONSULTANT

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SEATTLE WA 98112

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IHSCH SITE LOGISTICS PLAN

JUNE 2021 - AUGUST 2021

ARCHITECT STAMP

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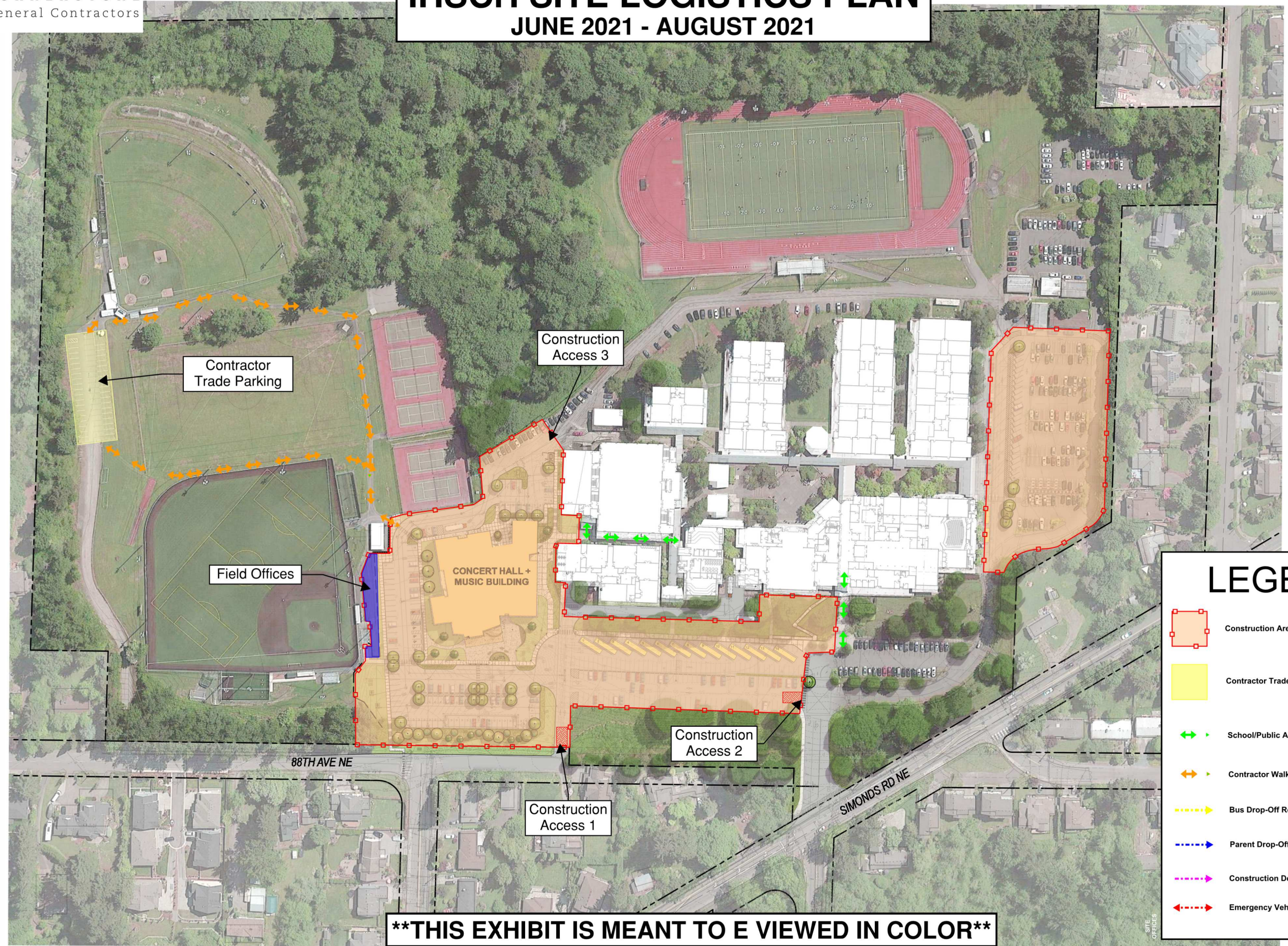


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COMPLETION SEPTEMBER 2021

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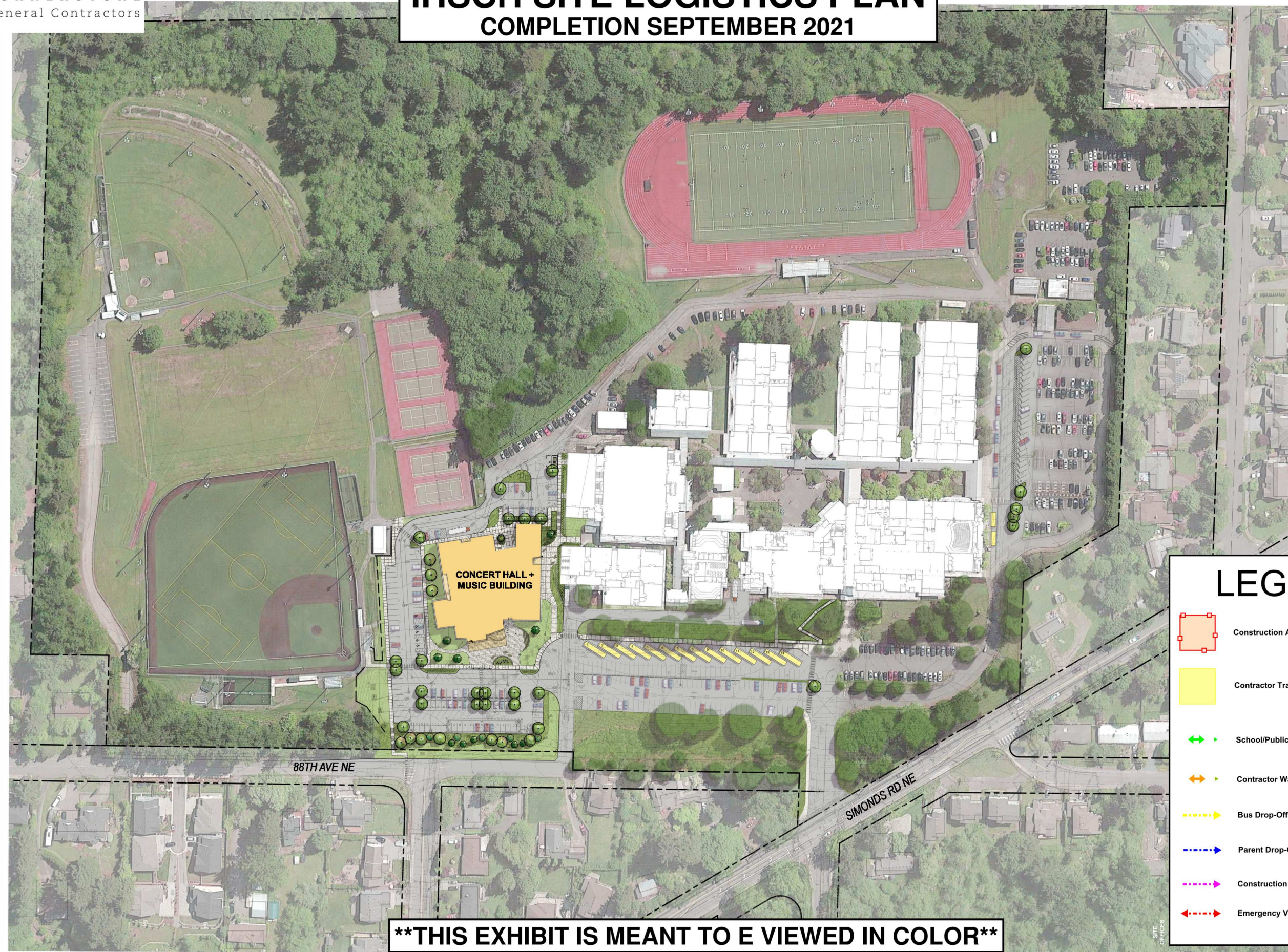


PROJECT INFORMATION

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Kenmore, WA 98028

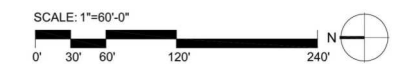
NORTHSHORE SCHOOL
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LEGEND

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SECTION 00 2413 – SPECIFIC SCOPE OF WORK (BY BID PACKAGE)

PART 1 - SUMMARY

1.1 The following pages enumerate the Specific Scope of Work for each bid package. Trade Contractors are responsible for providing all supervision, labor, materials, tools, transportation, equipment, scaffolding, hoisting, and other appurtenances necessary for completion of the Work as is described below and as may be additionally provided in the Contract Documents.

A. This section includes the specific scope of work for the bid packages noted below:

B.

BP #	Bid Package Description	Section Ref
BP-03.1	STRUCTURES	2.1
BP-06.1	CASEWORK & FINISH CARPENTRY	2.2
BP-07.1	METAL PANELS, SHEET METAL & FLASHINGS	2.3
BP-07.2	ROOFING	2.4
BP-08.1	ALUMINUM WINDOW SYSTEMS & GLAZING	2.5
BP-08.2	OPENINGS	2.6
BP-09.1	FRAMING & GWB	2.7
BP-09.2	ACOUSTICAL CEILINGS & TREATMENTS	2.8
BP-09.3	CARPET & RESILIENT	2.9
BP-09.4	TILING	2.10
BP-09.5	PAINTING, COATINGS & SEALANTS	2.11
BP-10.1	CONSTRUCTION SPECIALTIES	2.12
BP-21.1	FIRE SPRINKLERS	2.13
BP-22.1	MECHANICAL	2.14
BP-31.1	SITE DEVELOPMENT	2.15
BP-32.1	LANDSCAPE & IRRIGATION	2.16

1.2 DEFINITIONS

- A. "Complete" means furnished, installed and performed as necessary to complete the work required by the contract documents and all related references. No exclusions, unless specifically listed as an exclusion to the bid package scope work.
- B. "As Applicable" means that a portion of the specification section referenced applies to the bid package scope of work as defined in the inclusions and exclusions within each bid package.
- C. "Provide" means furnished and installed, all labor, material, equipment, hoisting, supervision, and incidentals to furnish and install the work complete.
- D. "BP" means Bid Package

- E. "BP-XX" is an abbreviation for and means the responsible Bid Package Trade Contractor for Bid Package number being referenced.
- 1.3 Where a conflict exists between Specification Section 002413 and other Specification Sections and/or Drawings, Specification Section 002413 shall take precedence.
- 1.4 Included for additional clarification at the end of this section is 'IHSCH Bid Package Plan Specification Matrix – Section 002413 – Exhibit A'.
- 1.5 Trade Contractor shall refer to the Contract Documents as a whole and as they apply to the specific scope work. This includes Section 002410 – General Scope of Work for those items that apply to all bid packages.
- 1.6 Inclusions noted in other bid packages not performed by Trade Contractor shall not be interpreted for exclusions within Trade Contractor's bid package.

PART 2 - BID PACKAGE SPECIFIC SCOPE OF WORK

2.1 BID PACKAGE BP-03.1 – STRUCTURES

- A. This Trade Contractor shall have primary responsibility for the following specification sections, but shall also coordinate their work with all other Sections in order to provide a complete and coordinated installation.

Section	Description	Scope
Div 00	Procurement and Contracting Requirements	As Applicable
Div 01	General Requirements	As Applicable
03 30 00	Cast-In-Place Concrete	Complete
03 45 00	Precast Architectural Concrete	Complete
05 12 00	Structural Steel Framing	Complete
05 12 13	Architecturally Exposed Structural Steel Framing	Complete
05 21 00	Steel Joist Framing	Complete
05 31 00	Steel Decking	Complete
05 50 00	Metal Fabrications	Complete
05 51 00	Metal Stairs	Complete
05 52 13	Pipe and Tube Railings	Complete
07 11 13	Bituminous Dampproofing	Complete
07 17 00	Bentonite Waterproofing	Complete
07 21 00	Thermal Insulation	As Applies to this Scope of Work
14 24 00	Hydraulic Elevators	Complete

- B. Highlighted Inclusions:

1. This bid package includes all Cast-in-Place Concrete Work for the Project Complete including but not limited to footings, walls, slabs, slabs on deck, pan filled stairs, interior CIP stairs, equipment pads, equipment curbs, site seat walls, site cheek walls, site CIP retaining walls, reinforcing, signage element foundations, etc.
2. This Bid Package includes the complete Supply and Installation of Precast Concrete components.
3. This Bid Package includes the complete Supply and Installation of Steel Fabrications, Steel Joists, Steel Decking for the Project, including but not limited to: structural steel, steel joists, steel decking, AESS steel and miscellaneous steel.
4. This Bid Package includes the complete Supply and Installation of the Fall Protection scope of work for the Project.
5. This Bid Package includes the complete Supply and installation of Elevators for the Project.
6. Furnish a Payment and Performance Bond per section 002113 – Instructions to Bidders.
7. Time is of the essence, Trade Contractor acknowledges the aggressive schedule requirements, complexity and size of the project and by bidding this project is confirming its qualifications, experience and expertise to execute the Work and

that it has the resources to complete the Work within the timeframes allowed (reference section 003113 – Construction Scheduling).

8. Trade Contractor acknowledges this project is being constructed on a fully occupied public school campus. In addition, portions of the Work are being executed adjacent to and within occupied buildings. Therefore, as-is typical to renovations within occupied zones, there are necessary precautions required to perform work under these conditions in order to ensure the safety, health and operations of the occupants. These include but are not limited to: noise control, dust control, shift work, temporary barriers, continuity of systems, signage, shoring, bracing, etc.
9. To the largest degree practical, Trade Contractor shall prefabricate and assemble materials off-site using LEAN principles.
10. Minimum Staffing Requirements: During periods of on-site activity, this Trade Contractor shall have a full-time, on-site, non-working with tools, Superintendent who has full authority to make decisions for Trade Contractor regarding cost, quality control and schedule issues and capable of coordinating with other Trade Contractors and the GC/CM. In addition, during periods of on-site activity, this Trade Contractor shall have a full-time on-site, non-working with tools, Project Engineer with primary responsibility of managing the administrative requirements of the project (submittals, RFI's, pay requests, etc.).
11. Trade Contractor to provide BIM coordination and detailing services for the Project with integration into the Project 3D Model as stipulated in Section 002410 – General Scope of Work.
12. The sequence of all Work shall be coordinated and integrated amongst all Trade Contractors in order to meet the overall dates listed in the Schedule. This will require full cooperation and coordination from multiple Trade Contractors involved in the Work. In General, the Work shall be executed in order to achieve the most expeditious installation sequence with priority for safety, quality and production.
13. Allow access and sufficient/reasonable time for others for installation of their Work that is integral with this Trade Contractor's Work.
14. Provide all survey/staking/layout for the Work of this package. GC/CM will provide a master datum point on-site, four grid lines at grade level per building and one elevation benchmark on-site. All other survey/staking/layout is by this Trade Contractor, including layout for footing excavations.
15. Provide temporary safety rails around all foundation excavations, ground level openings, stairs and at elevated slabs in compliance with WISHA. Provide toe boards and covering/protection of all slab penetrations and diamonds. Removal of temporary rails and protection to be coordinated with work of other trades and removed in time to not impede safe progress. Provide temporary wood handrail and pan tread infill and protection compliant with WISHA at all metal stairs for trade usage during construction. Remove temp railing and tread infill and protection at a time nearing project completion. Stairs shall be made available to trades' immediately following erection of the stairs.
16. Provide coordination of all penetrations, sleeves and block outs with all Trade Contractors and all documents.
17. Provide all unloading, handling, hoisting and access for the Work of this bid package complete. NOTE: The GC/CM's forklift is not available for use by this Trade Contractor.
18. Trade Contractor shall include a \$40,000 allowance in its base bid as a Force Account allowance. Reference Section 002410-2.1.E.
19. CAST IN PLACE CONCRETE SCOPE:

- a. Provide all Building cast-in-place concrete Work for the Project complete including foundations, walls, slabs, slabs on deck, pan filled stairs, equipment pads, curbs, pour back at steel columns, etc.... This includes concrete work shown on the architectural drawings (e.g. pan filled stairs, CIP stairs, etc...).
- b. Provide all Site cast-in-place concrete retaining wall Work for the Project Complete. This includes Work on the A, S, C, and L drawings sheets
- c. Provide all equipment housekeeping pads/bases/curbs. Equipment housekeeping pads/bases/curbs which are indicated on any of the following drawing sheets: A, S, M & E are included. Coordinate exact sizes and locations of equipment related concrete with the appropriate Trade Contractor who is providing that equipment.
- d. Provide damproofing and bentonite waterproofing including drain board, protection board and other specified accessories.
- e. Provide vapor barrier including taping/sealing of lap joints and penetrations. This includes all penetrations for work of other trades.
- f. This Trade Contractor shall inspect and accept the elevation and condition of all sub-grade prior to starting work. Commencement of work shall communicate acceptance of sub-grade.
- g. Provide rigid insulation at all below grade conditions including below SOG and rigid insulation required around steel members at SOMD.
- h. Provide all reinforcing steel, slip dowels and mesh integral with cast-in-place concrete work of this package.
- i. Provide all embeds, anchor bolts and inserts which cast into concrete, including coordinating this work with approved shop drawings from other trades.
- j. Columns anchor bolt templates supplied under this bid package are for this Trade Contractor's use only for column locations that bear on-top of footings and walls. After use, this Trade Contractor shall strip and remove templates, and provide clean, plumb, chased and undamaged threads with nuts replaced at top of all anchor bolts prior to turn-over to steel erection. Includes coordination with approved Shop Drawings for all placement locations. Provide grid layout for column bases after stripping of forms and templates. Leveling nuts are included.
- k. Provide non-shrink grout below all column bases after installation of columns and prior to placement of SOMD.
- l. Provide all hot and cold weather methods for concrete placing and curing as per ACI, including heating and tenting below placement when and where necessary.
- m. Provide coordination of all penetrations, sleeves and block outs with all Trade Contractors and all documents.
- n. Provide legal concrete truck and pump truck wash-out including eco-pans and off-site disposal.
- o. Provide mag trowel finish at tops of footings at anchor bolt locations to correct grade.
- p. Hard trowel finish on top of all cast-in-place walls.
- q. Blow off/clear slab-on-metal decks prior to concrete placement.
- r. Provide coordination of slab finish, curing requirements, and flatness/levelness for each scheduled floor finish. In addition, this Trade Contractor shall coordinate with the Polished Floor contractor and the

Flooring Trade Contractor to ensure their methods and products are fully compatible.

- s. Trade contractor acknowledges that slab on grade (SOG) can be placed before or after structural steel erection at the sole discretion of the GC/CM.
- t. Provide, within 24 hours of all placements, a quality control check / as-built for embed locations and slab elevation deviation from plan in a 10ft x 10ft grid. As-builts shall be submitted to GC/CM for record purposes. Owner's inspection agency will perform FF and FL testing in areas requiring specific tolerances (e.g. wood floor areas) and/or areas subject to higher levels of public use.
- u. Provide broom swept work areas upon completion of the Work, including removal of concrete splatter.
- v. Remove unfinished concrete around slab penetrations (conduits, steel, etc...)
- w. Provide flaggers/spotters on-site for large placements to maintain organization of trucks and safety of personnel on the ground.
- x. Includes sealed concrete floors, complete, including joint treatments per manufacturer and project specifications. Seal floors as soon as concrete has met the manufacturers curing requirements.
- y. Provide dewatering of open footing excavations resulting from surface water run-off. Water shall be pumped to temporary detention measures provided by BP31.1 Trade Contractor.

20. PRECAST CONCRETE SCOPE

- a. Provide all required submittals, certificates, samples, shop drawings, and warranties. Supplier shall provide field use coordination drawings, including piece marks for all treads, prior to delivery.
- b. Stamped and signed engineering calculations. (Engineering includes \$1,000,000 Errors and Omissions Insurance. Additional coverage or tails available at additional costs.)
- c. Coordinate sequence of deliveries with Cornerstone to arrive on or before needed date.
- d. Provide a bill of lading with the delivery date, description, quantities, and piece marks.
- e. Load trucks in a manner that can be unloaded by a forklift.
- f. Precast stair treads to include embed plates to accept welded connection by others.
- g. Provide matching filler compound for patching of installation/erection inserts, as applicable.
- h. Supplier to provide field measurements.
- i. Two piece mock up treads for a standard stair and for the concert hall seating areas (4 total pieces).
- j. Trade Contractor acknowledges erection of precast may occur before or after complete steel erection, slab on metal deck placement and/or roof construction. As such Trade Contractor to provide means and methods for precast erection in fully enclosed building.

21. STRUCTURAL STEEL, JOISTS AND DECKING SUPPLY SCOPE

- a. Trade Contractor shall anticipate that RFI's and their associated time frames for response are normal to the detailing process and shall be accommodated for in its schedule for providing complete and accurate shop drawings.

- b. See below for anticipated shop drawings and delivery dates:
 - 1) Anchor Bolt/Embed Shop Drawings: 05/20/20 (allow 3 weeks for review)
 - 2) Anchor Bolt/Embed Delivery: 07/01/20
 - 3) Complete Steel Shop Drawings (Submitted by Erection Zone): 07/01/20 (allow 4 weeks for review)
 - 4) First Steel Delivery for Continuous Erection: 09/01/20
 - 5) Stair & Rail Shop Drawings: 08/01/20 (allow 3 weeks for review)
 - 6) Stair Delivery: In Sequence
 - 7) Rail Delivery: As scheduled by CGC Supt (approx.)
- c. Coordinate fabrication with other items such as movable partitions, HVAC equipment, etc. to support such items.
- d. Provide all anchors, including epoxy (steel/steel, steel/concrete, steel/CMU). Includes all bolts, expansion anchors, epoxy rods, DBA's, epoxy, nuts and washers complete for all steel connections indicated including bolted connections from steel to Concrete, CMU and wood and fasteners for all arch misc. metals. Includes bolts for bar joist connections to structural steel.
- e. Column Anchor Bolt Templates: Supply Steel Plate Anchor Bolt Templates for each column (no re-use). Templates shall be made of 1/8th plate steel and sized 2 inches larger in each direction than the base plate for the column. Each template shall have a Centerline Hole punch and (4) 1/8" nail holes at the perimeter of the template for attachment to the forms. Each template shall be piece marked with location and column type. These shall be supplied 10 days prior to the commencement of foundation installation.
- f. Supply all thru-deck Shear Studs / Nelson Studs.
- g. All rebar/dowels shown welded to steel members shall be shop welded.
- h. All weep holes in galvanized members to be plugged by fabricator prior to delivery.
- i. Provide all miscellaneous metals except as specifically listed under "Exclusions". This includes all work shown on the "A", "S", "L" and/or "C" drawings sheets.
- j. All Material deliveries shall be sequenced to support continuous erection. Materials shall be delivered to the project as per the stipulated erection zoning and generally on a 'just in time' basis for shake-out prior to erection. There is not adequate space on-site for long term storage. If necessary, provide off-site storage so that the material can be fabricated ahead of time and delivered to the site to support continuous erection activities and schedule requirements without overwhelming the site with material. Refer to 003113 for additional schedule information.
- k. Material to be shop fabricated to the furthest extent possible and as indicated in the Contract Documents. In the case where pieces must be provided for field splicing, design for ground splice prior to erection, supply all anchors, hardware and instructions associated with splice requirements.
- l. Stairs and related guard rails to be shipped with erection zoning to allow erection with structural steel sequence.
- m. Provide all site handrails and guardrails. This includes all rails shown on Civil and Landscape drawings.
- n. Provide fully engineered joist and metal deck drawings and calculations stamped by a professional engineer licensed in Washington State.

- o. Provide all gauge metal deck edge, edge form, flute closure, neoprene closures and flute insulation where indicated. Material to be shop fabricated to the furthest extent possible and as indicated in the Contract Documents.
- p. All joists shall be delivered in full span lengths unless not possible due to legal roadway transport limitations. In the case where joists must be provided for field splicing, design joist for ground splice prior to erection, supply all anchors, hardware, support pieces and instructions associated with splice requirements.
- q. Acoustical Reflector Panels: BP-03.1 Steel Fabricator will supply angle frames per detail 10/S5.32, aircraft cable, steel plates and tabs. BP-09.1 Trade Contractor shall provide cold formed metal framing track and joists. BP-09.1 Trade Contractor shall assemble framing, steel components and install/hang Acoustical Reflector Panel frames. Holes in angle frames per detail 10/S5.32 shall be field drilled for air craft cabling by BP-09.1 trade Contractor. BP-06.1 Trade Contractor shall install PLAM faced Plywood Panels on the installed frames. (Ref. Details on Sheets A5.42 and S5.32).
- r. Provide field measuring for all site rails.
- s. Erector Aides: the following erector aides are not indicated on the contract drawing sheets but are required:
 - 1) Supply Steel shims for all columns (3x3x1/8s, 1/4s, 1/2s).
 - 2) Provide weld plates at guide rail columns and hoist beam for elevator.
 - 3) Supply A307 x 1" cut washers welded to all perimeter columns for safety cables located at 22" & 48" off the top of steel dimension for that floor (not required for columns at open bay areas).
 - 4) Provide 2"x2"x1/4" angles by 49" long at 8 ft o.c. at all perimeter beams @ metal deck areas for safety rail installation. Holes for safety cables are required @ 22" and 48" AFF. This includes light wells, mech shafts and elevator. This includes light wells, mech shafts and elevator.
 - 5) Provide one 3/4" hole in the top flange approximately 12" from each end of all beams for safety cable attachment.
 - 6) Provide all pipe and tube steel members with bolted erection holes so that no member is not bolted at time of erection. Diagonals to have one erection hole in the top and two erection holes in the bottom end. Trade Contractor to provide erection bolts.
 - 7) Supply LeJeune, Bristol or approved equal tension control bolts on all bolts requiring torque specs.
 - 8) Anchor Bolts shall be supplied with one additional jamb nut per bolt in order to secure the Anchor Bolts to the templates. Anchor Bolt thread projection shall be provided to accommodate the proper projection taking into account the added jamb nut.
 - 9) Supply bolts for bar joist connections to structural steel, including erection bolts.
 - 10) Material to be stamp marked clearly on one end only to coincide with erection shop drawing piece marks and color coded as per erection zoning. Tags are not acceptable as the only source of identification.
 - 11) Provide (4) full size sets of erection drawings and (2) full size sets of detail drawings in advance of material deliveries. Erection drawings shall show piece marks and identification of the direction of each member and which side of the clip that beams connect to.
 - 12) Provide bills of lading a minimum of 24hrs prior to material deliveries.

- 13) Provide all slab edge bent plates shop welded to supporting member, held back from columns regardless of details found within the drawings. Any DBA's shall be shipped loose for field installation.
- 14) Do not place primer paint within 2" of all field weld conditions and at slip critical connections.
- 15) Provide all ledgers with erection holes on each end for temp anchors.
- 16) Provide all roof and floor opening steel as shop welded frames and deliver per erection zoning.
- 17) All canopies shall be shop welded to largest shippable size.
- 18) Backup bars for CP welds.
- 19) Deck loads cannot be mixed unless necessary to fill the truck. If mixed, only the subsequent zone can be added.
- 20) Supply (2) deck crimping tools as required by manufacturer for use on Project thru completion of decking installation at no additional charge.
- 21) Supply joists with bolted connections where possible, otherwise provide erection bolt holes and bolts for all joist connections, coordinate layout with steel fabricator such that supporting members are prepped with erection holes too.
- 22) Supply bolted x-bracing in lieu of bridging at all joist locations.
- 23) Supply 10% extra quantity of bridging material.
- 24) Provide sufficient trucking to supply loads every 45min each day of a complete erection zone. Erection zoning will be provided post bid after review with erector.

22. STEEL ERECTION SCOPE

- a. Erector is required coordinate with and provide access for Owner's Special Inspection Agency for conformance of field-welds and execution.
- b. Provide erection zoning map, in compliance with the Project Schedule, within 15 days of Award. Material shall be delivered to the project as per the stipulated erection zoning which is Trade Contractor's obligation to create in coordination with the GC/CM and fabricator(s). Trade Contractor acknowledges that material will be sent in full truck quantities that will result in certain steel for later sequences being delivered early.
- c. To facilitate project schedule, elevated decks will need to be completed and turned over for other trades work in portions as determined by the GC/CM. Safety railing will need to be installed not only on outside edges but to accommodate the portions being turned over.
- d. Erection of structural steel may occur prior to or after installation of slab on grade at the discretion of the GCCM.
- e. Trade Contractor shall execute work utilizing 100% Tie-Off throughout execution of work in compliance with OSHA/WISHA requirements.
- f. Install all thru-deck Shear Studs.
- g. Install wedge anchors at Trade Contractors work.
- h. Permanent Stairs and ladders shall be erected in sequence with building such that they are available for trade contractor access use.
- i. Remove all erector aides which aren't part of the permanent connection or that are exposed to view upon completion. Grind smooth to match adjacent steel surface at erection aide locations.
- j. Provide cable safety rails, in compliance with WISHA, for all areas with metal decking where an opening or edge condition exists. Placement of rail system shall be so as to minimize conflicts with subsequent Work so that rails may

remain installed as long as possible. Remove when exterior framing is sufficiently completed to allow removal without installation of another safety rail. Coordinate areas where exposed concrete will not allow cable safety rail stanchions in concrete.

- k. Where steel is exposed to public view in its final configuration, whether or not it is AESS, provide welds that are dressed up with smooth finished appearance with no sharp edges or slag.
- l. Provide field priming of all welds after inspection, match finish of primer or galvanized coating as provided by the supplier.
- m. Provide gas welding equipment and/or generators to supply power for welders. The Project's temporary power will not be made available for welding equipment.
- n. Installation of all welded/bolted steel stairs, guardrails and handrails. This includes all welded connections at building and site handrails, including stainless steel handrails.

23. FALL PROTECTION SCOPE

- a. Provide permanent facility fall protection as required by the contract documents and applicable codes and regulations.
- b. Professional Engineered stamped shop drawings, bearing a seal of a Professional Engineer registered in the state of Washington.
- c. Provide testing and certification, closeout documentation, warranty, and training on use and maintenance of system after installation as per specifications.
- d. Stanchion heights to meet or exceed min flashing heights determined by roofing manufacturer's warranty requirements. Coordinate with approved roof taper drawings to ensure minimum anchor height above roof is met.
- e. Includes installation of lifeline.
- f. Provide all necessary sealing gaskets.

24. ELEVATOR SCOPE

- a. Coordinate inspections required by governmental authorities. Include one final inspection per elevator and one re-inspection per elevator.
- b. Elevator Contractor acknowledges its responsibility for coordination of its scope of work, including code compliance, with the work of the Electrical, Mechanical Trade Contractors.
- c. Provide written confirmation of sump and elevator pit size, dimensions and below grade mechanical/electrical coordination requirements within 5 days of Award.
- d. Furnish and install any miscellaneous or structural metals, tie beams, concrete embeds, sill/jamb angles, grouting of sill/jamb angles, elevator hoist beams, seismic bracing, elevator shaft/pit ladders, that are not shown on contract drawings but are required to complete elevator installation in accordance with manufacturers, local and/or state requirements.
- e. Furnish and install guide rails, access panels, elevator door jambs and sills, fascia, sealants, caulking, fire stopping, sill and jamb grouting and insulation incidental to the work. Include all sleeves, core drilling, and/or cutting for work of this section.
- f. Provide all permits and certifications required by governmental authorities for temporary and permanent operation of the elevators.

- g. Equipment shall be stored by Elevator Contractor until installation if necessary and only delivered to the site when unit is ready for installation.
- h. Includes elevator cab finishes complete except floor coverings.
- i. Provide code signage and labelling associated with Elevators.
- j. Elevator contractor to coordinate with owner's locks and keying schedule and access control systems.
- k. Trade Contractor acknowledges that installation may be required off of temporary power. Trade Contractor agrees to coordinate electrical requirements with Electrician.

C. Exclusions:

- 1. Site related concrete as follows: concrete curb, gutter, sidewalk, mow strips, cheek walls and stairs.
- 2. Fence post foundation, flagpole, bollard and other site improvement concrete.
- 3. Light pole bases.
- 4. Misc. Metal Fabrications and Perforated Metal at ductwork per details 8, 9, 10, 11, 23, 27 on A4.44.

2.2 BID PACKAGE BP-06.1 – CASEWORK & FINISH CARPENTRY

- A. This Trade Contractor shall have primary responsibility for the following specification sections, but shall also coordinate their work with all other Sections in order to provide a complete and coordinated installation.

Section	Description	Scope
Div 00	Procurement and Contracting Requirements	As Applicable
Div 01	General Requirements	As Applicable
06 10 00	Rough Carpentry	As Applicable
06 20 23	Interior Finish Carpentry	Complete
06 42 19	Plastic-Laminate-Faced Wood Paneling	Complete
07 92 00	Joint Sealants	As Applicable
09 84 00	One-Dimensional Diffuser	Complete
10 12 00	Display Case	Complete
12 35 50	Casework	Complete

B. Highlighted Inclusions:

1. This Bid Package is intended to include all scope of work for the Project associated with interior finish carpentry and casework.
2. Furnish a Payment and Performance Bond per section 00 2113 – Instructions to Bidders.
3. Time is of the essence, Trade Contractor acknowledges the aggressive schedule requirements, complexity and size of the project and by bidding this project is confirming its qualifications, experience and expertise to execute the Work and that it has the resources to complete the Work within the timeframes allowed (reference section 003113 – Construction Scheduling).
4. Trade Contractor recognizes that the Scope of this Bid Package occurs over multiple phases spanning separate time periods requiring separate mobilizations. Refer to section 003113 for additional information.
5. On site staffing requirements: During periods of on-site activity, this Trade Contractor shall have a full-time, on-site, representative who has full authority to make decisions for Trade Contractor regarding cost, quality control and schedule issues and capable of coordinating with other Trade Contractors and the GC/CM. Trade Contractor shall also provide other staff as needed to support the work of this Agreement.
6. Provide all hoisting and access equipment needed for Trade Contractors work. NOTE: The GC/CM forklift will only be made available for limited use for deliveries coordinated with the GC/CM.
7. To the largest degree practical, Trade Contractor shall prefabricate and assemble materials off-site using LEAN principles.
8. In-wall backing & blocking in locations, type and quantity described on the contract drawings will be provided by BP-09.1. The BP-06.1 Trade Contractor shall field locate this backing via paint on studs timely to coincide with framing activities. Any additional quantities of backing desired by BP-06.1 Trade Contractor will be at the cost and responsibility of the BP-06.1 Trade Contractor. Includes timely review and acceptance of installed backing prior to cover up. Un-reviewed backing installation will be deemed to have been accepted. Provide backing requirement drawings.

9. Provide miscellaneous steel, brackets, supports, and wall standards required for supporting items provided under this bid package including but not limited to in-wall brackets, counter support brackets, etc. Where the structural 'S' drawings specifically indicate miscellaneous steel shapes by size and attachment details, this will be provided by others.
10. Provide protection of counter tops and wall paneling immediately following installation. Protection shall be affixed to counter to prevent debris from getting under it and scratching the surface. Protection shall consist of Masonite or thick cardboard. Prior to punch-list, BP-06.1 Trade Contractor is responsible to remove and dispose of the protection and wipe down the surface in accordance with final cleaning requirements.
11. All Work provided by BP-06.1 shall be wiped down, wiped out, cleaned with labels removed (except UL labels) just prior to punch-list.
12. Provide coordination with Electrical and Plumbing contractors for installation of utilities, fixtures and raceways within casework. Casework must allow for concealment of utilities and maintenance access, including removable backs/panels.
13. Provide cutouts in items provided by BP-06.1 for other trades Work (for example, sinks, grommets, vents, grilles, etc...).
14. Provide aesthetic joint sealant / caulk joint between finish carpentry items, casework items and adjacent surfaces where indicated AND when gaps exceed 1/16" (for example, window sills and back splashes).
15. Furnish and install all surface mounted blocking & shims behind wall paneling and as required to make Work plumb and level.
16. All Work provided under BP-06.1 is to be prefinished by BP-06.1.
17. Provide all hardware and locks within Trade Contractors Work. Cores will be provided by BP-08.2. Trade contractor required to provide a schedule of casework locks for coordination with BP-08.2.
18. Deliveries to be coordinated with GCCM minimum 48 hours prior to delivery. Provide bills of lading for review.
19. Provide display cases complete including glass.
20. Acoustical Reflector Panels: BP-03.1 Steel Fabricator will supply angle frames per detail 10/S5.32, aircraft cable, steel plates and tabs. BP-09.1 Trade Contractor shall provide cold formed metal framing track and joists. BP-09.1 Trade Contractor shall assemble framing, steel components and install/hang Acoustical Reflector Panel frames. Holes in angle frames per detail 10/S5.32 shall be field drilled for air craft cabling by BP-09.1 trade Contractor. BP-06.1 Trade Contractor shall install PLAM faced Plywood Panels on the installed frames. (Ref. Details on Sheets A5.42 and S5.32).
21. Provide finishes on hidden door.
22. Provide wood benches complete. Ref. Detail 2/A4.46 for example.
23. Provide misc. metals associated with wood wall paneling and benches. Ref. details on 26/A4.45 and similar details on A4.45, A4.46 and A4.47 for example.
24. Provide Countertop Supports. Ref. detail 29/A4.42 for example.
25. Provide a Force Account Allowance of \$10,000 for Work not included in this Bid Package but determined by the GCCM to be best performed by this Trade Contractor.

C. Exclusions:

1. Marker Boards.

2.3 BID PACKAGE BP-07.1 – METAL PANELS, SIDING & FLASHINGS

- A. This Trade Contractor shall have primary responsibility for the following specification sections, but shall also coordinate their work with all other Sections in order to provide a complete and coordinated installation.

Section	Description	Scope
Div 00	Procurement and Contracting Requirements	As Applicable
Div 01	General Requirements	As Applicable
06 10 00	Miscellaneous Rough Carpentry	As Applicable
07 21 00	Thermal Insulation	As Applicable
07 25 00	Weather Barriers	Complete
07 42 13	Metal Wall Panels	Complete
07 42 14	Metal Composite Material Wall Panels	Complete
07 46 33	Composite Resin Panels	Complete
07 54 19	Single-Ply Membrane Roofing	As Applicable
07 62 00	Sheet Metal Flashing and Trim	Complete
07 92 00	Joint Sealants	As Applicable
07 95 00	Expansion Control	Complete - Exterior
08 91 19	Fixed Louvers	Complete

B. Highlighted Inclusions:

1. This Bid Package is intended to include all scope of work for the Project associated with sheet metal, metal panels, metal siding, aluminum wall panels flashings, downspouts, gutters, scuppers, conductor heads, trim, air barrier system, louvers, insulation, etc.
2. Furnish a Payment and Performance Bond per section 00 2113 – Instructions to Bidders.
3. Time is of the essence, Trade Contractor acknowledges the aggressive schedule requirements, complexity and size of the project and by bidding this project is confirming its qualifications, experience and expertise to execute the Work and that it has the resources to complete the Work within the timeframes allowed (reference section 003113 – Construction Scheduling).
4. Trade Contractor recognizes that the Scope of this Bid Package occurs over multiple phases spanning separate time periods requiring separate mobilizations. Refer to section 003113 for additional information.
5. On site staffing requirements: During periods of on-site activity, this Trade Contractor shall have a full-time, on-site, representative who has full authority to make decisions for Trade Contractor regarding cost, quality control and schedule issues and capable of coordinating with other Trade Contractors and the GC/CM. Trade Contractor shall also provide other staff as needed to support the work of this Agreement.
6. Provide all hoisting and access equipment needed for Trade Contractors work. NOTE: The GC/CM forklift will only be made available for limited use for deliveries coordinated with the GC/CM.
7. To the largest degree practical, Trade Contractor shall prefabricate and assemble materials off-site using LEAN principles.

8. The GCCM will require a mock-up assembly (not incorporated into the work) for an exterior wall that includes all different exterior conditions that exist in the Work as shown in the plans. One wall shall have an opening for a storefront window and one shall have an opening for a standard hollow metal frame. The mockup will also include typical penetrations through the enclosure system. Trade Contractor shall provide the full scope of its Work at this mockup.
9. Where metal/aluminum siding/wall panels & soffit occur: provide a complete rain screen type 'enclosure system assembly' consisting of all components which start at the outside face of the GWB Sheathing, etc., including but not limited to: weather barriers, SAM, fluid applied flashings, clips, insulation, furring/girts/framing, flashings, sealants, metal siding, metal panels, vent screens, insect screens, etc...
10. Installation of product/systems per manufacturer's requirements including standard flashing details that are not indicated in the plans. If the details in the plans do not represent manufacturer's installation requirements trade contractor to bring it to the attention of the GCCM during the shop drawings process.
11. Provide SS break shape flashing with drip edge at all locations.
12. Provide exterior expansion joint assemblies including all noted moisture barriers at roof and exterior wall locations. Interior expansion joints will be provided by Bid Package BP-10.1.
13. Provide vent blocking as required.
14. Provide SS saddle flashings.
15. Provide ALL Downspouts and connection to transition below grade provided by BP-31.1.
16. Provide Flashings that attached into curtain wall assembly. Coordinate with BP-08.1 Trade Contractor for installation. Reference detail 1/BE502 for example.
17. Provide metal attachment angle at window system sills. Reference detail 7/BE500 for example.
18. Provide all primary and secondary joint sealants / caulk joints between materials installed by BP-07.1 and all other adjacent materials whether or not installed by BP-07.1 except at aluminum window systems installed under BP-08.1. Sealant to aluminum window systems to be installed under BP-08.1.
19. Metal Stud Wall framing member locations, type and quantity inside of the exterior GWB Sheathing is described on the contract drawings and will be provided by BP-09.1. The BP-07.1 Trade Contractor is responsible for all other framing, backing, blocking, furring, etc. required by his assemblies.
20. Gutters and downspouts shall be installed timely in order to manage water from roofs as soon as practical. If this Work is not performed timely, temporary downspouts shall be installed in order to direct and control the water.
21. BP-07.1 shall anticipate that installation of windows will precede installation of Masonry veneer or metal wall panels, and therefore the sequence of work at the openings and related details must accommodate this sequence.
22. Provide coordination with electrical and plumbing contractors for installation of their fixtures and trim within the exterior assemblies provided by BP-07.1 and cutouts for same. BP-07.1 is responsible to ensure weather-tight seal between their Work and the Work of others who penetrate their Work.
23. All items provided by this Trade Contractor shall be wiped down, wiped out, cleaned with labels removed (except UL labels) just prior to punch-list.
24. Trade Contractor shall provide protection when working over and/or adjacent to finish surfaces.

25. Provide a Force Account Allowance of \$10,000 for Work not included in this Bid Package but determined by the GCCM to be best performed by this Trade Contractor.

C. Exclusions:

1. Clad metals at roofing.

2.4 BID PACKAGE BP-07.2 – ROOFING

- A. This Trade Contractor shall have primary responsibility for the following specification sections, but shall also coordinate their work with all other Sections in order to provide a complete and coordinated installation.

Section	Description	Scope
Div 00	Procurement and Contracting Requirements	As Applicable
Div 01	General Requirements	As Applicable
06 10 53	Miscellaneous Rough Carpentry	As Applicable
07 21 00	Thermal Insulation	Complete
07 54 19	Single-Ply Membrane Roofing	Complete
07 62 00	Sheet Metal Flashing and Trim	Complete
07 92 00	Joint Sealants	As Applicable

B. Highlighted Inclusions:

1. This Bid Package is intended to include all scope of work for the Project associated with Roofing.
2. Furnish a Payment and Performance Bond per section 002113 – Instructions to Bidders.
3. Time is of the essence, Trade Contractor acknowledges the aggressive schedule requirements, complexity and size of the project and by bidding this project is confirming its qualifications, experience and expertise to execute the Work and that it has the resources to complete the Work within the timeframes allowed (reference section 003113 – Construction Scheduling).
4. Trade Contractor recognizes that the Scope of this Bid Package occurs over multiple phases spanning separate time periods requiring separate mobilizations. Refer to section 003113 for additional information.
5. On site staffing requirements: During periods of on-site activity, this Trade Contractor shall have a full-time, on-site, representative who has full authority to make decisions for Trade Contractor regarding cost, quality control and schedule issues and capable of coordinating with other Trade Contractors and the GC/CM. Trade Contractor shall also provide other staff as needed to support the work of this Agreement.
6. Provide all hoisting and access equipment needed for Trade Contractors work. NOTE: The GC/CM forklift will NOT be made available for this Trade Contractor's use
7. To the largest degree practical, Trade Contractor shall prefabricate and assemble materials off-site using LEAN principles.
8. The GCCM will require a mock-up assembly (not incorporated into the work) for an exterior wall that includes all different exterior conditions that exist in the Work as shown in the plans. One wall shall have an opening for a storefront window and one shall have an opening for a standard hollow metal frame. The mockup will also include typical penetrations through the enclosure system. Trade Contractor shall provide the full scope of its Work at this mockup.
9. Provide dumpster(s) and legal off-site disposal of all debris generated by the Work of this package, including disposal fees. (Bidders of BP-07.2 are to ignore paragraph 2.2.D of Section 002410).

10. Wood blocking in locations and quantities depicted in the contract drawings will be provided by others. If BP-07.2 requires additional wood blocking that is not clearly indicated in the contract drawings is required, it is the responsibility of BP-07.2 to provide.
11. Anticipate and provide roof penetrations and associated flashing of same in quantities as indicated on the A, S, M, E, FS designated roof drawings.
12. Supply and Install all roof related PVC clad flashings, including scuppers. In addition, provide all metal termination bars and battens.
13. Provide water-tight conditions at all permanent and temporary termination conditions. Do not rely on a subsequent contractor's installation to achieve a water-tight condition.
14. Install insulation strips at acoustical metal deck locations. Insulation will be provided by others.
15. For the purpose of determining make-up work days due to weather, Saturday shall be considered a regular time work day when the total hours worked on this project in any week do not exceed 40 hours.
16. All areas provided by this Trade Contractor shall be washed down, wiped down, with labels removed just prior to punch-list.
17. Provide a Force Account Allowance of \$5,000 for Work not included in this Bid Package but determined by the GCCM to be best performed by this Trade Contractor.

C. Exclusions:

1. Wood roof blocking shown in drawings.
2. Gutters.

2.5 BID PACKAGE BP-08.1 – ALUMINUM WINDOW SYSTEMS & GLASS

- A. This Trade Contractor shall have primary responsibility for the following specification sections, but shall also coordinate their work with all other Sections in order to provide a complete and coordinated installation.

Section	Description	Scope
Div 00	Procurement and Contracting Requirements	As Applicable
Div 01	General Requirements	As Applicable
07 92 00	Joint Sealants	As Applicable
08 41 13	Aluminum-Framed Entrances and Storefronts	Complete
08 44 13	Glazed Aluminum Curtain Walls	Complete
08 51 13	Aluminum Windows	Complete
08 71 00	Door Hardware	As Applicable
08 80 00	Glazing	Complete

- B. Highlighted Inclusions:

1. This Bid Package is intended to include all scope of work for the Project associated with all aluminum storefront systems, aluminum curtain wall systems, transaction windows, aluminum break shapes, interior glazing and non-framed mirrors.
2. Furnish a Payment and Performance Bond per section 002113 – Instructions to Bidders.
3. Time is of the essence, Trade Contractor acknowledges the aggressive schedule requirements, complexity and size of the project and by bidding this project is confirming its qualifications, experience and expertise to execute the Work and that it has the resources to complete the work in the timeframes allowed (reference section 003113 – Construction Scheduling). Timely and expedited submittal, delivery and installation of this BP's Work is critical for Building dry-in and execution of the Project's finishes. This Trade Contractor shall provide submittal, materials and installation to promote the earliest possible dry-in date but no later than the dates listed. Where the Work of this package is late, BP-08.1 Trade Contractor will be required to provide temporary weather barrier covers at openings in order to allow interior finishes to proceed.
4. Trade Contractor recognizes that the Scope of this Bid Package occurs over multiple phases spanning separate time periods requiring separate mobilizations. Refer to section 003113 for additional information.
5. On site staffing requirements: During periods of on-site activity, this Trade Contractor shall have a full-time, on-site, representative who has full authority to make decisions for Trade Contractor regarding cost, quality control and schedule issues and capable of coordinating with other Trade Contractors and the GC/CM. Trade Contractor shall also provide other staff as needed to support the work of this Agreement.
6. To the largest degree practical, Trade Contractor shall prefabricate and assemble materials off-site using LEAN principles.
7. Provide all hoisting and access equipment needed for Trade Contractors work. NOTE: The GC/CM forklift will only be made available for limited use for deliveries coordinated with the GC/CM.

8. The GCCM will require a mock-up assembly (not incorporated into the work) for an exterior wall that includes all different exterior conditions that exist in the Work as shown in the plans. One wall shall have an opening for a storefront window and one shall have an opening for a standard hollow metal frame. The mockup will also include typical penetrations through the enclosure system. Trade Contractor shall provide the full scope of its Work at this mockup.
9. Metal framing, steel framing and supports in types, locations and quantities depicted in the contract drawings, when detailed with sizes and connection information, will be provided by others. Any other attachments to structure and/or other supports not shown in the contract drawings, but required by this Trade Contractor, shall be provided by this Trade Contractor. This includes steel supports, if needed, at high span storefront conditions.
10. Provide sealants/caulking between the Work of BP-08.1 and all other materials. Do not rely on a subsequent contractor's installation to achieve a water-tight condition. This includes caulk joints at the exterior and interior side of this Trade Contractors work.
11. Trade Contractor acknowledges that hollow metal frames will attach directly to its system and will accommodate such connection in their shop drawings. Installation of hollow frames is by others.
12. Aluminum Doors: BP-08.1 Trade Contractor shall provide aluminum doors including installation. Hardware as specified in section 087100 shall be provided by BP-08.2 Trade Contractor and installed by BP-08.1 Trade Contractor.
13. Provide all break shapes indicated to match aluminum window systems.
14. BP-08.1 shall anticipate that installation of windows will precede installation of exterior cladding systems, and therefore the sequence of work at the openings and related details must accommodate this sequence.
15. Provide interior glass and glazing complete, including door lites, relites, un-framed mirrors, etc. However, glazing that is integral within assemblies specified elsewhere in other sections is by others (Folding Glass Partitions for example).
16. All Work provided by this Trade Contractor shall be wiped down and cleaned, with labels removed, just prior to punch-list.
17. Provide a Force Account Allowance of \$5,000 for Work not included in this Bid Package but determined by the GCCM to be best performed by this Trade Contractor.

C. Exclusions:

1. Sheet Metal flashings.

2.6 BID PACKAGE BP-08.2 – OPENINGS

- A. This Trade Contractor shall have primary responsibility for the following specification sections, but shall also coordinate their work with all other Sections in order to provide a complete and coordinated installation.

Section	Description	Scope
Div 00	Procurement and Contracting Requirements	As Applicable
Div 01	General Requirements	As Applicable
07 92 00	Joint Sealants	As Applicable
08 11 13	Hollow Metal Doors and Frames	Complete
08 11 14	Custom Hollow Metal Doors and Frames	Complete
08 14 16	Flush Wood Doors	Complete
08 34 73	Sound Control Door Assemblies	Complete
08 71 00	Door Hardware	Complete
08 71 13	Automatic Door Operators	Complete

B. Highlighted Inclusions:

1. This Bid Package is intended to include all scope of work for the Project associated work associated with of all horizontal passageways (doors, frames, hardware, special doors, etc.) and all interior hollow metal relite frames.
2. Furnish a Payment and Performance Bond per section 00211 – Instructions to Bidders.
3. Time is of the essence, Trade Contractor acknowledges the aggressive schedule requirements, complexity and size of the project and by bidding this project is confirming its qualifications, experience and expertise to execute the Work and that it has the resources to complete the Work within the timeframes allowed (reference section 00311 – Construction Scheduling).
4. Trade Contractor recognizes that the Scope of this Bid Package occurs over multiple phases spanning separate time periods requiring separate mobilizations. Refer to section 003113 for additional information.
5. On site staffing requirements: During periods of on-site activity, this Trade Contractor shall have a full-time, on-site, non-working with tools, Superintendent who has full authority to make decisions for Trade Contractor regarding cost, quality control and schedule issues and capable of coordinating with other Trade Contractors and the GC/CM. In addition, during periods of on-site activity, this Trade Contractor shall have a full-time on-site, non-working with tools, Project Engineer with primary responsibility of managing the administrative requirements of the project (submittals, RFI's, pay requests, etc). Trade Contractor shall also provide other staff as needed to support the work of this Agreement.
6. To the largest degree practical, Trade Contractor shall prefabricate and assemble materials off-site using LEAN principles.
7. The GCCM will require a mock-up assembly (not incorporated into the work) for an exterior wall that includes all different exterior conditions that exist in the Work as shown in the plans. One wall shall have an opening for a storefront window and one shall have an opening for a standard hollow metal frame. The mockup will also include typical penetrations through the enclosure system. Trade Contractor shall provide the full scope of its Work at this mockup.

8. All HM doors and frames to be shop primed per specifications. Coordinate with BP-09.4 Trade Contractor for field painting requirements.
9. All materials to be shipped 'just-in-time' in sequence by building as the schedule requires. Separate deliveries for HM frames, HM Doors and wood doors required for each building.
10. Coordinate with BP-08.1 Trade Contractor for all HM frames to be installed in Aluminum Curtain Wall Assemblies and include all required fasteners and clips for installation.
11. Receiving, inventory, distribution and installation of frames in metal wall framed assemblies is by BP-09.1. Coordinate with BP-09.1 Trade Contractor for all HM frames to be installed in Metal Framed Wall Assemblies and provide all required fasteners and clips for installation. Prior to swinging door slabs, BP-08.2 shall re-verify each hollow-metal frame that it is plumb and square. All deviations shall be promptly corrected in coordination with BP-09.1.
12. BP-08.2 Trade Contractor is responsible for setting of HM Frames in Aluminum Window Systems. Coordinate with BP-08.1 Trade Contractor for all HM frames to be installed in Aluminum Curtain Wall Assemblies and include all required fasteners and clips for installation.
13. Coordinate with ECCM Trade Contractor for all electrical devices and infrastructure that are required to be installed within door and frame assemblies.
14. In-wall backing & blocking in locations, type and quantity described on the contract drawings will be provided by BP-09.1. The BP-08.2 Trade Contractor shall field locate this backing via paint on studs timely to coincide with framing activities. Any additional quantities of backing desired by BP-08.2 will be at the cost and responsibility to provide by BP-08.2. Includes timely review and acceptance of installed backing prior to cover up. Un-reviewed backing installation will be deemed to have been accepted.
15. Aluminum Doors: BP-08.1 Trade Contractor shall provide aluminum doors including installation. Hardware as specified in section 087100 shall be provided by BP-08.2 Trade Contractor and installed by BP-08.1 Trade Contractor.
16. All fire rated assemblies to be UL rated and labeled.
17. All acoustical assemblies to meet performance specifications. Trade Contractor to provide acoustical testing as required by plans and specifications.
18. All hardware shall be keyed in accordance with the specifications.
19. BP-08.2 Trade Contractor shall provide temporary construction locksets for all exterior doors, electrical rooms, mechanical rooms and an additional 20 locations to provide security prior to substantial completion.
20. Provide hardware packages individually packaged and labeled.
21. Provide a connex for storage of all HW to be placed in a location coordinated with GCCM.
22. Provide and install auto-operators.
23. All Work provided under BP-08.2 is to be prefinished by BP-08.2 except the following items which are to be provided shop primed: HM frames, HM doors and HM relites.
24. Provide all glazing that is integral with items provided in BP-08.2 with the exception of glazing associated with 08 11 13 Hollow Metal Doors and Frames and 08 14 16 Flush Wood Doors.
25. Glazing stops in HM doors/frames are to come mechanically attached to door/frame with (2) screws in each stop.
26. All Work provided by BP-08.2 shall be wiped down, wiped out, cleaned with labels removed (except UL labels) just prior to punch-list.

27. Provide with single point of connection for Electrical Contractor. Any other wiring including limit switches and connection are covered under this subcontract.
28. Provide access panels related to contractor's scope of work.
29. Provide a Force Account Allowance of \$10,000 for Work not included in this Bid Package but determined by the GCCM to be best performed by this Trade Contractor.

C. Highlighted Exclusions:

1. Glazing within doors and relites.
2. Foam Insulation within HM frames.

2.7 BID PACKAGE BP-09.1 – FRAMING & GWB

- A. This Trade Contractor shall have primary responsibility for the following specification sections, but shall also coordinate their work with all other Sections in order to provide a complete and coordinated installation.

Section	Description	Scope
Div 00	Procurement and Contracting Requirements	As Applicable
Div 01	General Requirements	As Applicable
05 40 00	Cold-Formed Metal Framing	Complete
06 10 00	Rough Carpentry	As Applies to this Scope of Work
06 16 00	Sheathing	Complete
07 21 00	Thermal Insulation	As Applies to this Scope of Work
07 46 46	Fiber-Cement Siding	Complete
07 84 13	Penetration Firestopping	Complete
07 92 00	Joint Sealants	As Applies to this Scope of Work
08 11 13	Hollow Metal Doors and Frames	As Applies to this Scope of Work
09 21 16	Acoustical Wall Construction	Complete
09 22 16	Non-Structural Metal Framing	Complete
09 29 00	Gypsum Board	Complete

B. Highlighted Inclusions:

1. This Bid Package is intended to include all scope of work for the Project associated with metal stud framing and GWB, and insulation within the weather barrier.
2. Furnish a Payment and Performance Bond per section 002113 – Instructions to Bidders.
3. Time is of the essence, Trade Contractor acknowledges the aggressive schedule requirements, complexity and size of the project and by bidding this project is confirming its qualifications, experience and expertise to execute the Work and that it has the resources to complete the Work within the timeframes allowed (reference section 003113 – Construction Scheduling).
4. On site staffing requirements: During periods of on-site activity, this Trade Contractor shall have a full-time, on-site, representative who has full authority to make decisions for Trade Contractor regarding cost, quality control and schedule issues and capable of coordinating with other Trade Contractors and the GC/CM. Trade Contractor shall also provide other staff as needed to support the work of this Agreement.
5. Provide all hoisting and access equipment needed for Trade Contractors work. NOTE: The GC/CM forklift will not be made available for this Trade Contractor's use.
6. Provide dumpster and disposal fees for GWB scrap debris generated by this Bid Package. The GCCM's dumpster is not permitted for use by BP-09.1 for GWB scrap.

7. The GCCM will require a mock-up assembly (not incorporated into the work) for an exterior wall that includes all different exterior conditions that exist in the Work as shown in the plans. One wall shall have an opening for a storefront window and one shall have an opening for a standard hollow metal frame. The mockup will also include typical penetrations through the enclosure system. Trade Contractor shall provide the full scope of its Work at this mockup.
8. Provide all in-wall backing/blocking (metal and wood) in locations, quantities and types indicated and specified in all sections (Divisions 05 thru 14). Obtain all submittal information from other Trade Contractors indicating specific backing information necessary for each item that is supported by or connected to a wall. NOTE: In addition to the metal stud backing indicated for wall hung handrail, provide a solid nested fire treated continuous wood block at each stud bay.
9. Provide all Thermal Insulation for the Project except as follows: rigid insulation occurring under slabs on grade, rigid insulation occurring on the dirt side of below grade concrete foundation walls, rigid insulation occurring under roofing membrane that is part of the roofing system, rigid insulation behind metal wall panels outside of the GWB Sheathing, and rigid insulation behind brick veneer outside of the GWB Sheathing.
10. Provide spray foam insulation where indicated.
11. Provide all interior acoustical insulation.
12. Provide all gauge metal framing members, angles, etc. shown in documents.
13. Provide sound and fire ratings at walls and slab edges. Note: mechanical and electrical penetrations thru fire rated walls will be sealed by Others. Note also: the Mechanical and Electrical Trade Contractors are required to construct their Work in and thru sound rated walls as specified and to allow BP-09.1 to apply the necessary sound treatments to their Work in order to achieve the specified sound performance requirements.
14. Provide tile backer board.
15. Provide plywood where indicated on metal studs and/or on GWB/Sheathing conditions, including telephone back boards, electrical closets, MDF rooms, IDF rooms.
16. Provide Dens Deck Prime sheathing at backside of parapets at roof locations. Work shall be installed to support the earliest start of roofing activities.
17. Receiving, inventory, distribution and installation of frames in metal wall framed assemblies is by BP-09.1. Coordinate with BP-08.2 Trade Contractor for all HM frames to be installed in Metal Framed Wall Assemblies and provide all required fasteners and clips for installation. Prior to swinging door slabs, BP-08.2 shall re-verify each hollow-metal frame that it is plumb and square. All deviations shall be promptly corrected by BP-09.1.
18. Install access doors provided others. For bidding purposes include an allowance of 10 tape-in access panels.
19. Provide moisture resistant type GWB for top-out material in all corridors, and in mechanical/electrical rooms complete to allow this Work to commence in advance of the roof being completely dried-in.
20. Temporary heaters and fans will be supplied by the GCCM in order to achieve the minimum environmental conditions necessary to promote finishes. The BP-09.1 Trade Contractor is responsible to move and maintain the fans in operation as required to support its Work.
21. Provide expedited completion of certain rooms/areas in order to promote the Work of other trades to commence at the earliest possible dates (for example electrical closets, bathrooms, mechanical rooms, chases, etc).

22. Includes complete ceiling assembly detailed in 12/A5.43. Plywood by BP-06.1 Trade Contractor.
23. Coordinate and cooperate with BP-09.5 – Painting to determine when areas are sufficiently ready for priming/painting Work to start in order to promote the earliest possible start date. After priming occurs, BP-09.1 shall review finishes for quality requirements and touch up any non-conforming areas prior to finish coat painting being applied.
24. Remove temporary cable safety rail system installed by the Steel Erector after exterior walls are framed and no fall hazard exists.
25. Acoustical Reflector Panels: BP-03.1 Steel Fabricator will supply angle frames per detail 10/S5.32, aircraft cable, steel plates and tabs. BP-09.1 Trade Contractor shall provide cold formed metal framing track and joists. BP-09.1 Trade Contractor shall assemble framing, steel components and install/hang Acoustical Reflector Panel frames. Holes in angle frames per detail 10/S5.32 shall be field drilled for air craft cabling by BP-09.1 trade Contractor. BP-06.1 Trade Contractor shall install PLAM faced Plywood Panels on the installed frames. (Ref. Details on Sheets A5.42 and S5.32).
26. Installation of partial height wall steel supports where indicated in plans.
27. Where scaffolds are erected by BP-09.1 to access the Work, this scaffold shall be made available for other Trades' use.
28. BP-09.1 Contractor shall provide broom swept work areas daily during the GWB hanging and taping process. Debris will not be allowed to accumulate. Scrape/Clean all floors upon completion of mudding/tapping process to remove all taping mud completely from concrete. Provide protection of polished, sealed and stained concrete floors during execution of work in this bid package.
29. Provide a Force Account Allowance of \$20,000 for Work not included in this Bid Package but determined by the GCCM to be best performed by this Trade Contractor.

C. Exclusions:

1. Thermal insulation outside of sheathing or under SOG by BP-03.1, BP-07.1 and BP-07.2 (ref those packages).
2. Furring, hat channel, etc. for exterior siding systems specifically provided by Bid Package 07.1 – Metal Panels, Siding & Flashings.

2.8 BID PACKAGE BP-09.2 – ACOUSTICAL CEILINGS AND TREATMENTS

- A. This Trade Contractor shall have primary responsibility for the following specification sections, but shall also coordinate their work with all other Sections in order to provide a complete and coordinated installation.

Section	Description	Scope
Div 00	Procurement and Contracting Requirements	As Applicable
Div 01	General Requirements	As Applicable
07 92 00	Joint Sealants	As applies to this scope of work
09 51 13	Acoustical Panel Ceilings	Complete
09 54 26	Suspended Wood Ceilings	Complete
09 84 33	Acoustical Wall Panels	Complete

B. Highlighted Inclusions:

1. This Bid Package is intended to include all scope of work for the Project associated with acoustical treatments, including but not limited to acoustical tile ceilings, specialty ceilings, surface acoustical wall & ceiling treatments, etc.
2. Furnish a Payment and Performance Bond per section 002113 – Instructions to Bidders.
3. Time is of the essence, Trade Contractor acknowledges the aggressive schedule requirements, complexity and size of the project and by bidding this project is confirming its qualifications, experience and expertise to execute the Work and that it has the resources to complete the Work within the timeframes allowed (reference section 003113 – Construction Scheduling).
4. On site staffing requirements: During periods of on-site activity, this Trade Contractor shall have a full-time, on-site, representative who has full authority to make decisions for Trade Contractor regarding cost, quality control and schedule issues and capable of coordinating with other Trade Contractors and the GC/CM. Trade Contractor shall also provide other staff as needed to support the work of this Agreement.
5. Provide all hoisting and access equipment needed for Trade Contractors work. NOTE: The GC/CM forklift will only be made available for limited use for deliveries coordinated with the GC/CM.
6. To the largest degree practical, Trade Contractor shall prefabricate and assemble materials off-site using LEAN principles.
7. Provide all support / suspension required for all Work of this BP.
8. Provide any engineering required by AHJ's for work under this bid package.
9. Provide all penetrations for other Trade's Work within this Trade Contractors Work.
10. Leave out ACT tiles at all mechanical and electrical locations that will require access for final terminations, testing, adjusting and/or balancing of systems. Install these tiles only when directed to do so in advance of final punch list activities.
11. Install ceiling tiles out of sequence at electrical mechanical fixture locations to allow ceiling rough-in to complete prior to remaining ceiling tile installation.
12. Where scaffolds are erected by BP-09.2 to access the Work, this scaffold shall be made available for other Trades' use to access their Work also at no additional cost as long as these other trades are diligent in completing their work timely.

13. Detailed shop drawings including layout, elevation, type, and spacing of panels including details and attachment methods as well as supplemental information required for coordination with Others.
14. Pre-finished 'black' suspension grid system and/or panels where indicated on drawings.
15. Provide allowance included in base bid for up to 5% replacement of damaged acoustical ceiling tile as directed by the GC/CM. Includes removal of damaged tile, new tile and installation of new tile. Trade Contractor shall credit back any unused portion of this allowance. Unused tile will be turned over to the owner for owner stock in addition to stock required in the specifications.
16. Provide a Force Account Allowance of \$5,000 for Work not included in this Bid Package but determined by the GCCM to be best performed by this Trade Contractor.

C. Exclusions:

1. None

2.9 BID PACKAGE BP-09.3 – CARPET & RESILIENT

- A. This Trade Contractor shall have primary responsibility for the following specification sections, but shall also coordinate their work with all other Sections in order to provide a complete and coordinated installation.

Section	Description	Scope
Div 00	Procurement and Contracting Requirements	As Applicable
Div 01	General Requirements	As Applicable
07 92 00	Joint Sealants	As applies to this scope of work
09 65 13	Resilient Base and Accessories	Complete
09 65 19	Resilient Tile Flooring	Complete
09 68 16	Sheet Carpeting	Complete

B. Highlighted Inclusions:

1. This Bid Package is intended to include all scope of work for the Project associated with resilient flooring, carpeting, walkoff mats, floor prep, and base.
2. Furnish a Payment and Performance Bond per section 002113 – Instructions to Bidders.
3. Time is of the essence, Trade Contractor acknowledges the aggressive schedule requirements, complexity and size of the project and by bidding this project is confirming its qualifications, experience and expertise to execute the Work and that it has the resources to complete the Work within the timeframes allowed (reference section 003113 – Construction Scheduling).
4. Trade Contractor recognizes that the Scope of this Bid Package occurs over multiple phases spanning separate time periods requiring separate mobilizations. Refer to section 003113 for additional information.
5. On site staffing requirements: During periods of on-site activity, this Trade Contractor shall have a full-time, on-site, representative who has full authority to make decisions for Trade Contractor regarding cost, quality control and schedule issues and capable of coordinating with other Trade Contractors and the GC/CM. Trade Contractor shall also provide other staff as needed to support the work of this Agreement.
6. Provide all hoisting and access equipment needed for Trade Contractors work. NOTE: The GC/CM forklift will only be made available for limited use for deliveries coordinated with the GC/CM.
7. To the largest degree practical, Trade Contractor shall prefabricate and assemble materials off-site using LEAN principles.
8. Provide minimum floor moisture testing per specifications.
9. Trade Contractor BP-09.3 shall provide floor preparation at concrete joint locations, including slab construction joints, expansion joints, joints at concrete blockouts (steel columns and other cast in items such as science trenches, and sawcut joints at slab on grade locations.
10. Trade Contractor BP-09.3 shall provide floor preparation as required by manufacturer in addition to specific inclusions of this bid package.
11. Provide all transitions, metal edge strips, including those between the Work of Trade Contractor BP-09.3 and the work of other Trade Contractors.

12. Offloading and stocking of material in coordination with GC/CM. Materials are to arrive on a 'just-in-time' manner. (Elevator will not be available for stocking second floor materials).
13. Provide a Force Account Allowance of \$7,500 for Work not included in this Bid Package but determined by the GCCM to be best performed by this Trade Contractor.

C. Exclusions:

1. Final cleaning.
2. Tiling

2.10 BID PACKAGE BP-09.4 – TILING

- A. This Trade Contractor shall have primary responsibility for the following specification sections, but shall also coordinate their work with all other Sections in order to provide a complete and coordinated installation.

Section	Description	Scope
Div 00	Procurement and Contracting Requirements	As Applicable
Div 01	General Requirements	As Applicable
07 92 00	Joint Sealants	As Applicable
09 30 13	Ceramic Tiling	Complete

B. Highlighted Inclusions:

1. This Bid Package is intended to include all scope of work for the Project associated with ceramic.
2. Furnish a Payment and Performance Bond per section 002113 – Instructions to Bidders.
3. Time is of the essence, Trade Contractor acknowledges the aggressive schedule requirements, complexity and size of the project and by bidding this project is confirming its qualifications, experience and expertise to execute the Work and that it has the resources to complete the Work within the timeframes allowed (reference section 003113 – Construction Scheduling).
4. Trade Contractor recognizes that the Scope of this Bid Package occurs over multiple phases spanning separate time periods requiring separate mobilizations. Refer to section 003113 for additional information.
5. On site staffing requirements: During periods of on-site activity, this Trade Contractor shall have a full-time, on-site, representative who has full authority to make decisions for Trade Contractor regarding cost, quality control and schedule issues and capable of coordinating with other Trade Contractors and the GC/CM. Trade Contractor shall also provide other staff as needed to support the work of this Agreement.
6. Provide all hoisting and access equipment needed for Trade Contractors work. NOTE: The GC/CM forklift will only be made available for limited use for deliveries coordinated with the GC/CM.
7. To the largest degree practical, Trade Contractor shall prefabricate and assemble materials off-site using LEAN principles.
8. Furnish and install all ceramic tile for floor applications, wall applications; all mortar, setting materials, adhesive materials, and grout required at all tile locations, and all non-ceramic trim at tile edges in accordance with the specifications and drawings.
9. Offloading and stocking of material.
10. Provide all transitions from tile installed under this bid package.
11. Provide crack isolation membrane at work installed under BP-09.4.
12. Coordinate and provide penetrations through tile surfaces for other trades, plumbing penetrations for example. Provide onsite review of drains prior to pouring of concrete slabs to confirm the slope and the elevation of the drains match that of the tile thickness.
13. Provide joint sealants as applicable touching work installed under BP-09.4.

14. Clean and seal tile per manufacturer's recommendations.
15. Provide taping/floating of joints in tile backerboard supplied and installed by BP-09.1 trade contractor.
16. Trade Contractor shall protect its finished flooring. Protection will be removed by others.
17. Provide a Force Account Allowance of \$2,500 for Work not included in this Bid Package but determined by the GCCM to be best performed by this Trade Contractor.
- 18.

C. Exclusions:

1. Tile backer board.

2.11 BID PACKAGE BP-09.5 – PAINTING, COATINGS & SEALANTS

- A. This Trade Contractor shall have primary responsibility for the following specification sections, but shall also coordinate their work with all other Sections in order to provide a complete and coordinated installation.

Section	Description	Scope
Div 00	Procurement and Contracting Requirements	As Applicable
Div 01	General Requirements	As Applicable
07 19 00	Water Repellents	Complete
07 92 00	Joint Sealants	As Applies to this Scope of Work
09 72 00	Wall Coverings	Complete
09 91 13	Exterior Painting	Complete
09 91 23	Interior Painting	Complete

B. Highlighted Inclusions:

1. This Bid Package is intended to include all scope of work for the Project associated with building and site applied coatings including but not limited to: paint, stain, sealers, varnishes, other coatings and certain joint sealants/caulking.
2. Furnish a Payment and Performance Bond per section 002113 – Instructions to Bidders.
3. Time is of the essence, Trade Contractor acknowledges the aggressive schedule requirements, complexity and size of the project and by bidding this project is confirming its qualifications, experience and expertise to execute the Work and that it has the resources to complete the Work within the timeframes allowed (reference section 003113 – Construction Scheduling).
4. On site staffing requirements: During periods of on-site activity, this Trade Contractor shall have a full-time, on-site, representative who has full authority to make decisions for Trade Contractor regarding cost, quality control and schedule issues and capable of coordinating with other Trade Contractors and the GC/CM. Trade Contractor shall also provide other staff as needed to support the work of this Agreement.
5. Provide all hoisting and access equipment needed for Trade Contractors work. NOTE: The GC/CM forklift will only be made available for limited use for deliveries coordinated with the GC/CM.
6. To the largest degree practical, Trade Contractor shall prefabricate and assemble materials off-site using LEAN principles.
7. Temporary heaters and fans will be supplied by the GCCM in order to achieve the minimum environmental conditions necessary to promote finishes. The BP-09.5 Trade Contractor is responsible to move and maintain fans in operation as required for his Work.
8. The GCCM will require a mock-up assembly (not incorporated into the work) for an exterior wall that includes all different exterior conditions that exist in the Work as shown in the plans. One wall shall have an opening for a storefront window and one shall have an opening for a standard hollow metal frame. The mockup will also include typical penetrations through the enclosure system. Trade Contractor shall provide the full scope of its Work at this mockup.

9. Provide proper legal disposal for coatings related waste and wash-up water generated by this Bid Package.
10. Provide all surface preparation as specified. Refer to all other specification sections of items that will require field painting to determine the level of prime and final finish that will be by others and the expectation of field prep that may be required.
11. Provide expedited painting of certain rooms/areas in order to promote the Work of other trades to commence at the earliest possible dates (for example electrical closets, bathrooms, mechanical rooms, chases, etc).
12. Includes Section 079200 Joint Sealants as follows:
 - a. Interior joints between HM frames and GWB
 - b. Interior Joints between base of HM Frame and flooring where joint exceeds $\frac{1}{4}$ "
 - c. Interior joints between GWB and Aluminum Window/SF/CW Systems
 - d. Interior joints between GWB and exposed to view steel members
 - e. Interior joints between GWB and exposed to view MEP penetrations
13. Coordinate with BP-08.2 Trade Contractor for painting of HM frames and doors. Mask-off all UL labels and door identification labels and remove masking after painting.
14. Coordinate and cooperate with the BP-09.1 GWB Trade Contractor to determine when areas are sufficiently ready for priming/painting Work to start in order to promote this Work to start at the earliest possible date. After priming occurs, the BP-09.1 Trade Contractor shall review finishes for quality requirements and touch up any non-conforming areas prior to finish coats of painting being applied.
15. Provide broom swept work areas daily during the painting process where fall-down occurs. Debris will not be allowed to accumulate.
16. Protect concrete floors from contamination from work under this bid package. Trade contractor required to remove all paint/primer/sealers from concrete upon completion of work.
17. The final coat of paint shall be applied after completion of flooring but prior to rubber base installation and after other finish work is completed as directed by the GCCM. Trade contractor shall include all required masking and protection.
18. Trade Contractor shall provide protection of adjacent surfaces during installation of its Work.
19. Trade Contractor to paint all conduit, boxes, insulated and exposed ducts, hangers, brackets, collars, supports, mechanical equipment, and electrical equipment, unless otherwise indicated.
20. Includes painting of Window Trim Kits at doors as indicated.
21. Includes Painting of Downspouts.
22. Provide all paint and coating products used in any individual system from the same manufacturer, unless specified otherwise.
23. Trade Contractor to include out of sequence painting at areas made inaccessible due to installation of mechanical or electrical equipment.
24. Provide water-repellents and anti-graffiti coatings at all vertical interior and exterior concrete surfaces.
25. Provide prep for all exposed steel including but not limited to removal of rust, scale, dirt and other foreign material per SSPC SP-3. Apply phosphoric acid etch manufacturer. Rinse with potable water. When thoroughly dry, immediately apply prime coat. Any defects showing in prime surface are required to be repaired by

- other trades. Re-prime over repaired defects. Trade Contractor Shall assume complete prep for all exposed steel regardless of whether it is shop primed or not.
26. Provide a Force Account Allowance of \$15,000 for Work not included in this Bid Package but determined by the GCCM to be best performed by this Trade Contractor.

C. Exclusions:

1. Finish at cabinetry and architectural wood work (except as noted under inclusions).
2. Finish of wood doors.

2.12 BID PACKAGE BP-10.1 – CONSTRUCTION SPECIALTIES

- A. This Trade Contractor shall have primary responsibility for the following specification sections, but shall also coordinate their work with all other Sections in order to provide a complete and coordinated installation.

Section	Description	Scope
Div 00	Procurement and Contracting Requirements	As Applicable
Div 01	General Requirements	As Applicable
06 10 53	Rough Carpentry	As Applies to this Scope of Work
07 72 00	Roof Accessories	Complete
07 92 00	Joint Sealants	Complete
07 95 00	Expansion Control	Complete – Interior
08 31 13	Access Doors and Frames	Complete
09 65 51	Performing Arts Specialty Flooring (PLA)	Complete
09 77 00	Sanitary Wall Panels	Complete
10 11 00	Visual Display Units	Complete
10 14 23	Signage	Complete
10 21 13	Toilet Compartments	Complete
10 21 23	Cubical Curtains and Tracks	Complete
10 26 00	Corner Guards	Complete
10 28 00	Toilet, Bath, and Custodial Accessories	Complete
10 44 13	Fire Protection Cabinets	Complete
10 90 00	Miscellaneous Specialties	Complete
12 21 13	Horizontal Louver Blinds	Complete
12 24 13	Roller Window Shades	Complete
12 61 13	Fixed Audience Seating (PLA)	Complete
32 08 00	Exterior Improvement Commissioning	Complete
32 23 00	Site Improvements	Complete
32 31 13	Chain Link Fence and Gates	Complete

B. Highlighted Inclusions:

1. This Bid Package is intended to include all scope of work for the Project associated with building specialties including but not limited to: Plastic Paneling, roof hatches, fluid applied flooring, visual display surfaces, signage, toilet compartments and accessories, fire protection specialties, wall protection, site specialties, interior athletic equipment, window treatments, chain link fence and gates, etc.
2. Furnish a Payment and Performance Bond per section 002113 – Instructions to Bidders.
3. Time is of the essence, Trade Contractor acknowledges the aggressive schedule requirements, complexity and size of the project and by bidding this project is confirming its qualifications, experience and expertise to execute the Work and that it has the resources to complete the Work within the timeframes allowed (reference section 003113 – Construction Scheduling).

4. Trade Contractor recognizes that the Scope of this Bid Package occurs over multiple phases spanning separate time periods requiring separate mobilizations. Refer to section 003113 for additional information.
5. On site staffing requirements: During periods of on-site activity, this Trade Contractor shall have a full-time, on-site, representative who has full authority to make decisions for Trade Contractor regarding cost, quality control and schedule issues and capable of coordinating with other Trade Contractors and the GC/CM. Trade Contractor shall also provide other staff as needed to support the work of this Agreement.
6. Provide all hoisting and access equipment needed for Trade Contractors work. NOTE: The GC/CM forklift will only be made available for limited use for deliveries coordinated with the GC/CM.
7. To the largest degree practical, Trade Contractor shall prefabricate and assemble materials off-site using LEAN principles.
8. Furnish and install all roof hatches, including roof curb, cover and hardware in accordance with the specifications.
9. Coordinate with Electrical Contractor for all specialties provided and/or installed by BP-10.1 that require power or low voltage cabling.
10. Provide layout for all material and/or equipment furnished or installed by the BP-10.1 Trade Contractor.
11. Coordinate with Mechanical Contractor for any specialties provided and/or installed by BP-10.1 that have mechanical or plumbing connections, i.e. residential appliances, etc...
12. Coordinate with BP-06.1 for any specialty items that are mounted in or around casework.
13. Installation of all steel site bollards indicated on A, C, L, E sheets, including foundations.
14. Installation of all vehicle gates.
15. Includes concrete foundations and bases for any items provided in this BP that require foundations and/or bases (for example Flag Pole).
16. All in-wall backing & blocking in type and quantity described on the contract drawings will be provided by BP-09.1. The BP-10.1 Trade Contractor shall field locate this backing via paint on studs timely to coincide with framing activities. Any additional quantities of backing desired by BP-10.1 will be at the cost and responsibility to provide by BP-10.1. Includes timely review and acceptance of installed backing prior to cover up. Un-reviewed backing installation will be deemed to have been accepted.
17. Provide chainlink fence and gates complete.
18. Equipment shall be stored by Trade Contractor until installation if necessary and only delivered to the site when unit(s) is ready for installation.
19. Provide access doors to be installed by others. For bidding purposes include an allowance of 10 tape-in access panels. Access doors for MEP equipment access provided by others.
20. Provide a Force Account Allowance of \$25,000 for Work not included in this Bid Package but determined by the GCCM to be best performed by this Trade Contractor.

C. Highlighted Exclusions:

1. None.

2.13 BID PACKAGE BP-21.1 – FIRE SPRINKLERS

- A. This Trade Contractor shall have primary responsibility for the following specification sections, but shall also coordinate their work with all other Sections in order to provide a complete and coordinated installation.

Section	Description	Scope
Div 00	Procurement and Contracting Requirements	As Applicable
Div 01	General Requirements	As Applicable
07 84 00	Firestopping	As applies to this scope of work
07 92 00	Joint Sealants	As applies to this scope of work
08 31 13	Access Doors and Frames	As applies to this scope of work
Div 21	Fire Suppression	Complete

B. Highlighted Inclusions:

1. Work includes design and construction of complete automatic wet and dry fire suppression and standpipe systems for the Project.
2. Furnish a Payment and Performance Bond per section 002113 – Instructions to Bidders.
3. Time is of the essence, Trade Contractor acknowledges the aggressive schedule requirements, complexity and size of the project and by bidding this project is confirming its qualifications, experience and expertise to execute the Work and that it has the resources to complete the Work within the timeframes allowed (reference section 003113 – Construction Scheduling).
4. Trade Contractor recognizes that the Scope of this Bid Package occurs over multiple phases spanning separate time periods requiring separate mobilizations. Refer to section 003113 for additional information.
5. Trade contractor acknowledges project phasing for design requirements.
6. To the largest degree practical, Trade Contractor shall prefabricate and assemble materials off-site using LEAN principles.
7. Minimum Staffing Requirements: During periods of on-site activity, this Trade Contractor shall have a full-time, on-site, representative who has full authority to make decisions for Trade Contractor regarding cost, quality control and schedule issues and capable of coordinating with other Trade Contractors and the GC/CM. Trade Contractor shall also provide other staff as needed to support the work of this Agreement.
8. During periods of on-site activity, this Trade Contractor shall have a full-time, on-site, non-working with tools, Superintendent who has full authority to make decisions for Trade Contractor regarding cost, quality control and schedule issues and capable of coordinating with other Trade Contractors and the GC/CM. In addition, during periods of on-site activity, this Trade Contractor shall have a full-time on-site, non-working with tools, Project Engineer with primary responsibility of managing the administrative requirements of the project (submittals, RFI's, pay requests, etc.).

9. Trade Contractor to provide BIM coordination and detailing services for the Project with integration into the Project 3D Model as stipulated in Section 002410 – General Scope of Work.
10. The sequence of all Work shall be coordinated and integrated amongst all Trade Contractors in order to meet the overall dates listed in the Schedule. This will require full cooperation and coordination from multiple Trade Contractors involved in the Work. In General, the Work shall be executed in order to achieve the most expeditious installation sequence with priority for safety, quality and production.
11. Allow access and sufficient/reasonable time for others for installation of their Work that is integral with this Trade Contractor's Work.
12. Includes coordination with the Mechanical and Electrical Trade Contractors for a complete and coordinated installation. This Trade Contractor is required to participate in the GCCM's MEP Coordination process. The intent of this process is to jointly coordinate all MEP systems to ensure all systems routed within the annular ceiling space are routed to accommodate all system's requirements. The focus will be to ensure that when installation occurs, there are limited conflicts.
13. Pulling and payment of all permits, inspections and testing for Trade Contractors scope of work, as required by Authority Having Jurisdiction (AHJ).
14. If this Trade Contractor will require any structural steel penetrations as a result of the MEP Coordination Process, these penetrations are required to be communicated to the Steel Fabricator in advance of steel shop drawings being finalized.
15. Trade Contractor 31.1 to take main fire water supply line to first flange inside of riser room; BP-21.1 Trade Contractor to provide riser layout in SOG.
16. Sprinkler Trade Contractor is responsible to coordinate with the Electrical Trade Contractor for fire alarm system devices and monitoring points.
17. Provide all fire stopping, caulking, and sealants where Trade Contractor's work penetrates walls and/or finishes. Where exposed to public view, provide escutcheon over sealant for finish appearance.
18. Provide all core drilling as necessary for installation of Fire Sprinkler System.
19. Provide all necessary maintenance access doors as required in hard-lid ceilings and walls for the Fire Sprinkler System.
20. Systems draining locations to be coordinated with Architect and Owner prior to installation.
21. Provide code signage and labelling associated with Fire Sprinkler System.
22. Stamped set of drawings required from BP-21.1 Trade Contractor by licensed design engineer within the State of Washington.
23. Compliance with the joist loading requirements shown in plans. Required Loads exceeding those allowed per structural drawings for joists must be provided for coordination within 15 days of receipt of Award.

C. Exclusions:

1. None.

2.14 BID PACKAGE BP-22.1 – MECHANICAL

- A. This Trade Contractor shall have primary responsibility for the following specification sections, but shall also coordinate their work with all other Sections in order to provide a complete and coordinated installation.

Section	Description	Scope
Div 00	Procurement and Contracting Requirements	As Applicable
Div 01	General Requirements	As Applicable
07 84 00	Firestopping	As Applicable
07 92 00	Joint Sealants	As Applicable
Div 22	Plumbing	Complete
Div 23	HVAC	Complete
31 20 00	Earth Moving	As Applicable

B. Highlighted Inclusions:

1. This Bid Package is for all Division 22 and 23 plumbing and HVAC scope of work for the project.
2. Furnish a Payment and Performance Bond per section 002113 – Instructions to Bidders.
3. Time is of the essence, Trade Contractor acknowledges the aggressive schedule requirements, complexity and size of the project and by bidding this project is confirming its qualifications, experience and expertise to execute the Work and that it has the resources to complete the Work within the timeframes allowed (reference section 003113 – Construction Scheduling).
4. To the largest degree practical, Trade Contractor shall prefabricate and assemble materials off-site using LEAN principles.
5. Minimum Staffing Requirements: During periods of on-site activity, this Trade Contractor shall have a full-time, on-site, representative who has full authority to make decisions for Trade Contractor regarding cost, quality control and schedule issues and capable of coordinating with other Trade Contractors and the GC/CM. Trade Contractor shall also provide other staff as needed to support the work of this Agreement.
6. Trade Contractor to provide BIM coordination and detailing services for the Project with integration into the Project 3D Model as stipulated in Section 002410 – General Scope of Work.
7. The sequence of all Work shall be coordinated and integrated amongst all Trade Contractors in order to meet the overall dates listed in the Schedule. This will require full cooperation and coordination from multiple Trade Contractors involved in the Work. In General, the Work shall be executed in order to achieve the most expeditious installation sequence with priority for safety, quality and production.
8. Allow access and sufficient/reasonable time for others for installation of their Work that is integral with this Trade Contractor's Work.
9. Includes coordination with the Mechanical and Electrical Trade Contractors for a complete and coordinated installation. This Trade Contractor is required to participate in the GCCM's MEP Coordination process. The intent of this process is to jointly coordinate all MEP systems to ensure all systems routed within the

- annular ceiling space are routed to accommodate all system's requirements. The focus will be to ensure that when installation occurs, there are limited conflicts.
10. Pulling and payment of all permits, inspections and testing for Trade Contractors scope of work, as required by Authority Having Jurisdiction (AHJ).
 11. If this Trade Contractor will require any structural steel penetrations as a result of the MEP Coordination Process, these penetrations are required to be communicated to the Steel Fabricator in advance of steel shop drawings being finalized.
 12. Provide all underground Work for the scope of this agreement including, but not limited to, plumbing, waste, vent, duct work, grease interceptor to 5ft outside of building foundation.
 13. Trenching & Backfill Work for BP-22.1 Mechanical Trade Contractor: BP-32.1 Trade Contractor will provide excavation, trenching and backfill for underground plumbing, mechanical and HVAC Work complete. The scope of the underground plumbing, mechanical and HVAC Work is depicted on drawings M1.01, M3.01 and M4.01. BP-22.1 Trade Contractor will layout locations of trenches in the field with upside-down paint and provide a field hand for grade checking. The BP-32.1 and BP-22.1 trade contractors shall closely coordinate in order to execute the work in the most reasonable quantities to allow the work to be accomplished in a steady and efficient fashion and also minimize the amount of trench that is left open for more than 48 hours. BP-32.1 Trade Contractor understands that the BP-22.1 Trade Contractor will be installing pipe, ducts and accessories in trenches provided by the BP-32.1 Trade Contractor and that all Work must be inspected and approved by the AHJ Inspector prior to backfill which will ultimately dictate how much trench can be opened up in any single time period. BP-32.1 Trade Contractor is responsible for all backfill requirements including concrete encasement, tracer tape and specific import materials for pipe bedding and shading.
 14. Provide cut, cap and make-safe of existing as required for demolition.
 15. BP-22.1 Trade Contractor is responsible for demolition of all mechanical and plumbing in the existing boiler room.
 16. Fire stopping, safing, caulking and sealants associated with Trade Contractor's Work. Maintain the fire or sound rating of the surface being penetrated.
 17. Adhere to acoustical construction requirements at sound rated conditions.
 18. Provide pour watch for all concrete pours touching Trade Contractor's Work.
 19. Provide all floor block-outs, sleeves and/or core drills including cutting out steel decking as required for Trade Contractor's work.
 20. Subcontractor shall furnish and install all supports, support steel, embeds, structural attachments, vibration isolation materials/equipment, seismic restraints, etc. to support all systems for this scope of work in accordance with the contract documents. This includes any miscellaneous steel items that may be required to adequately attach to structural members or concrete shown on the contract drawings. The only structural framework provided by others is that shown and indicated on the structural drawings.
 21. BP-22.1 Trade Contractor shall provide blockouts and cutting out steel decking for all penetrations including floor diffusers in the concert hall floor.
 22. Expedited procurement of equipment in basement. This equipment must be set prior to start of structural steel erection on 10/1/2020.
 23. Provide premanufactured roof curbs for rooftop equipment.
 24. Provide all motors, starters, disconnects, wiring or other devices for Mechanical Equipment which are not specifically identified to be furnished by the Electrical

Contractor (ECCM). Mechanical equipment provided by Trade Contractor BP-22.1 shall be factory installed for single point connection by ECCM.

25. Furnish and Install all sets of filters as shown in the specifications.
26. Provide all Testing, Adjusting and Balancing for Trade Contractor's Work.
27. Provide piping and connections necessary for temporary gas to GC/CM's Temporary Heaters.
28. Provide Misc. Metal Fabrications and Perforated Metal at ductwork per details 8, 9, 10, 11, 23, 27 on A4.44.
29. Coordinate and provide layout for any penetrations through walls ahead of work starting.
30. Provide ducting, terminations and final connections to kitchen hoods that are furnished and installed by others.
31. Provide access doors needed for access to all work installed by BP-22.1 Trade Contractor.
32. Size all equipment with shipping splits to fit within existing building openings.
33. Trade Contractor shall include a \$25,000 allowance in its base bid as a Force Account allowance. Reference Section 002410 – General Scope of Work.

C. Exclusions:

1. Fire Protection.

2.15 BID PACKAGE BP-31.1 – SITE DEVELOPMENT

- A. This Trade Contractor shall have primary responsibility for the following specification sections, but shall also coordinate their work with all other Sections in order to provide a complete and coordinated installation.

Section	Description	Scope
Div 00	Procurement and Contracting Requirements	As Applicable
Div 01	General Requirements	As Applicable
26 0500	Common Work Results for Electrical, Communications and Electronic Safety and Security	As Applicable, Electrical Trenching
26 0543	Underground Electrical Conduit and Boxes	As Applicable, Electrical Trenching
26 5600	Exterior Lighting	As Applicable, Electrical Trenching
31 10 00	Site Clearing & Site Demolition	Complete
31 20 00	Earth Moving	Complete
32 12 16	Asphalt Concrete Paving	Complete
32 13 13	Concrete Paving, Curbs, and Walks	Complete
32 17 23	Pavement Markings	Complete
32 80 00	Irrigation	Sleeving - Complete
33 11 00	Water Distribution	Complete
33 31 00	Sanitary Sewer	Complete
33 41 00	Storm Drainage	Complete
33 46 13	Foundation Drainage	Complete

B. Highlighted Inclusions:

1. This Bid Package is for all Site Development work including but not limited to earthwork, site clearing/demolition, TESC, storm utilities, sewer utilities, water utilities, hardscapes, geothermal, etc. for full site development of the Project.
2. Furnish a Payment and Performance Bond per section 002113 – Instructions to Bidders.
3. Time is of the essence, Trade Contractor acknowledges the aggressive schedule requirements, complexity and size of the project and by bidding this project is confirming its qualifications, experience and expertise to execute the Work and that it has the resources to complete the Work within the timeframes allowed (reference section 003113 – Construction Scheduling).
4. Minimum Staffing Requirements: During periods of on-site activity, this Trade Contractor shall have a full-time, on-site, non-working with tools, Superintendent who has full authority to make decisions for Trade Contractor regarding cost, quality control and schedule issues and capable of coordinating with other Trade Contractors and the GC/CM.
5. During periods of on-site activity during summer months (June – September), this Trade Contractor shall have a full-time on-site, non-working with tools, Project Manager or Project Engineer with primary responsibility of managing the administrative requirements of the project (submittals, RFI's, pay requests, etc.).

6. To the largest degree practical, Trade Contractor shall implement LEAN principles.
7. The sequence of all Work shall be coordinated and integrated amongst all Trade Contractors in order to meet the overall dates listed in the Schedule. This will require full cooperation and coordination from multiple Trade Contractors involved in the Work. In General, the Work shall be executed in order to achieve the most expeditious installation sequence with priority for safety, quality and production.
8. Allow access and sufficient/reasonable time for others for installation of their Work that is integral with this Trade Contractor's Work.
9. Provide construction water including usage fees for this Trade Contractor's Work including hydrant meter, fittings and appurtenances needed for its work. This supersedes section 002410, paragraph E. Coordinate requirements for accessing, metering and providing water with Alderwood Water District.
10. Provide (2) hose bib connections each major phase within 50 feet of the new building at locations directed by GCCM capable of connecting a standard garden hose. This includes any temporary piping, fittings, etc. Piping shall be buried where it crosses roadways or entrances.
11. Provide all survey/staking/layout for the Work of this package. The full extent of GC/CM provides survey will be four control points on-site.
12. Provide detailed as-built drawings in accordance with the Contract Documents, City, County and Water/Sewer District requirements. Final property survey will be provided by Others.
13. Provide all traffic control and flagging for work of this package. This includes traffic control plan preparation, submittal and permit fees for work in the Right of Way and construction areas.
14. Provide steel plates where utility work is ongoing within public areas and flaggers are not present. This includes uninterrupted access to the perimeter road around the building and as needed to accomplish uninterrupted jobsite access.
15. Site security fencing will be installed by the GC/CM. This Trade Contractor is responsible to remove, adjust and replace fencing as needed to execute the work.
16. Tree protection fencing will be installed by the GC/CM. This Trade Contractor is responsible to remove, adjust and replace fencing as needed to execute the work. For work within designated tree protection areas, Trade Contractor shall provide mulch, plates or other required measures.
17. Install, maintain and remove all temporary erosion and sediment control measures (including temporary sediment tanks) indicated and/or required in the Contract Documents. Trade Contractor shall provide a Certified Erosion and Sediment Control Lead (CESCL) for the full duration of the project; including periods of inactivity by Trade Contractor. The GCCM will provide temporary power within 100' pump locations. This Trade Contractor shall provide any needed extension cords to support TESC measures. Transfer the Construction Storm Water General Permit into Trade Contractor's name in accordance with Washington State Department of Ecology requirements.
18. Bid Package 31.1 Trade Contractor shall provide the means to properly treat turbid water including the use of ponds, pumps, infiltration and/or other measures needed for lawful discharge into the storm system.
19. Provide all clearing, grubbing and site demolition.
20. SITE ARMORING & TEMPORARY SURFACES: Sheets C2.03 and C2.04 identify the scope of temporary all weather construction surfaces that will be used for construction access, staging, offices and parking over the course of the Project's construction time-line. Provide all surfaces indicated. The finish elevation of these surfaces is intended to be the compacted subgrade elevation for the final surface

composition that will be installed later on top of the permeable gravel surfaces. (For example, above the permeable gravel surfacing will be the specified thickness of CSBC, CSTC, Capillary Break, concrete, asphalt, topsoil or other material(s) as indicated in the 'S' 'C' and 'L' plan sheets). The permeable gravel is not a substitution for any of the final surface composition. Note, where armoring is shown in landscape areas it shall be installed over the top of design subgrade and removed by the Bid Package 31.1 Trade Contractor prior to the start of landscaping activities.

21. USE OF NATIVE MATERIAL: Trade Contractor acknowledges that there are varying levels of unsuitable materials as described in the soils report and associated boring information. Native material deemed suitable per Section 312000 may be used for common and/or structural fill EXCEPT as follows: Structural fill below the building footprint within 2ft of subgrade shall be imported structural fill.
22. UNANTICIPATED OVER EXCAVATION AND BACKFILL: Trade Contractor shall excavate to the bottom of subgrade elevations shown in the Contract Documents. Material below design subgrade elevations that are deemed unsuitable by Owners geotechnical engineer shall be over excavated and backfilled at the direction of the Owners geotechnical engineer. Trade Contractor and Owners geotechnical engineer shall agree to the bank cubic yard measurement for excavation and backfill quantities at the time the work is performed. Agreed to quantities shall be documented in the geotechnical engineers field report. Trade Contractor is to include 1,000bcy of over excavation and backfill beneath foundations in the UP Bid Section on the Bid. Trade Contractor will be compensated in accordance with 004322 – Schedule of Unit Prices (Reference UP-1 & UP-2).
23. Trade Contractor is responsible to use best practices and methods appropriate for the type of conditions and materials indicated in the soils report and found in the field. Trade Contractor will not be compensated for native materials that become unsuitable due to the lack of proper protection and/or treatment.
24. Excavation & Backfill for Building & Site Foundations: Provide structural excavation and backfill within the building footprint and covered play area, site retaining walls, site planter walls, and site seat walls, including layout of footing excavations and a grade checker during performance of the work. Size of excavation requirement shall be 18" inches beyond edge of concrete to allow access for forming and stripping of concrete. Trade Contractor shall provide for 100% import structural fill for foundation excavation backfill. Stockpiling material within the confines of the building pad and 10ft around the building pad is prohibited.
25. Provide capillary break material below slabs at slab on grade locations. Trade Contractor shall utilize a telebelt to place capillary break material at all locations. Trade Contractor acknowledges that electrical conduits will be installed upon the subgrade prior to installation of capillary break.
26. Provide rockeries including subgrade preparation, drainage and backfill.
27. Restore areas disturbed by excavation activities.
28. Provide all water, sewer, and storm utilities complete, including but not limited to french drains, footing drains, infiltration trenches, and trench drains in concrete. Piping shall terminate within three feet of the building exterior. Trade Contractor shall provide all final connections and associated testing.
29. Concrete thrust blocks.
30. Provide lid adjustment and patching for all utilities within this package after paving.

31. Provide new fire supply service line into buildings and terminate at finish floor where it turns up into building with bolt flange. Coordinate with Fire Sprinkler Trade Contractor for precise location to stub up.
32. Provide connection from downspouts to transition below grade.
33. Provide all grading and subgrade preparation including associated crushed surface base course, top course, etc... at site concrete sidewalks, curbs, walls, stairs, etc....
34. Provide pavement markings, concrete wheel stops and site signage. This includes temporary striping at the temporary parking lot.
35. Provide irrigation sleeving. Mark ends of all sleeves with a 2x4 marker sticking above grade painted white.
36. Provide onsite trenching and backfill for SNOPUD natural gas line from the property line to the meter location, including vault excavation. Trench excavation and backfill shall be performed in accordance with SNOPUD requirements and shall be a minimum of 18" wide x 42" deep and shall include a minimum of 10" of sand shading. Coordinate with SNOPUD for their installation of the gas line, or provide a sleeve for SNOPUD in proper type and size of sleeve pipe (Assumed 6in for bidding purposes).
37. Trenching & Backfill Work for BP-22.1 Mechanical Trade Contractor: Provide excavation, trenching and backfill for underground plumbing, mechanical and HVAC Work complete. The scope of the underground plumbing, mechanical and HVAC Work is depicted on drawings M1.01, M3.01 and M4.01. BP-22.1 Trade Contractor will layout locations of trenches in the field with upside-down paint and provide a field hand for grade checking. The BP-32.1 and BP-22.1 trade contractors shall closely coordinate in order to execute the work in the most reasonable quantities to allow the work to be accomplished in a steady and efficient fashion and also minimize the amount of trench that is left open for more than 48 hours. BP-32.1 Trade Contractor understands that the BP-22.1 Trade Contractor will be installing pipe, ducts and accessories in trenches provided by the BP-32.1 Trade Contractor and that all Work must be inspected and approved by the AHJ Inspector prior to backfill which will ultimately dictate how much trench can be opened up in any single time period. BP-32.1 Trade Contractor is responsible for all backfill requirements including concrete encasement, tracer tape and specific import materials for pipe bedding and shading.
38. Trenching & Backfill Work for Others: Provide excavation, trenching and backfill for underground electrical Work complete including augured holes for Light Pole Bases. The scope of the underground electrical Work is depicted on drawings E1.01, IL1 and IL2. Typical trench size and backfill requirements are depicted in details on drawings. Additional requirements for trenching and backfill Work are specified in Section 26 0543. The Electrical Trade Contractor (ETC) will layout locations of trenches in the field with upside-down paint. The Site Development Contractor (SDTC) shall layout the ETC's vaults using its survey to ensure lids are set to proper grade and alignment. The SDTC and ETC shall closely coordinate in order to execute the work in the most reasonable quantities to allow the work to be accomplished in a steady and efficient fashion and also minimize the amount of trench that is left open for more than 48 hours. SDTC understands that the ETC will be installing conduit in trenches provided by the SDTC and that all Work must be inspected and approved by the State Electrical Inspector prior to backfill which will ultimately dictate how much trench can be opened up in any single time period. Where providing the minimum electrical trench depths indicated in the details will create a conflict with another utility or structural element, the SDTC is responsible

to lower the electrical trench grade as necessary to alleviate the conflict. SDTC is responsible for all backfill requirements including concrete encasement, tracer tape and specific import materials for pipe bedding and shading. SDTC shall provide above work in the following quantities by trench type (minor variation in actual trench size requirements due to separation and coverage requirements should be anticipated):

- a. 2,100 LF - 12"w x 30"d trench
 - b. 1,100 LF - 24"w x 40"d trench
 - c. Includes Augering of Light Pole bases in the quantity indicated in the drawings.
39. Note: The trenching and backfill work is accounted for via Unit Prices on the Bid Form and not in the Base Bid amount. If actual quantities vary up or down, adjustment will be made via change order at the unit prices provide on the bid form. Payment will be made in accordance with Sections 00 4322 – Schedule of Unit Prices and 01 2200 – Unit Prices.
 40. Trade Contractor acknowledges that there is a permit condition requirement for the fire loop and hydrant system to be charged and available prior to start of combustible construction activities. This Trade Contractor shall execute the Work in order to comply with this requirement.
 41. Excavation and backfill for bollards, Flagpoles and vehicle gates.
 42. Provide any ROW disturbance permits for work taking place in public ROW.
 43. Concrete Work: Provide all site concrete work (sidewalks, pavement, curbs, stairs, stair cheek walls, etc...) except as specifically stated in Section C Exclusions. This includes all grading and subgrade preparation including associated crushed surface base course, top course, etc.
 44. Asphalt Work: Provide flexible and pervious asphalt including grading and subgrade preparation (crushed surface base course, top course, etc...). This includes patching where shown on the Contract Documents and/or resulting from Trade Contractors Work. Includes all asphalt restoration for offsite utilities as shown in the documents and grind/overlay on Maltby Road as is depicted in the contract documents.
 45. Trade Contractor acknowledges that paving sections shown with ATB will be paved in multiple mobilizations. The ATB layer will be installed during the first year of the project and will be utilized as construction access, staging and laydown. The final asphalt lift will be installed in the final year of the project. Trade contractor shall provide all necessary cleaning and patching of ATB surfaces as required prior to the final lift being installed.
 46. Provide, pavement markings, concrete wheel stops and site signage.
 47. Provide gravel roads shown on the "C" and "R" drawings. (Gravel pedestrian paths and gravel drip edge is by Others).
 48. Trade Contractor shall include a \$50,000 allowance in its base bid as a Force Account allowance. Reference Section 002410-2.1.E.

C. Exclusions:

1. Cast-In-Place Building Concrete.
2. Cast-In-Place Retaining Walls.
3. Permanent landscaping and site specialties.
4. Temporary Construction Fencing.

2.16 BID PACKAGE BP-32.1 – LANDSCAPE & IRRIGATION

- A. This Trade Contractor shall have primary responsibility for the following specification sections, but shall also coordinate their work with all other Sections in order to provide a complete and coordinated installation.

Section	Description	Scope
Div 00	Procurement and Contracting Requirements	As Applicable
Div 01	General Requirements	As Applicable
32 80 00	Irrigation	Complete
32 90 00	Planting	Complete

B. Highlighted Inclusions:

1. This Bid Package is intended to include all scope of work for the Project associated with landscaping and irrigation in all areas onsite and offsite development.
2. Furnish a Payment and Performance Bond per section 002113 – Instructions to Bidders.
3. Time is of the essence, Trade Contractor acknowledges the aggressive schedule requirements, complexity and size of the project and by bidding this project is confirming its qualifications, experience and expertise to execute the Work and that it has the resources to complete the Work within the timeframes allowed (reference section 003113 – Construction Scheduling).
4. On site staffing requirements: During periods of on-site activity, this Trade Contractor shall have a full-time, on-site, representative who has full authority to make decisions for Trade Contractor regarding cost, quality control and schedule issues and capable of coordinating with other Trade Contractors and the GC/CM. Trade Contractor shall also provide other staff as needed to support the work of this Agreement.
5. Provide all hoisting and access equipment needed for Trade Contractors work. NOTE: The GC/CM forklift will only be made available for limited use for deliveries coordinated with the GC/CM.
6. To the largest degree practical, Trade Contractor shall prefabricate and assemble materials off-site using LEAN principles.
7. Trade Contractor acknowledges that it has read the soils report and understands the existing soils that will be encountered during soil preparation activities. See the soils report for more specific information.
8. Crushed rock pathways (including edging materials, if required).
9. Provide irrigation coverage testing.
10. The project's perimeter site security fencing will be installed by the GC/CM. BP-32.1 is responsible to remove, adjust and replace fencing as needed to execute its Work.
11. Tree protection fencing has been installed by the GC/CM. BP-32.1 Trade Contractor is responsible to remove, adjust and replace fencing as needed to execute the Work. For work within designated tree protection areas, Trade Contractor shall provide mulch, plates or other required measures to comply with the specified requirements.
12. BP-32.1 Trade Contractor shall protect adjacent surfaces during work of this package.

13. BP-32.1 Trade Contractor shall pressure wash finish concrete and asphalt surfaces affected by work of this bid package upon completion of work.
14. Provide a Force Account Allowance of \$5,000 for Work not included in this Bid Package but determined by the GCCM to be best performed by this Trade Contractor.

C. Exclusions:

1. Line voltage power connections.

END OF SECTION 00 2413

INGLEMOOR HIGH SCHOOL CONCERT HALL
Bid Package - Specification Matrix
April 13, 2020



FI = FURNISH & INSTALL
F = FURNISH
I = INSTALL
P = PARTIAL (SEE SCOPE)

SPEC #	DESCRIPTION	BP-03.1	BP-06.1	BP-07.1	BP-07.2	BP-08.1	BP-08.2	BP-09.1	BP-09.2	BP-09.3	BP-09.4	BP-09.5	BP-10.1	BP-21.1	BP-22.1	ECCM	BP-31.1	BP-32.1	COMMENTS
024119	Selective Demolition	P												P	P	P	FI		
026000	Contaminated Soil Management (PBS)																		
033000	Cast-in-Place Concrete	FI																	
033543	Special Concrete Floor Finish	FI																	
034500	Precast Architectural Concrete	FI																	
051200	Structural Steel Framing	FI																	
051213	Architecturally Exposed Structural Steel Framing	FI																	
052100	Steel Joist Framing	FI																	
053100	Steel Decking	FI																	
054000	Cold-Formed Metal Framing							FI											
055000	Metal Fabrications	FI																	
061000	Rough Carpentry		P	P				P					P						
061600	Sheathing							FI											
062023	Interior Finish Carpentry		FI																
064219	Plastic-Laminate-Faced Wood Paneling		FI																
071113	Bituminous Dampproofing	FI																	
071700	Bentonite Waterproofing	FI																	
071900	Water Repellents											FI							
072100	Thermal Insulation	P		P	P			P											
072500	Weather Barriers			FI															
074213	Metal Wall Panels			FI															
074214	Metal Composite Material Wall Panels			FI															
074633	Composite Resin Panels			FI															
074646	Fiber-Cement Siding							FI											
075419	Single-Ply Membrane Roofing				FI														
076200	Sheet Metal Flashing and Trim			FI	P														
078413	Penetration Firestopping							P						P	P	P			
079200	Joint Sealants	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P		
079500	Expansion Control			P									P						
081113	Hollow Metal Doors and Frames						FI	P											
081114	Custom Hollow Metal Doors and Frames						FI	P											
081416	Flush Wood Doors						FI												
083113	Access Doors and Frames						FI						FI						
083473	Sound Control Door Assemblies						FI												
084113	Aluminum-Framed Entrances and Storefronts					FI													
084413	Glazed Aluminum Curtain Walls					FI													
085113	Aluminum Windows					FI													
087100	Door Hardware						FI												
087113	Automatic Door Operators						FI												
088000	Glazing					FI													
089119	Fixed Louvers			FI															
092118	Acoustical Wall Construction							FI											
092216	Non-Structural Metal Framing							FI											
092900	Gypsum Board							FI											
093013	Ceramic Tiling										FI								

INGLEMOOR HIGH SCHOOL CONCERT HALL
Bid Package - Specification Matrix
April 13, 2020



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SPEC #	DESCRIPTION	BP-03.1	BP-06.1	BP-07.1	BP-07.2	BP-08.1	BP-08.2	BP-09.1	BP-09.2	BP-09.3	BP-09.4	BP-09.5	BP-10.1	BP-21.1	BP-22.1	ECCM	BP-31.1	BP-32.1	COMMENTS
095113	Acoustical Panel Ceilings								FI										
095426	Suspended Wood Ceilings								FI										
096513	Resilient Base and Accessories									FI									
096519	Resilient Tile Flooring									FI									
096551	Performing Arts Specialty Floors												FI						
096816	Sheet Carpeting									FI									
097200	Wall Coverings											FI							
097700	Sanitary Wall Panels												FI						
098400	One-Dimensional Diffuser		FI																
098433	Acoustical Wall Panels								FI										
099113	Exterior Painting											FI							
099123	Interior Painting											FI							
101100	Visual Display Units												FI						
101200	Display Case		FI																
101423	Signage												FI						
102113	Toilet Compartments												FI						
102123	Cubicle Curtains and Track												FI						
102600	Corner Guards												FI						
102800	Toilet, Bath, and Custodial Accessories												FI						
104413	Fire Protection Cabinets												FI						
109000	Miscellaneous Specialties												FI						
116171	Production Lighting Fixtures - Theatre (PLA)															FI			
116623	Gymnasium Equipment												FI						
122113	Horizontal Louver Blinds												FI						
122413	Roller Window Shades												FI						
123550	Casework		FI																
126113	Fixed Audience Seating (PLA)												FI						
142400	Hydraulic Elevators	FI																	
210000	Fire Suppression Work Specified in Division 23													FI					
210800	Automatic Fire Suppression Systems													FI					
DIV 22	PLUMBING														FI				
DIV 23	HVAC														FI				
DIV 26	ELECTRICAL															FI			
DIV 27	COMMUNICATIONS															FI			
DIV 28	ELECTRONIC SAFETY AND SECURITY															FI			
311000	Site Clearing and Site Demolition																FI		
312000	Earth Moving														P		FI		
312500	Erosion and Sediment Control																FI		
321216	Asphalt Concrete Paving																FI		
321313	Concrete Paving, Curbs, and Walks																FI		
321723	Pavement Markings																FI		
323000	Site Improvements												FI						
323113	Chain Link Fences & Gates												FI						
328000	Irrigation																	FI	
329000	Planting																	FI	

INGLEMOOR HIGH SCHOOL CONCERT HALL
Bid Package - Specification Matrix
April 13, 2020



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SPEC #	DESCRIPTION	BP-03.1	BP-06.1	BP-07.1	BP-07.2	BP-08.1	BP-08.2	BP-09.1	BP-09.2	BP-09.3	BP-09.4	BP-09.5	BP-10.1	BP-21.1	BP-22.1	ECCM	BP-31.1	BP-32.1	COMMENTS
331100	Water Distribution																FI		
333100	Sanitary Sewer																FI		
334100	Storm Drainage																FI		
334613	Foundation Drainage																FI		

SECTION 00 3113 - SCHEDULE

PART 1 - GENERAL

1.1 SCHEDULE SUMMARY AND MILESTONES

- A. Reference attached 'SCHEDULE – SECTION 003113 – EXHIBIT A' included at the end of this section. Section 00 31 13 – Schedule - Exhibit A attached herein outlines major schedule milestone requirements and timeframes for performance of each Trade Contractor's work. Each Trade Contractor acknowledges that this schedule represents an aggressive timeline for completion of the work. Trade Contractor shall include multiple crews, equipment, and supervision as well as any necessary overtime to successfully complete its activities in the timeframes allowed. NOTE: Each Trade Contractor shall conduct his Work in full coordination and cooperation with all other Trade Contractors in order to achieve the required project schedule dates and properly mesh each other's Work. Bidders acknowledge that multiple activities by multiple Trade Contractors will occur simultaneously and consecutively within common work areas. All activities shall be coordinated to achieve the best and most workable process possible in order to prosecute the 'Work' and accomplish the schedule requirements.
- B. NOTE: As a result of this Project being executed on a fully occupied high school campus, the following factors are priorities and play a significant role in understanding the complexities of the Project's Schedule:
 - 1. The school calendar (school days vs. non-school days)
 - 2. Maintaining code access & egress
 - 3. Maintaining minimum parking counts
 - 4. Maintaining functioning utilities
 - 5. Fire truck & Bus access
 - 6. Safe separation of construction and public

1.2 CPM SCHEDULE

- A. Within 15 days after receiving notice of contract Award, each Trade Contractor shall submit a list of their activities and associated man-hours broken down by Area and a preliminary schedule that conforms to the dates provided in the Schedule Exhibit. The GC/CM will compile received input from all Trade Contractors in order to finalize the Project Baseline CPM with relationship logic, in full compliance with the Schedule Exhibit. As it is the GCCM's responsibility to schedule the project and all activities within the allowable contract time, Trade Contractor input cannot be integrated unconditionally but to the highest degree possible. Trade Contractors recognize that durations provided represent the project as a whole and therefore represent the time allowed for all the Work as it will be executed with full cooperation from all Trade Contractors working simultaneously throughout the Project as necessary to deliver the required Substantial Completion dates.
- B. To clarify the intent of the CPM Baseline Schedule, please note, the CPM schedule is a "guide" to flow the project within the timeline and sequence provided to us and to comply

with the contract documents from the contracting authority. It is an anticipated listing of key activities and their work durations and the logic between them that is comprised of work constraints, crew sequencing, and planning done to date. However, the CPM is not analogous to a scientific equation where things cannot change and yield the correct results. It is to be used to guide the work and be aware of things that could prevent contractual completion as the project is executed.

- C. The CPM is not a replacement for the day to day planning, the three week detailed look ahead planners required to be performed by all Trade Contractors weekly and coordination between the crafts. It is intended to help achieve the required contract completion date. To that end, activities must be started as soon as available and progress timely through their completion to be successful.
- D. Schedule updates will be made throughout the project through the Three Week Lookahead Planners.

1.3 THREE WEEK LOOKAHEAD PLANNERS

- A. Trade Contractors shall provide 3-week look ahead planners to the GC/CM Superintendent weekly. This information shall be provided 24 hours prior to the Trade Contractor meeting.
- B. The GC/CM will consider received input from all Trade Contractors in creation of the Projects Three Week Lookahead Planners. As it is the GCCM's responsibility to schedule the project and all activities within the allowable contract time, Trade Contractor input cannot be integrated unconditionally but to the highest degree possible.

END OF SECTION 00 3113

INGLEMOOR HIGH SCHOOL CONCERT HALL + MUSIC BUILDING

ALT-4 LATE START MILESTONE SCHEDULE



ID	Task Name	Duration	Start	Finish	Comments	Actual Start	Actual Finish	2020	2021	2022
1	INGLEMOOR HS CONCERT HALL + MUSIC BUILDING	357 days	Fri 6/19/20	Wed 11/10/21		NA	NA			
2	CONSTRUCTION PHASE	357 days	Fri 6/19/20	Wed 11/10/21		NA	NA			
3	SCHOOL SCHEDULE	308 days	Fri 6/19/20	Wed 9/1/21		NA	NA			
4	End of School 2019-2020	0 days	Fri 6/19/20	Fri 6/19/20		NA	NA			
5	Start of School 2020-2021	0 days	Thu 9/3/20	Thu 9/3/20		NA	NA			
6	End of School 2020-2021	0 days	Mon 6/21/21	Mon 6/21/21		NA	NA			
7	Start of School 2021-2022	0 days	Wed 9/1/21	Wed 9/1/21		NA	NA			
8	SITE DEVELOPMENT	268 days	Mon 9/14/20	Wed 9/29/21		NA	NA			
9	Site Development	243 days	Mon 9/14/20	Tue 8/24/21		NA	NA			
10	Clear & Grub	5 days	Mon 9/14/20	Fri 9/18/20		NA	NA			
11	Site Mass Cut & Fill	5 days	Mon 9/21/20	Fri 9/25/20		NA	NA			
12	UG Utilities (Storm, Water, Sewer, Gas, Elec.)	60 days	Mon 9/28/20	Mon 12/21/20		NA	NA			
13	Storm Detention Facility	45 days	Mon 9/28/20	Mon 11/30/20		NA	NA			
14	Grading/Misc Site Work	148 days	Mon 10/26/20	Mon 5/24/21		NA	NA			
15	Hardscapes & Exterior Finishes	30 days	Wed 6/2/21	Tue 7/13/21		NA	NA			
16	AHJ Inspections & Approvals - (BLDG TCO)	13 days	Wed 7/14/21	Fri 7/30/21		NA	NA			
17	Punchlist	30 days	Wed 7/14/21	Tue 8/24/21		NA	NA			
18	Substantial Completion	0 days	Fri 7/30/21	Fri 7/30/21	**Milestone**	NA	NA			
19	Landscaping	65 days	Wed 6/30/21	Wed 9/29/21		NA	NA			
20	Landscaping	30 days	Wed 6/30/21	Tue 8/10/21	Landscaping at building and public parking areas shall be substantially complete to allow for AHJ sign-off for building occupancy by 7/30/2021	NA	NA			
21	AHJ Inspections & Approvals	5 days	Wed 8/11/21	Tue 8/17/21		NA	NA			
22	Substantial Completion	0 days	Tue 8/17/21	Tue 8/17/21	**Milestone**	NA	NA			
23	Punchlist	30 days	Wed 8/18/21	Wed 9/29/21		NA	NA			
24	BUILDING CONSTRUCTION	236 days	Mon 9/28/20	Fri 8/27/21		NA	NA			
25	Foundations, SOG, Underslab MEP RI	2.5 mons	Mon 9/28/20	Mon 12/7/20		NA	NA			
26	Structural Steel, Joists, Deck, SOMD & Applicable MEP RI	2 mons	Mon 11/23/20	Wed 1/20/21		NA	NA			
27	Exterior Framing & Sheathing	2 mons	Tue 12/22/20	Wed 2/17/21		NA	NA			
28	Interior Framing, MEP RI, GWB, Tape and Finish	4 mons	Tue 12/22/20	Wed 4/14/21		NA	NA			
29	Weather Barrier & Flashings	1 mon	Thu 1/21/21	Wed 2/17/21		NA	NA			
30	Roofing & Flashings	1.5 mons	Thu 1/21/21	Wed 3/3/21		NA	NA			
31	Window Systems	1 mon	Thu 2/4/21	Wed 3/3/21		NA	NA			
32	Exterior Cladding Systems	3 mons	Thu 2/4/21	Wed 4/28/21		NA	NA			
33	Interior Finishes	3.5 mons	Thu 3/18/21	Thu 6/24/21		NA	NA			
34	Start Up & Testing	1 mon	Mon 6/7/21	Fri 7/2/21		NA	NA			
35	Commissioning	2 mons	Mon 7/5/21	Fri 8/27/21		NA	NA			
36	AHJ Inspections & Approvals	1 mon	Mon 7/5/21	Fri 7/30/21		NA	NA			
38	Punch List	2 mons	Mon 7/5/21	Fri 8/27/21		NA	NA			
39	Building Flush	0.5 mons	Mon 7/5/21	Fri 7/16/21		NA	NA			
37	Substantial Completion	0 days	Fri 7/30/21	Fri 7/30/21	**Milestone**	NA	NA			
40	GENERAL	60 days	Wed 8/18/21	Wed 11/10/21		NA	NA			
41	Project Closeout & Wrap-Up	60 days	Wed 8/18/21	Wed 11/10/21		NA	NA			

INGLEMOOR HIGH SCHOOL CONCERT HALL + MUSIC BUILDING

MILESTONE SCHEDULE



ID	Task Name	Duration	Start	Finish	Comments	2020 JunJulAugSepOctNovDec	2021 JanFebMarAprMayJunJulAugSepOctNovDec	2022 JanFebMarAprMayJunJulAugSepOctNovDec
1	INGLEMOOR HS CONCERT HALL + MUSIC BUILDING	345 days	Fri 6/19/20	Mon 10/25/21				INGLEMOOR HS CONCERT HALL + MUSIC BUILDING
2	CONSTRUCTION PHASE	345 days	Fri 6/19/20	Mon 10/25/21				CONSTRUCTION PHASE
3	SCHOOL SCHEDULE	308 days	Fri 6/19/20	Wed 9/1/21				SCHOOL SCHEDULE
4	End of School 2019-2020	0 days	Fri 6/19/20	Fri 6/19/20				◆ End of School 2019-2020
5	Start of School 2020-2021	0 days	Thu 9/3/20	Thu 9/3/20				◆ Start of School 2020-2021
6	End of School 2020-2021	0 days	Mon 6/21/21	Mon 6/21/21				◆ End of School 2020-2021
7	Start of School 2021-2022	0 days	Wed 9/1/21	Wed 9/1/21				◆ Start of School 2021-2022
8	SITE DEVELOPMENT	308 days	Wed 7/1/20	Mon 9/13/21				SITE DEVELOPMENT
9	Site Development	295 days	Wed 7/1/20	Tue 8/24/21				Site Development
10	Clear & Grub	5 days	Wed 7/1/20	Tue 7/7/20				■ Clear & Grub
11	Site Mass Cut & Fill	5 days	Wed 7/8/20	Tue 7/14/20				■ Site Mass Cut & Fill
12	UG Utilities (Storm, Water, Sewer, Gas, Elec.)	60 days	Wed 7/15/20	Wed 10/7/20				■ UG Utilities (Storm, Water, Sewer, Gas, Elec.)
13	Storm Detention Facility	45 days	Wed 7/15/20	Wed 9/16/20				■ Storm Detention Facility
14	Grading/Misc Site Work	200 days	Wed 8/12/20	Mon 5/24/21				■ Grading/Misc Site Work
15	Hardscapes & Exterior Finishes	60 days	Tue 4/20/21	Tue 7/13/21				■ Hardscapes & Exterior Finishes
16	AHJ Inspections & Approvals - (BLDG TCO)	13 days	Wed 7/14/21	Fri 7/30/21				■ AHJ Inspections & Approvals - (BLDG TCO)
17	Punchlist	30 days	Wed 7/14/21	Tue 8/24/21				■ Punchlist
18	Substantial Completion	0 days	Fri 7/30/21	Fri 7/30/21	**Milestone**			◆ Substantial Completion
19	Landscaping	83 days	Tue 5/18/21	Mon 9/13/21				■ Landscaping
20	Landscaping	45 days	Tue 5/18/21	Tue 7/20/21	Landscaping at building and public parking areas shall be substantially complete to allow for AHJ sign-off for building occupancy by 7/30/2021			■ Landscaping
21	AHJ Inspections & Approvals	8 days	Wed 7/21/21	Fri 7/30/21				■ AHJ Inspections & Approvals
22	Substantial Completion	0 days	Fri 7/30/21	Fri 7/30/21	**Milestone**			◆ Substantial Completion
23	Punchlist	30 days	Mon 8/2/21	Mon 9/13/21				■ Punchlist
24	BUILDING CONSTRUCTION	288 days	Wed 7/15/20	Fri 8/27/21				BUILDING CONSTRUCTION
25	Foundations, SOG, Underslab MEP RI	3 mons	Wed 7/15/20	Wed 10/7/20				■ Foundations, SOG, Underslab MEP RI
26	Structural Steel, Joists, Deck, SOMD & Applicable MEP RI	2 mons	Thu 10/1/20	Wed 11/25/20				■ Structural Steel, Joists, Deck, SOMD & Applicable MEP RI
27	Exterior Framing & Sheathing	2 mons	Thu 10/29/20	Thu 12/24/20				■ Exterior Framing & Sheathing
28	Interior Framing, MEP RI, GWB, Tape and Finish	5 mons	Thu 10/29/20	Mon 3/22/21				■ Interior Framing, MEP RI, GWB, Tape and Finish
29	Weather Barrier & Flashings	1 mon	Fri 11/27/20	Thu 12/24/20				■ Weather Barrier & Flashings
30	Roofing & Flashings	1.5 mons	Fri 11/27/20	Mon 1/11/21				■ Roofing & Flashings
31	Window Systems	1 mon	Fri 12/11/20	Mon 1/11/21				■ Window Systems
32	Exterior Cladding Systems	3 mons	Fri 12/11/20	Mon 3/8/21				■ Exterior Cladding Systems
33	Interior Finishes	4 mons	Tue 2/23/21	Tue 6/15/21				■ Interior Finishes
34	Start Up & Testing	1.5 mons	Fri 5/21/21	Fri 7/2/21				■ Start Up & Testing
35	Commissioning	2 mons	Mon 6/21/21	Fri 8/13/21				■ Commissioning
36	AHJ Inspections & Approvals	1 mon	Mon 7/5/21	Fri 7/30/21				■ AHJ Inspections & Approvals
38	Punch List	2 mons	Mon 7/5/21	Fri 8/27/21				■ Punch List
39	Building Flush	0.5 mons	Mon 7/5/21	Fri 7/16/21				■ Building Flush
37	Substantial Completion	0 days	Fri 7/30/21	Fri 7/30/21	**Milestone**			◆ Substantial Completion
40	GENERAL	60 days	Mon 8/2/21	Mon 10/25/21				■ GENERAL
41	Project Closeout & Wrap-Up	60 days	Mon 8/2/21	Mon 10/25/21				■ Project Closeout & Wrap-Up

SECTION 00 4113 – BID FORM

**CORNERSTONE GENERAL CONTRACTOR'S, INC
GENERAL CONTRACTOR/CONSTRUCTION MANAGER (GC/CM)
11805 NORTH CREEK PARKWAY SOUTH, SUITE #115
BOTHELL, WA 98011**

**FOR BID PACKAGE BP-03.1, BP-08.2 & BP-10.1 BIDS SHALL BE SUBMITTED BY EMAIL
TO:**

Ashley Clericus, aclericus@nsd.org
Northshore School District No. 417
22105 23rd Dr. SE
Bothell, WA 98021

BID DATE/TIME: 5/04/20 @ 2:00 pm

FOR ALL OTHER BID PACKAGES BIDS SHALL BE HAND DELIVERED TO:

Cornerstone General Contractors, Inc.
11805 North Creek Pkwy S, Ste #115
Bothell, WA 98011

BID DATE/TIME: 5/05/20 @ 2:00 pm

PART 1 BASE BID

The following represents the Cost to perform the Base Bid Work described in the Contract Documents. The Base Bid Amount **DOES NOT INCLUDE** Unit Price allowances in Part 2 of this Bid Form. **The Base Bid Amount will be added to the Total Unit Price Allowance, plus selected Bid Items (if any) to determine the low bidder.**

BID PACKAGE No:

(write applicable Bid Package here)

NAME OF FIRM:

(write in name of bidding firm here)

In compliance with the contract documents, the following bid proposal is submitted:

BASE BID AMOUNT:

\$

(including
Payment/Performance Bond,
and Trench Excavation Safety
provisions)

(do not include Washington State Sales Tax)

(please print dollar amount in words in the space above))

TRENCH EXCAVATION SAFETY PROVISIONS

\$

If the base bid amount contains any work which requires trenching exceeding a depth of four feet, **all costs for trench safety shall be included in the Base Bid** for adequate trench safety systems in compliance with Chapter 39.04 RCW, 49.17 RCW and WAC 296-155-650. Bidder must include a lump sum dollar amount in the blank above (even if the value is \$0.00) to be responsive.

PART 2 UNIT PRICE ALLOWANCE

If there are any Unit Prices that relate to the Bid Package that your firm is submitting a bid on, enter them in the spaces provided below. Reference Section 004322 – Schedule of Unit Prices for additional information. Extend all Unit prices by the stipulated quantities given below. Extended Unit Prices shall not be including in the Base Bid Amount. **Extended Unit Prices shall NOT BE INCLUDED in the Base Bid Amount. Do not include Washington State Sales tax in unit prices.**

Unit Price	Description	QTY	Unit Price	Extended Amount
UP-1	Over Excavation & Disposal of Unsuitable Soil: Excavate, remove, haul and dispose of unsuitable soil as directed by Owner's geotechnical representative. Reference Section 312000- Earth Moving. This unit price applies to excavation directed by the geotechnical representative that are below existing subgrade elevations. BP-31.1	1,000 BCY	\$	\$
UP-2	Imported Structural Fill: Import and place Structural Fill per Section 312000 – Earth Moving. This unit price applies to areas of unanticipated over excavation (UP-1). BP-31.1	1,000 BCY	\$	\$
UP-3	Over Excavation & Disposal of Contaminated Soil: Excavate, remove, haul and dispose of unsuitable soil as directed by Owner's geotechnical representative. Reference Section 026000 – Contaminated Soil Removal. This unit price applies to excavation directed by the geotechnical representative that are below existing subgrade elevations.	100 BCY	\$	\$

UP-4	Utility Trench Backfill Geotextile Fabric: Provide geotextile fabric at utility trench over excavations as directed by Owner's geotechnical engineer. Reference Section 31200 – Earth Moving.	1,000 SF	\$	\$
UP-5	Electrical Trenching – 12"w x 30"d (Includes Excavation, Bedding, Backfill & Spoil removal)	2,100 LF	\$	\$
UP-6	Electrical Trenching – 24"w x 40"d (Includes Excavation, Bedding, Backfill & Spoil removal)	1,100 LF	\$	\$
Total Extended Unit Prices:				\$

PART 3 TOTAL BID EVALUATION AMOUNT	
A. PART 1 – BASE BID AMOUNT	\$
B. PART 2 – TOTAL UNIT PRICE ALLOWANCE	\$
C. PART 3 – TOTAL BID EVALUATION (A+B)	\$

The Total Bid Evaluation Amount will be added to selected additive or deductive Bid Items (if any) to determine the low bidder.

PART 4 ADDITIVE & DEDUCTIVE BID ITEMS
--

If there are any Bid Items that relate to the Bid Package your firm is submitting on, enter them in the spaces provided below. Selected Bid Items will be added/deducted to the base bid for purposes of determining low bidder. Reference Sections 004323 – Schedule of Bid Items and 012300 Alternates for additional information.

Bid Item	Description	Bid Package	Amount
1a	GENERATOR REPLACEMENT: Replace existing 35 KW natural gas generator with propane backup with new 125 KW diesel generator with basetank and extend to new building. Provide new Manual Transfer Switch with Camlocs. See Section 263323.	BP-22.1, ECCM, BP-31.1, BP-32.1	\$
1b	GENERATOR REPLACEMENT: Replace existing 35 KW natural gas generator with propane backup with new 125 KW natural gas generator with propane backup and extend to new building. Provide new Manual Transfer Switch with Camlocs. Alternate price shall include	BP-22.1, ECCM, BP-31.1, BP-32.1	\$

	increased natural gas pipe size and propane tank for 90-minute backup. See Section 263323.		
2	COOLING COIL: Cooling Coils provided within all AHU equipment per schedule on M0.06.	BP-22.1	
3a	THEATER SEATING BY IRWIN: State the amount to provide and install Irwin seating as specified in Section 126113 "Fixed Audience Seating".	BP-10.1	
3b	THEATER SEATING BY HUSSEY: State the amount to provide and install Hussey seating as specified in Section 126113 "Fixed Audience Seating".	BP-10.1	

RECEIPT OF ADDENDA

Receipt of the following addenda is acknowledged.

Addenda. _____

BID BOND

A bid bond must be included for all bid amounts in excess or equal to \$300,000.00.

APPRENTICESHIP REQUIREMENTS

The apprentice labor hours required for this project are 15% of the total labor hours. The undersigned agrees to utilize this level of participation.

LIQUIDATED DAMAGES

Bidder has familiarized themselves with the schedule requirements dictated in the contract documents. It is understood that liquidated damages in the amount of **\$3,000 (Three Thousand Dollars)** may be assessed for each consecutive calendar day the completion of the project exceeds the specified Substantial Completion date and/or Completion Date established for this Bid Package (whichever comes first) and **\$1,000 (One Thousand Dollars)** for each consecutive calendar day beyond Final Completion as defined in section 007200 – General Conditions. Liquidated damages shall be deducted from the contract by change order.

INTENT AND AFFIDAVIT OF WAGES PAID

In compliance with 296-127 WAC the Contractor shall pay all fees associated with the Intent and Affidavit of Wages Paid to the Department of Labor and Industries. These costs are included in the bid.

Name of Firm: _____

NOTE: *If bidder is a corporation, write State of Incorporation; if a partnership, give full names and addresses of all parties below.*

Signed By: _____, Official Capacity _____

Print Name _____ e-mail Address _____

Address _____

City _____ State _____ Zip Code _____

Date _____ Telephone _____ Fax _____

State of Washington Contractor's License No. _____

Federal Tax Identification Number _____

UBI Number _____

END OF SECTION 00 4113

SECTION 00 4322 – SCHEDULE OF UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

- A. This section includes a schedule of unit prices for each Bid Package, where applicable.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Section 002413 – Specific Scope of Work (by Bid Package)
 - 2. Section 004113 – Bid Form
- C. Definitions:
 - 1. “BCY” – Bank Cubic Yard of material.
 - 2. “LF” – Lineal Foot.

1.2 SCHEDULE OF UNIT PRICES

- A. The unit prices below represent the “All-In” amount including all labor, material, equipment, supervision, applicable taxes (excluding WSST), overhead, profit and other costs needed to perform the unit price work
- B. All extended unit prices shall NOT BE INCLUDED in Base Bid amounts.

Unit Price	Description	Qty	UO M	Bid Package
UP-1	Over Excavation & Disposal of Unsuitable Soil: Excavate, remove, haul and dispose of unsuitable soil as directed by Owner’s geotechnical representative. Reference Section 312000 - Earth Moving. This unit price applies to excavation directed by the geotechnical representative that are below existing subgrade elevations.	1,000	BCY	BP-31.1
UP-2	Imported Structural Fill: Import and place Structural Fill per Section 312000 – Earth Moving. This unit price applies to areas of unanticipated over excavation.	1,000	BCY	BP-31.1
UP-3	Over Excavation & Disposal of Contaminated Soil: Excavate, remove, haul and dispose of unsuitable soil as directed by Owner’s geotechnical representative. Reference Section 026000 – Contaminated Soil Removal. This unit price applies to excavation directed by the geotechnical representative that are below existing subgrade elevations.	100	BCY	BP-31.1

UP-4	Utility Trench Backfill Geotextile Fabric: Provide geotextile fabric at utility trench over excavations as directed by Owner's geotechnical engineer. Reference Section 31200 – Earth Moving.	1,000	SF	BP-31.1
UP-5	Electrical Trenching – 12"w x 30"d (Includes Excavation, Bedding, Backfill & Spoil removal)	2,100	LF	BP-31.1
UP-6	Electrical Trenching – 24"w x 40"d (Includes Excavation, Bedding, Backfill & Spoil removal)	1,100	LF	BP-31.1

END OF SECTION 00 4322

SECTION 00 4323 – SCHEDULE OF BID ITEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. This section includes a schedule of Additive and Deductive Bid Items.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
1. Section 002413 – Specific Scope of Work (by Bid Package)
 2. Section 004113 – Bid Form
 3. Section 012300 - Alternates
 4. Applicable Sections for the scope of work described in each bid items below.

1.2 SCHEDULE OF BID ITEMS

- A. Bid Item Pricing shall be included in the spaces provide on the Bid Form.

Bid Item	Description	Bid Package
1a	GENERATOR REPLACEMENT: Replace existing 35 KW natural gas generator with propane backup with new 125 KW diesel generator with basetank and extend to new building. Provide new Manual Transfer Switch with Camlocs. See Section 263323.	BP-10.1, BP-22.1, ECCM, BP-31.1, BP-32.1
1b	GENERATOR REPLACEMENT: Replace existing 35 KW natural gas generator with propane backup with new 125 KW natural gas generator with propane backup and extend to new building. Provide new Manual Transfer Switch with Camlocs. Alternate price shall include increased natural gas pipe size and propane tank for 90-minute backup. See Section 263323.	BP-10.1, BP-22.1, ECCM, BP-31.1, BP-32.1
2	COOLING COIL: Cooling Coils provided within all AHU equipment per schedule on M0.06.	BP-22.1
3a	THEATER SEATING BY IRWIN: State the amount to provide and install Irwin seating as specified in Section 126113 "Fixed Audience Seating".	BP-10.1
3b	THEATER SEATING BY HUSSEY: State the amount to provide and install Hussey seating as specified in Section 126113 "Fixed Audience Seating".	BP-10.1

END OF SECTION 00 4323

SECTION 00 5213 – FORM OF CONTRACT

PART 1 - GENERAL

1.1 SUMMARY

- A. All Trade Contractors will be issued a Cornerstone General Contractors Inc.'s Standard Subcontract Agreement attached herein as 'Form of Contract – Section 00 52 13 – Exhibit A'. For those bid packages which have no onsite labor and are "supply only Free On Board (F.O.B.) jobsite", you will be issued a Cornerstone's Standard Purchase Order Agreement. These agreements in their entirety are included in the following pages. By submitting a bid on this work, all Trade Contractors agree to execute the applicable agreement in its entirety and in original form with no revisions (un-modified). Failure to enter into this agreement will deem a Trade Contractor non-responsive and the contract will be awarded to another responsive bidder.
- B. Trade Contractor must submit updated insurance certificates that certify that the bidders insurance is in compliance with the attached subcontract requirements. Sample insurance certificates are included herein for reference.
- C. Performance and Payment Bond forms are included in this Section. All Bid Packages which exceed an amount of \$300,000 will be required to provide 100% Performance and Payment Bond on the forms provided herein

END OF SECTION 00 5213



ORIGINAL

STANDARD SUBCONTRACT AGREEMENT

THIS AGREEMENT, effective the ____ day of ____ 2018, between Cornerstone General Contractors, Inc. ("Cornerstone") and _____ ("Trade Contractor").

WHEREAS, Cornerstone has entered into a contract ("the Main Contract") with Northshore School District #417 ("Owner") to perform labor and furnish material for the construction of the project entitled Inglemoor High School Concert Hall, located at 15500 Simonds Road NE, Kenmore, WA 98028 ("Project"), pursuant to Drawings, Specifications, and Addendum prepared by Hutteball & Oremus Architecture, Inc. ("Architect").

IN CONSIDERATION of their mutual promises herein, Trade Contractor and Cornerstone agree as follows:

1. CONTRACT DOCUMENTS. All of the documents identified in Exhibit B hereto have been made available to Trade Contractor for examination. All of those documents, this Subcontract Agreement with its attachments unaltered and as identified below, constitute the Contract Documents ("Contract Documents").

Exhibit "A" Scope of Work
Exhibit "B" Specifications, Drawings, and Addendum
Exhibit "C" General Provisions
Exhibit "D" Billing Procedure & Forms
Addendum "1" Insurance Requirements
Addendum "2" Safety Requirements
Addendum "3" Indemnification Requirements

2. SCOPE OF WORK. Trade Contractor shall furnish and pay for all supervision, labor, materials, tools, equipment, services, and all other items necessary to fully perform this Subcontract, consistent with the provisions of the Contract Documents, including completion of all of the "Work" identified in Exhibit A attached hereto.

3. SUBCONTRACT PRICE. For the full and satisfactory performance of this Subcontract, in compliance with the provisions of this Agreement and Exhibits herewith, Cornerstone shall pay Trade Contractor the fixed sum of _____ (\$ _____) Dollars. This sum may be changed only in accordance with the provisions of this Subcontract Agreement.

4. TIME OF COMPLETION. Trade Contractor shall begin Work as soon as the Project is ready for Work or, within three (3) calendar days after being notified in writing by Cornerstone, whichever is earlier, and shall prosecute and complete the Work expeditiously in accordance with construction schedules and sequence(s) prepared by Cornerstone. Cornerstone will update and modify those schedules and sequences as it deems necessary to achieve its obligations under the prime contract with the Owner. Time is of the essence.

IN WITNESS WHEREOF, Trade Contractor and Cornerstone have executed this Subcontract unaltered as set forth below.

Trade Contractor
By: _____
Its: _____

Cornerstone General Contractors, Inc.

By: _____
Sam Comer
Its: Senior Project Manager

Trade Contractor's Washington Registration No. _____, UBI No. _____



STANDARD SUBCONTRACT AGREEMENT

Exhibit A: Scope of Construction Services

Project: Inglemoor High School Concert Hall Project

Subcontractor:

Contract Amount: \$.00

Subcontractor shall provide all supervision, labor, materials, tools, transportation, equipment and hoisting necessary for completion of their Work as is described below and as may be additionally shown on/in the contract documents prepared by the Architect/Engineer (See Exhibit B).

<u>SECTION REFERENCE</u>	<u>TITLE</u>	<u>SCOPE</u>
Division 0 & 1	Bidding & General Requirements	Complete as applies this subcontract scope of work
TBD	TBD	Complete

NOTE – “Complete” means furnished, installed and performed as necessary to complete the work required by the contract documents and all related references. No exclusions, unless specifically listed as an exclusion herein.

Highlighted Inclusions:

1. TBD

Schedule:

1. Reference 'xxxxxx' and 'xxxxxx' included at the end of section xxxxxx. xxxxxx outlines major schedule milestone requirements and timeframes for performance of each Subcontractor's work. Each Subcontractor acknowledges that this schedule represents an aggressive timeline for completion of the work. Subcontractor shall include multiple crews, equipment, and supervision as well as any necessary overtime to successfully complete its activities in the timeframes allowed. NOTE: Each Subcontractor shall conduct his Work in full coordination and cooperation with all other Subcontractors in order to achieve the required project schedule dates and properly mesh each other's Work. Bidders acknowledge that multiple activities by multiple Subcontractors will occur simultaneously and consecutively within common work areas. All activities shall be coordinated to achieve the best and most workable process possible in order to prosecute the 'Work' and accomplish the schedule requirements.
2. As a result of this Project being executed on a fully occupied middle/elementary school campus, the following factors are priorities and play a significant role in understanding the complexities of the Project's Schedule:
 - a. The school calendar (school days vs. non-school days)
 - b. Maintaining code access & egress
 - c. Maintaining minimum parking counts
 - d. Maintaining functioning utilities
 - e. Fire truck & Bus access
 - f. Safe separation of construction and public
3. **CPM SCHEDULE:**
 - a. Within 15 days after receiving notice of contract Award, each Subcontractor shall submit a list of their activities and associated man-hours broken down by Area and a preliminary schedule that conforms to the dates provided in the Schedule Exhibit. The GC/CM will compile received input from all Subcontractors in order to finalize the Project Baseline CPM with relationship logic, in full compliance with the Schedule Exhibit. As it is the GCCM's responsibility to schedule the project and all activities within the allowable contract time, Subcontractor input cannot be integrated unconditionally but to the highest degree possible. Subcontractors recognize that durations provided represent the project as a whole and therefore represent the time allowed for all the Work as it will be executed with full cooperation from all Subcontractors working simultaneously throughout the Project as necessary to deliver the required Substantial Completion dates.

- b. To clarify the intent of the CPM Baseline Schedule, please note, the CPM schedule is a “guide” to flow the project within the timeline and sequence provided to us and to comply with the contract documents from the contracting authority. It is an anticipated listing of key activities and their work durations and the logic between them that is comprised of work constraints, crew sequencing, and planning done to date. However, the CPM is not analogous to a scientific equation where things cannot change and yield the correct results. It is to be used to guide the work and be aware of things that could prevent contractual completion as the project is executed.
 - c. The CPM is not a replacement for the day to day planning, the three-week detailed look ahead planners required to be performed by all Subcontractors weekly and coordination between the crafts. It is intended to help achieve the required contract completion date. To that end, activities must be started as soon as available and progress timely through their completion to be successful.
 - d. Schedule updates will be made throughout the project through the Three Week Lookahead Planners.
4. **THREE WEEK LOOKAHEAD PLANNERS:**
- a. Subcontractors shall provide three-week look ahead planners to the GC/CM Superintendent weekly. This information shall be provided 24 hours prior to the Subcontractor meeting.
 - b. The GC/CM will consider received input from all Subcontractors in creation of the Projects Three Week Lookahead Planners. As it is the GCCM’s responsibility to schedule the project and all activities within the allowable contract time, Subcontractor input cannot be integrated unconditionally but to the highest degree possible.
5. Notwithstanding the foregoing information, all work shall be performed by Subcontractor in a manner enabling the prime contract to be completed on or ahead of the required completion dates in the contract documents. Submittals shall proceed timely to achieve the above noted fabrication timelines. Questions will not be justification for a time extension, any questions that will affect the project timeline are to be expedited and coordinated for immediate resolution with the Owner/AE and Cornerstone

Exclusions:

- 1. TBD



STANDARD SUBCONTRACT AGREEMENT

Exhibit B: Drawings, Specifications and Addendum

DRAWINGS:

NA

SPECIFICATIONS:

000110	Table of Contents
002113	Instructions to Bidders
004123	Final Request for Proposal Form
005001	Standard Subcontract Agreement
005002	Cost Responsibility Matrix
007200	General Conditions of the Contract for Construction (GC/CM Projects)

ADDENDUMS:

TBD



STANDARD SUBCONTRACT AGREEMENT

Exhibit C: General Provisions

1	Contract Documents	7	Safety and Health	13	Assignment and Subletting
2	License and Qualification	8	Prosecution of the Work	14	Convenience Termination
3	Laws and Permits	9	Payments and Changes	15	Default
4	Taxes and Contributions	10	Warranty	16	Miscellaneous
5	Bonds	11	Indemnity	17	Unions
6	Insurance	12	Disputes	---	Addendums 1, 2, 3

1. CONTRACT DOCUMENTS. Trade Contractor binds itself to Cornerstone under this Agreement with respect to Trade Contractor's Work in the same manner as Cornerstone is bound to Owner. The term "Contractor", "General Contractor", "Trade Contractor" or "Prime Contractor" in the specification sections and plans covered by this Subcontract Agreement shall mean this Trade Contractor. The parties recognize that the Owner or its authorized representatives shall be the binding and final authority on the interpretation of the plans and specifications. Trade Contractor shall be bound by all interpretations of the Owner or its authorized representatives, which by the Contract Documents, are binding on Cornerstone.

2. LICENSE AND QUALIFICATION. All Trade Contractors and their Sub-Trade Contractors are required to maintain required licenses and registrations in the geographic areas where the Work is being performed.

3. TAXES AND CONTRIBUTIONS. The Contract Price includes, and Trade Contractor hereby accepts, exclusive liability for payment of all federal, state, county, municipal and other taxes imposed by law or contract, and based upon labor, services, materials, equipment or other items acquired, performed, furnished or used in connection with the Work.

4. LAWS AND PERMITS. The Subcontract Price includes, and Trade Contractor shall obtain and pay for all permits, licenses, and fees necessary to complete the Work in accordance with the Contract Documents. Trade Contractor shall perform the Work in compliance with all applicable federal, state, municipal and local laws, codes, ordinances, rules, regulations, and requirements, including without limitation those relating to O.S.H.A., discrimination in employment, fair employment practices and equal employment opportunity.

5. BONDS. If the subcontract scope includes furnishing a bond, Trade Contractor shall obtain and furnish to Cornerstone performance and payment bonds covering faithful performance of this Subcontract and payment of all obligations arising thereunder. The bonds shall be written on Cornerstone's Subcontract Performance Bond and Payment Bond forms, each in the full amount of the Subcontract Price. The penal sum of the bonds shall be increased in the same amount as any increase in the Subcontract Price.

Trade Contractor shall furnish such performance and payment bonds, if required, within seven (7) calendar days of receipt of this Subcontract, but in any event prior to commencement of any Work under this Subcontract. Should Trade Contractor fail to furnish the required bonds within the specified time, Cornerstone shall have the right to terminate this Subcontract pursuant to Provision 15.

6. INSURANCE. Prior to starting the Work, Trade Contractor shall procure, maintain and pay for such insurance as will protect against claims for bodily injury or death, or for damage to property, which may arise out of operations by Trade Contractor or by any sub-Trade Contractor or by anyone employed by any of them, or by anyone for whose acts any of them may be liable. Such insurance shall include, but not be limited to, minimum coverage and limits of liability specified in Addendum 1 enclosed herewith, or if greater, any coverage or limits of liability specified in the Contract Documents or required by law.

To the extent of coverage afforded by Builder's Risk or any other property or equipment floater insurance applicable to the Work or the Project or equipment used in performance of the Work or the Project, regardless of whether such insurance is owned by or for the benefit of Trade Contractor, Cornerstone, the Owner, or their respective agents and Trade Contractors, Cornerstone and Trade Contractor waive all rights against each other and the Owner, sub-Trade Contractors, agents and employees each of the other, for loss or damage to the extent covered by such insurance, except such rights as they may have to the proceeds of such insurance. If policies of insurance referred to in this Provision require an endorsement to provide for continued coverage where there is waiver of subrogation, the owners of such policies will cause them to be so endorsed.

Any deductible amount applied to any loss payable under the Builders Risk Insurance shall be borne by the insured's interests whose Work is damaged in direct proportion as their individual losses shall bear to the total loss, regardless of whether such loss is to work installed and completed, to materials stored on or off site, or to materials in transit. Cornerstone and the Owner neither represent nor assume responsibility for the adequacy of the Builders Risk Insurance to protect the interests of the Trade Contractor. It shall be the obligation of the Trade Contractor to review any such Builders Risk Policy and purchase and maintain any supplementary property insurance that it deems necessary to protect its interest in the Work.

7. **SAFETY.** Trade Contractor shall carry on its Work in a safe manner, shall comply with all safety measures required by the Contract Documents including Addendum 2 enclosed herewith, and shall comply with all applicable laws, codes, ordinances, rules, regulations and orders of any public authority for the safety of persons or property. Trade Contractor shall be solely responsible for protection and safety of its employees, for final selection of safety methods and means, for required safety reports and records, for daily inspection of its work area and its employees' safety equipment, and for instruction of its employees on health and safety, including weekly safety meetings.

Trade Contractor shall defend and indemnify Cornerstone, its agents and employees from and against all claims arising out of or in connection with the Trade Contractor's responsibilities under this provision, regardless of whether Cornerstone has assisted or advised Trade Contractor in fulfilling such responsibilities.

When so ordered, Trade Contractor shall immediately stop any part of the Work, or any Work practice that Cornerstone deems unsafe until corrective measures have been taken. Failure on the part of Cornerstone or others to discover and have stopped unsafe practices shall in no way relieve Trade Contractor of its responsibilities hereunder.

8. **PROSECUTION OF WORK.** Trade Contractor shall carefully examine the plans and specifications affecting its Work and shall promptly notify Cornerstone in writing of any deficiencies, discrepancies, ambiguities, or errors before proceeding with the affected Work.

Should performance of the Work hereunder depend upon performance of other work, Trade Contractor shall carefully examine all contiguous or dependent work, determine whether it is suitable for performance of the Work hereunder, report immediately any unsuitable conditions to Cornerstone in writing, and allow Cornerstone reasonable time to have such unsuitable conditions remedied. Unless Trade Contractor reports such unsuitable conditions, Trade Contractor shall be deemed to have accepted dependent work as adequate for completion of its Work.

Trade Contractor shall perform the Work in a diligent, efficient and skillful manner, as the Work or any portion thereof becomes available, to allow Cornerstone to promote the general progress of the entire construction and so that Trade Contractor's Work shall not interfere, hinder or delay other work.

Trade Contractor is responsible for intermeshing of various parts of its Work so that no part shall be left unfinished or incomplete owing to any disagreement between Trade Contractor and its sub-Trade Contractors or other Trade Contractors.

Trade Contractor shall be solely responsible for keeping its work areas clean daily, protection of its Work, and for loss or damage to materials, tools, equipment, or other personal property, owned or rented or used by Trade Contractor in performance of its Work.

Trade Contractor shall clean up and remove all debris caused by its operations on a daily basis. Should Trade Contractor fail to remedy such notice in a timely manner, Cornerstone may arrange to have this work performed and charge the cost to Trade Contractor and their account.

8.1 **LABOR:** Trade Contractor shall employ competent personnel and remove any of its personnel, means, materials or

equipment from the project that may cause strikes, work stoppages or interferences to workers employed by Trade Contractor, Cornerstone or other contractors or Trade Contractors. Trade Contractor agrees to be bound by any applicable Project Labor Agreements. Cornerstone maintains the right to approve or reject Trade Contractor's project staffing if in Cornerstone's sole discretion are not deemed capable or qualified to perform the work, or if Cornerstone otherwise raises any reasonable objection to such personnel.

8.2 TOOLS AND EQUIPMENT: Trade Contractor shall provide all tools and equipment necessary to perform its Work, including but not limited to scaffolds, hoisting and specialty items. Cornerstone's equipment shall not be available to Trade Contractor except at Cornerstone's discretion and on mutually satisfactory terms. Trade Contractor agrees to assume sole responsibility for all claims for loss or damage to its property, and Cornerstone's property, arising out of Trade Contractor's use of Cornerstone's equipment, including without limitation hoisting of material. Trade Contractor agrees that operators of Cornerstone's equipment during the period of Trade Contractor's use, either singly or with others, shall be deemed loaned servants of Trade Contractor even though they may be actually employed by Cornerstone or others.

In consideration of the willingness of Cornerstone to allow Trade Contractor and its employees to use Cornerstone's equipment, Trade Contractor, through its authorized undersigned representative, hereby agrees:

(1) To assume complete responsibility for the operation of Cornerstone's equipment. The operators, during the period of Trade Contractor's use, either singly or with others, shall be deemed loaned servants of Trade Contractor even though employed by Cornerstone or others;

(2) To waive all claims for the loss or damage to Trade Contractor's property arising out of or resulting from the use of Cornerstone's equipment by Trade Contractor; and
To indemnify and hold Cornerstone harmless against all claims, damages and losses (including without limitation, legal fees and disbursements) for injury to persons or damage to property arising out of or resulting from Trade Contractor's use of Cornerstone equipment, pursuant to the terms of Section 11 of this Agreement.

If Trade Contractor does not supply its crews the tools and equipment required to perform its Work, including cleanup, and Cornerstone provides them, or cleans up after Trade Contractor, to assure the Work progresses timely, the cost for same will be deducted from Trade Contractors account plus 15% (for example, cords, pigtail adapters, tasklights, brooms, shovels, trash cans, hoses, vacuums, power tools, etc.).

8.3 MATERIAL: Trade Contractor shall promptly secure delivery commitments, place orders for materials, equipment and services required in connection with the Work to avoid delays, and shall promptly furnish copies of procurement documents and purchase orders upon request. Trade Contractor shall furnish goods, materials, equipment and services in compliance with all applicable safety, certification and testing codes and laws.

Shipments of all goods, materials and equipment to the Project shall be consigned to Trade Contractor c/o Cornerstone, c/o Owner with all transportation, freight or delivery charges prepaid by Trade Contractor. Trade Contractor shall be solely responsible for receiving and unloading shipments.

8.4 TIME OF COMPLETION: Trade Contractor recognizes and agrees that the project is planned/intended for the earliest completion possible, but not later than that specified project schedule in the contract documents. Trade Contractor also agrees to immediately notify Cornerstone, in writing, of any occurrence, impact, or delays to its performance caused from any other trades' work activities, or from any other events or circumstances that Trade Contractor contends or may contend prevents it from completing its Work within the dates shown in the earlier of the current project schedule and/or project activity planners. Trade Contractor will complete its individual Work activities not later than their early finish date as indicated in the earlier of the most current project schedule and/or the project activity planners, which may be revised periodically by Cornerstone relative to job progress, changes, and weather.

Trade Contractor shall promptly furnish all data requested by Cornerstone for preparation and revision of construction schedules, including long lead items, work constraints, and its anticipated hours and crew sizes from its bid estimate. Trade Contractor further acknowledges that as construction progresses, it may be necessary for Cornerstone to change the sequential order and duration of the various activities, including those contemplated by this Subcontract Agreement to account for unanticipated delays, occurrences and other factors which act to alter the original planning schedule. Cornerstone may require Trade Contractor, at no additional cost to Cornerstone, to prosecute Trade Contractor's work in such sequence as the progress of other Trade Contractors and the project schedule dictates to achieve the overall project schedule. It is expressly understood and agreed that the scheduling and sequencing of the Work is an exclusive right of Cornerstone and that Cornerstone reserves such right fully to reschedule and resequence Trade Contractor's work from time

to time as the demands of the project require without any additional cost or expense to be paid to Trade Contractor. It is understood and agreed that Trade Contractor will furnish all required resources including but not limited to additional manpower and supervision, expediting materials, working overtime, and/or working double shifts, or as required to complete the project within the projects construction time, and according to Cornerstone's directed work sequence and the construction schedule which may be modified as stated previously herein.

Should Trade Contractor be delayed in the commencement, prosecution or completion of the Work by any cause beyond Trade Contractor's control and not due to any fault, neglect, act or omission on its part, then Trade Contractor may request an extension of time pursuant to the provisions of this Agreement . Such extension shall be for a period equivalent to that granted to Cornerstone by the Owner under the Contract Documents for the same cause of delay, and shall release and discharge Cornerstone from any and all claims by Trade Contractor on account of the delay. Trade Contractor shall not be entitled to any extension of time unless a claim therefor is presented in writing to Cornerstone within seven (7) calendar days of the commencement of such claimed delay.

Trade Contractor agrees that any right it may have to seek relief for delay in the commencement, prosecution or completion of the Work, including delay, impact and inefficiency costs, shall be waived at Cornerstone's election if Trade Contractor fails to strictly comply with the notice and claim Provisions herein.

Should Trade Contractor delay the progress of the Work or of the Project, Trade Contractor shall take necessary action to meet and maintain job progress, without additional compensation, and shall be liable to and reimburse Cornerstone for any damages resulting from such delay. Trade Contractor agrees that it will be responsible for any delay, impact, and/or contractually imposed liquidated damages incurred by or assessed to Cornerstone for all or its pro-rata share based on Cornerstone's discretionary evaluation of the same. This provision applies to both the contractual completion date within the contract specifications and/or any early completion date planned/intended for the project.

8.5 QUALITY: Notwithstanding dimensions given in the Drawings, Detail Drawings, Specifications and other Contract Documents, Trade Contractor shall take such measurements as will insure proper matching and fitting of Trade Contractor's Work.

Trade Contractor shall promptly prepare and submit to Cornerstone such shop drawings, submittals and samples as may be necessary to describe completely the details of the Work and to ensure timely fabrication, delivery and installation of the Work. Any approval of such shop drawings shall not relieve Trade Contractor of its obligation to perform the Work in strict compliance with the Contract Documents. Deviations or Substitutions must specifically be called out and requested for approval on submittals or they shall not be considered approved. Additional costs resulting from any approved deviations or substitutions shall be borne by Trade Contractor. Submittals prepared by Trade Contractor shall be stamped or accompanied with a certification page, signed or initialed, certifying that the submittal has been reviewed for accepted products, field dimensions, interface with adjacent construction, and coordination as required to provide the Work in conformance to provisions of the Contract Documents. A 4 inch by 5 inch blank space is to be provided for the Architect's review stamp, and another space of equal size for the Engineer or other consultants stamps on applicable submittals.

When as-built drawings are required by the Contract Documents, Trade Contractor shall record as-built conditions on the Drawings, Detail Drawings, Submittals, etc. in a form acceptable to Cornerstone, on a regular basis but not less frequent then required by the Contract Documents, during performance of the Work.

No substitutions of similar supplies, materials or equipment for items called for by the Contract Documents shall be made unless specifically requested in writing by Trade Contractor for approval in writing by Cornerstone, the Owner and the Architect, which approval shall not relieve Trade Contractor from satisfactory and timely completion of all Work, or from compliance of all Work with the Contract Documents. Trade Contractor shall not deviate from the plans and specifications without the written consent of Cornerstone and no changes shall be requested of or directed by the Owner or its authorized representatives except through Cornerstone. Any changes in plans or specifications, or substitutions of materials as an "or equal" proposed by Trade Contractor, which are approved by the Owner or its authorized representatives, shall be Trade Contractor's full responsibility. Any additional costs caused to Cornerstone or others as a result of such changes or substitutions shall be borne by Trade Contractor. In selecting options or alternates, Trade Contractor shall indemnify and hold Cornerstone harmless from claim for additional costs incurred by other Trade Contractors, Trade Contractor, the Owner, or any related party affected by such deviation or substitution. Trade Contractor agrees to accept full responsibility for the intermeshing, coordination, and acceptance of its deviations and substitutions with all affected work, other Trade Contractors, suppliers, Cornerstone, and the Owner.

Cornerstone, the Owner, the Architect, and their authorized representatives shall have the right to inspect and test the Work and the components thereof at all times and places to verify compliance with the Contract Documents and standards of good workmanship. Trade Contractor shall provide safe facilities for inspection of the Work by Cornerstone, the Owner, the Architect, and their authorized representatives in the field, at shops, or at any other place where materials or equipment for the Work are in preparation, testing, manufacture, treatment or storage.

All inspections, tests, and submittal reviews are for the benefit of Cornerstone and Owner and shall not relieve Trade Contractor of responsibility for providing its own quality control measures to assure that the Work complies with the Contract Documents. Inspection, testing, or submittal reviews by Cornerstone or the Owner shall not be construed as constituting acceptance and shall not relieve Trade Contractor of responsibility for any non-compliance, damage to or loss of the Work prior to acceptance, or in any way affect the continuing rights of Cornerstone or Owner after acceptance of completed Work.

Within twenty-four (24) hours after receiving written notice from Cornerstone that Work has been rejected by Cornerstone, the Owner, or the Architect as defective or in any way failing to comply with the Contract Documents, Trade Contractor, at its own expense shall remove all portions of such Work from the premises and shall replace the same with conforming Work and make good all work of others damaged or destroyed by or as a result of such defective, or non-conforming Work or by removal or replacement thereof.

9. PAYMENTS AND CHANGES.

9.1 PAYMENTS: Trade Contractor shall submit a certified application for payment on Cornerstone's forms only, not later than the 25th day of each month for (a) 95% of the value of Trade Contractor's labor and materials incorporated into the Work as computed on the basis of an approved schedule of values, prices and quantities of Work, as determined by Cornerstone and the Owner and/or Architect; and (b) to the extent allowable by the Contract Documents, 95% of the value of materials not incorporated into the Work but delivered and stored at the Project site. Trade Contractor agrees that, upon request by Cornerstone, it shall furnish such information, and consents of surety as Cornerstone may require, confirming Trade Contractor's entitlement to payment.

No payment will be made to Trade Contractor until receipt by Cornerstone of (a) an executed Subcontract Agreement; (b) evidence of insurance consistent with Provision 6 ; (c) payment and performance bonds if required under Provision 5 hereof, and (d) any other requirements in the Contract Documents prepared by the Owner necessary for payments to be made under the prime contract as applies to this subcontract scope of work.

Monthly progress payments (less retainage) shall be made to Trade Contractor within seven (7) days after Cornerstone's receipt of payment from the Owner, so long as Trade Contractor is not in default or breach of this Subcontract and is not subject to other reasons for withholding. Cornerstone and Trade Contractor expressly agree that payment to Cornerstone on the Trade Contractor's account by the Owner is an absolute condition precedent to Cornerstone's obligations to pay the Trade Contractor under this Subcontract. Trade Contractor expressly agrees that it relies on the credit of the Owner, not Cornerstone, for payment of its Work. In the event Owner does not make payment to Contractor for Trade Contractor's work, then Trade Contractor waives its rights under 40 USC 270b, RCW 39.08 et seq., and any payment bond posted by Cornerstone on this project, and Trade Contractor agrees its sole remedy shall be against Owner. Trade Contractor shall not be entitled to payment to the extent there is, in Cornerstone's discretion: (a) any indebtedness owed by Trade Contractor to Cornerstone; (b) defective Work not remedied or defective materials not removed and replaced; (c) third party claims; (d) claimed failure of Trade Contractor to make payments to its Trade Contractors, suppliers or laborers; (e) reasonable doubt that the Work can be completed for the unpaid balance of the Subcontract Price; (f) damage to Cornerstone or another contractor or Trade Contractor; (g) unsatisfactory or untimely prosecution of the Work by Trade Contractor; or (h) failure of Trade Contractor to comply with the Contract Documents. Trade Contractor's right to payment for any withheld amounts shall not accrue until such time as the grounds for withholding are resolved to Cornerstone's satisfaction, or otherwise adjudicated pursuant to the Dispute Resolution provisions of this Agreement.

Cornerstone shall have the right at all times to contact Trade Contractor's sub-Trade Contractors and suppliers to ensure that the same are being paid by Trade Contractor for labor or materials furnished for use in performing Trade Contractor's Work.

Should Trade Contractor: (a) fail to make timely payment to its suppliers, sub-Trade Contractors, laborers, or fringe benefit funds; (b) fail to compensate Cornerstone or another contractor or Trade Contractor for damage caused by Trade Contractor; or (c) fail to perform its clean up obligations pursuant to Provision 8 hereof, Cornerstone, in its sole discretion, may make direct payment to such individuals or entities and deduct from the balance of the Subcontract Price accordingly.

When required by Cornerstone and as a prerequisite to payment, Trade Contractor shall provide, in a form satisfactory to Cornerstone, lien releases, including bond claims and affidavits from Trade Contractor, and its sub-Trade Contractors or suppliers for completed work. Such releases may be made conditional upon payment.

Final payment to Trade Contractor shall be due after completion and acceptance of the Work by Cornerstone and the Owner and within seven (7) days of Cornerstone's receipt from the Owner of final payment for the Work, provided that: (a) Trade Contractor shall have furnished evidence satisfactory to Cornerstone that there are no claims, obligations, or liens for labor, services, materials, equipment, taxes or other items performed, furnished or incurred in connection with the Work; (b) Trade Contractor shall have executed and delivered in a form satisfactory to Cornerstone a General Release in favor of Cornerstone, Cornerstone's surety, if any, and the Owner; and (c) Trade Contractor shall have delivered to Cornerstone written consent of its surety, if any, to final payment. Final payment to Trade Contractor shall constitute waiver of any past, present and future claims by Trade Contractor against Cornerstone and the Owner arising out of payment for Work under this Subcontract.

Trade Contractor shall protect the Project and defend, indemnify and hold harmless the Owner, Cornerstone, and Cornerstone's surety, if any, from and against all claims, bond claims, equitable liens, mechanics' liens, damages, losses and expenses on account thereof, including without limitation legal fees and disbursements paid or incurred by the Owner or Cornerstone in connection therewith.

9.2 CHANGES: Cornerstone shall have the right by written order (change order or field work order), without notice to Trade Contractor's surety, if any, to order changes consisting of additions or deletions to the Work, or other revisions to the scope of Work or time of completion of this Subcontract. Trade Contractor shall submit to Cornerstone, in writing, within ten (10) days of receipt of notification of the change, or within such shorter period as may be required by the Contract Documents, any claim for adjustment of the Subcontract Price. Should issuance of instructions, drawings, or directions by other than written order be claimed to result in additional costs, Trade Contractor shall submit written notice to Cornerstone within five (5) calendar days of receipt thereof and prior to commencing such work. Trade Contractor shall not be entitled to change or adjustment unless authorized in writing by Cornerstone. Trade Contractor shall not have the right to maintain an action in court or arbitration to recover for extra work, unless Trade Contractor has complied with the requirements set forth above.

The value of the Work to be changed, added or deleted shall be determined in accordance with the Contract Documents issued by the Owner.

Cornerstone shall have the right to inspect, copy and audit the books and records of Trade Contractor or any sub-Trade Contractor making claim for reimbursement for actual field costs and allowances in order to verify the accuracy and allowability of all costs and allowances claimed.

Should the parties be unable to agree as to the value of the Work to be changed, added or omitted, Trade Contractor shall proceed with the Work promptly under written order of Cornerstone and the Work shall be paid for at actual field costs or other applicable method approved by Cornerstone. Should Trade Contractor disagree, it shall timely file a claim pursuant to The Main Contract.

Trade Contractor agrees that any language added on a Change Order, Change Order Proposal, Construction Change Directive, Request for Payment or any other document which purports to reserve Trade Contractor's rights to seek further payment or assert further claims shall be null and void and without legal effect unless such language is acknowledged by separate signature or initialing from Cornerstone. In the event that Cornerstone process or makes payment on any such document without indicating agreement with the reservation language by separate signature or initialing, such reservation shall be deemed null and void and without legal effect, and Trade Contractor waives any argument that Cornerstone has accepted or agreed to the reservation language.

10. WARRANTY. Trade Contractor warrants and guarantees that it shall perform all Work in a skillful manner, and shall furnish new materials and equipment of good quality, fit for the purpose intended and free from defects and in compliance with all requirements of the Contract Documents; that without cost to Cornerstone or the Owner it shall promptly correct improper or defective Work, materials or equipment and other work affected by such correction which may be discovered within one year from the date of final acceptance of the Project by the Owner. Notwithstanding the foregoing, Trade Contractor shall provide any broader guarantee or longer warranty period required by the Contract Documents.

11. INDEMNITY. Trade Contractor shall comply with the requirements of Addendum 3 enclosed herewith.

In any claims against Cornerstone or the Owner or any of their agents or employees by any employee of Trade Contractor, anyone employed by Trade Contractor, or anyone whose acts the Trade Contractor may be liable, the indemnification under this provision shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Trade Contractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

12. DISPUTES. Trade Contractor agrees that all claims of any nature will be resolved in accordance with the applicable provisions of the Main Contract. Trade Contractor shall not be entitled to maintain any suit or action against Cornerstone until all applicable administrative and appellate proceedings of the Main Contract have been fully exhausted. Trade Contractor shall, within seven (7) calendar days after the first occurrence, furnish written notification of any claims of any nature it has or may have for additional compensation or time. All information and supporting data shall be furnished to Cornerstone as soon thereafter as possible, but in no event later than thirty (21) days after the first occurrence of such claim.

Any claim by Trade Contractor as a result of acts, errors, or omissions of Owner or its agents or representatives, including without limitation Architect, may be advanced by Cornerstone at its election and in its sole discretion. If Cornerstone elects to advance Trade Contractor's claim, Trade Contractor's right of recovery on such claim shall be limited solely to that dollar amount and other relief which is recovered by Cornerstone on behalf of Trade Contractor from the Owner. Cornerstone shall not be liable to Trade Contractor for any monies or other relief except those granted to Cornerstone by the Owner for the benefit of Trade Contractor. If a Claim is not resolved, the Trade Contractor may bring no Claim against the Owner in litigation unless the Claim is first subject to mediation as described within the Contract Documents.

All disputes arising solely out of, or relating solely to this Subcontract Agreement, including any disputes arising out of, or relating to either party's sureties and bonds, which do not involve any alleged breaches, acts, errors, or omissions of the Owner and/or its agents shall be submitted to mediation as a condition precedent to the commencement of any further Dispute Resolution proceedings,. In the event the mediation is not successful, all such disputes shall be resolved at the election and sole discretion of Cornerstone by either binding arbitration to be held in accordance with the then current Construction Industry Arbitration Rules of the American Arbitration Association or by litigation in King County Superior Court. Arbitration proceedings shall be held at a location to be specified by Cornerstone in King County, Redmond, Washington. An award rendered in the arbitration shall be final and binding upon the parties, and judgment may be entered upon such judgment in accordance with applicable law in any court having jurisdiction thereof.

In all disputes arising out of, or relating to this Subcontract Agreement, including without limitation any and all disputes arising out of, or relating to either party's surety and bonds, the prevailing party shall be awarded all of its reasonable attorneys' fees and costs incurred as a result thereof, whether such fees and costs are incurred in mediation, arbitration, and/or litigation.

13. ASSIGNMENTS AND SUBLETTING. Neither this Subcontract nor any monies due or to become due hereunder shall be assignable without prior written consent of Cornerstone. Any assignment without prior written consent shall be of no effect and shall vest no right in the assignee against Cornerstone. Cornerstone's consent to any assignment shall not relieve Trade Contractor of any of its obligations under the Contract Documents, and Trade Contractor shall remain as fully responsible for the defaults, acts and omissions of its assignees and all persons directly or indirectly employed by them as it is for its own defaults, acts and omissions and those of its own officers, agents, and employees.

Trade Contractor shall submit to Cornerstone a listing of all sub-Trade Contractors who will perform work on the Project. Trade Contractor shall bind each of its sub-Trade Contractors to all of the provisions of the Contract Documents with respect to the Work. Cornerstone's consent to any subcontracting shall not create any contractual relationship between Cornerstone and any sub-Trade Contractor to whom the Work or any portion thereof is subcontracted.

14. TERMINATION FOR CONVENIENCE. Cornerstone may terminate this Subcontract in whole or in part, at any time by written notice to Trade Contractor whether or not Trade Contractor is in default, and/or in the event and to the extent that Owner has exercised any of its rights of terminating the agreement between Cornerstone and the Owner. Such termination shall be effective at the time and in the manner specified in said notice and shall be without prejudice to any claims which Cornerstone or the Owner may have against Trade Contractor. Upon receipt of any such notice, Trade Contractor shall, unless the notice directs otherwise: (a) immediately discontinue the Work on the date and to the extent specified in the notice; (b) place no further orders for materials, equipment or services, except as may be necessary for completion of such portion of the Work as is not discontinued; (c) promptly make every reasonable effort to procure cancellations, upon terms satisfactory to Cornerstone, of all orders or of sub-subcontracts to the extent they relate to the performance of the Work discontinued; and (d) thereafter execute only that portion of the Work as may be necessary to preserve and protect Work already in progress and to protect materials and equipment at the Project site or in transit thereto.

Trade Contractor waives any claims for damages, including loss of anticipated profits for uncompleted Work, and shall accept as its sole remedy payment in an amount equal to that recovered by Cornerstone from the Owner allocated as compensation for Trade Contractor's Work, less applicable offsets.

15. DEFAULT OR TAKING OVER PERFORMANCE-TERMINATION FOR DEFAULT. Should Trade Contractor at any time: (a) fail to maintain the insurance coverage specified in Provision 6 hereof; (b) fail to provide the payment and performance bonds required in Provision 5 hereof; (c) fail to supply sufficient skilled workers, equipment or materials of proper quality and quantity; (d) fail to make timely payments for labor or materials; (e) fail to proceed with the Work in the sequence directed by Cornerstone; (f) fail to prosecute the Work with promptness and diligence; (g) cause stoppage, delay or interference to work of Cornerstone or any other contractor or Trade Contractor; (h) fail to perform the Work in compliance with the Contract Documents; or should (i) there be filed by or against Trade Contractor a petition in bankruptcy or for an arrangement or reorganization (Cornerstone is unwilling to accept and hereby declines performance by any trustee in bankruptcy); or (j) Trade Contractor becomes insolvent or goes into liquidation or dissolution or make a general assignment for the benefit of creditors or otherwise acknowledge insolvency; then in any of such events, each of which shall constitute a default of Trade Contractor, Cornerstone shall have the right, to the extent permitted by law, and in addition to any other rights and remedies provided by the Contract Documents or by law, after seventy-two (72) hours written notice to Trade Contractor mailed or delivered to its last known address, (i) to perform (through itself or through others) any uncompleted part of the Work and to deduct the cost thereof from any monies due or to become due to Trade Contractor under this Subcontract or (ii) to terminate employment of Trade Contractor for all or any portion of the Work, enter upon the premises and take possession of all materials, equipment, scaffolds, tools, and other items thereon, all of which Trade Contractor hereby transfers, assigns and sets over to Cornerstone for the purpose of completing the Work, and to employ persons as necessary to complete the Work and to provide all labor, services, materials, equipment and other items required therefor.

In case of termination, Trade Contractor shall not be entitled to receive any further payment under this Subcontract until the Work shall be wholly completed to the satisfaction of Cornerstone, at which time, if the unpaid balance of the amount to be paid under this Subcontract shall exceed the cost incurred by Cornerstone in completing the Work, such excess shall be paid by Cornerstone to Trade Contractor, but if such cost shall exceed such unpaid balance, then Trade Contractor shall pay the difference to Cornerstone. Such costs shall include the cost of completing the Work in conformance with the Contract Documents and of performing and furnishing all labor, services, materials, equipment, supervision, and other items required therefor, and also all losses, damages, costs and expense, including legal fees and disbursements incurred by reason of or resulting from Trade Contractor's default. In the event that it is determined that Cornerstone's termination for default is determined to be wrongful or without merit, it shall be deemed to have been a termination for convenience pursuant to Section 14 of this Agreement.

16. MISCELLANEOUS. Trade Contractor shall perform the provisions of this Subcontract as an independent contractor and shall not be an agent or employee of Cornerstone.

Trade Contractor shall pay all royalties and license fees and shall defend all suits or claims for infringement of any patent rights arising out of the Work.

Trade Contractor, during performance of this Subcontract, shall take affirmative action to insure that all employees and applicants are treated without discrimination with regard to race, color, creed, age, sex, disability, or national origin; shall comply with all applicable federal, state and local laws, ordinances, orders and regulations with respect to employment practices; and shall certify, as required by the law, ordinance, order or regulation, that it does not maintain or provide for its employees any segregated facilities at any of its establishments.

Notice of any damage or additional cost which Trade Contractor alleges Cornerstone, other Trade Contractors or Cornerstone's suppliers have caused or are causing it by their act or omission shall be filed in writing with Cornerstone, within seven (7) days from commencement of such alleged damage or additional cost with sufficient evidence and proof of same. Trade Contractor shall advise Cornerstone in writing at two (2) week intervals of the amount of any continuing damage or additional cost and shall file a full accounting within seven (7) days after the damage or increased cost ceases. No claims for such damage shall be valid unless Trade Contractor complies with all the requirements of this Provision. Cornerstone shall not be liable or responsible for any damages or additional costs caused by other Trade Contractors, suppliers, or others.

Should Trade Contractor have any unsatisfied debts, liabilities and/or duties to Cornerstone, Cornerstone is granted the right of offset against this agreement. All or part of monthly Progress payments may be withheld from Trade Contractor by Cornerstone, and/or Trade Contractor may be backcharged, to the extent that Trade Contractor is indebted to Cornerstone pursuant to the Subcontract or any other agreement or subcontract between Trade Contractor and Cornerstone or its affiliates or subsidiaries, whether or not such other agreement or subcontract is related to the Project.

In the event any term or provision of this Subcontract is deemed void or unenforceable, it shall not thereby invalidate or be construed to invalidate any other term or provision of this Subcontract, which shall remain in full force and effect. Cornerstone's waiver of a breach of the provisions of this Subcontract shall be made only in writing and shall not affect any other or future breaches. Cornerstone's remedies herein are cumulative and in addition to other remedies in law or equity.

This Subcontract constitutes the entire agreement between the parties hereto and is effective on the date set forth above. No oral representations or other agreements have been made by Cornerstone except as stated in this Subcontract. This Subcontract may not be changed in any way except as herein provided, and no provision hereof may be waived by Cornerstone except in writing signed by its duly authorized officers or agent.

17. UNIONS. Trade Contractor recognizes Cornerstone has an agreement with the Western and Central Washington Carpenters Union. Should any of Trade Contractors work be claimed by this Union, Trade Contractor will enter into an arrangement with those Unions unless they can obtain a valid waiver from participating in same.

Enclosures herewith:

Addendum 1 – Insurance Requirements

Addendum 2 – Safety Requirements

Addendum 3 – Indemnity Requirements



STANDARD SUBCONTRACT AGREEMENT

Addendum 1: GP06-Insurance Requirements

This Attachment is attached and incorporated into the above referenced Subcontract Agreement. In the event of any conflict, inconsistency or ambiguity between the terms and provisions of this Attachment and those of the above referenced Subcontract Agreement between the parties, this Attachment shall govern.

1.0 Trade Contractor, as well as all lower tier Trade Contractors if applicable, shall, at its own expense, maintain in effect at all times during the performance of the work under the contract not less than the following coverage and limits of insurance or, if greater, any coverage or limits of liability specified in the Contract Documents or required by law. Insurance shall be maintained under forms of policies and from companies satisfactory to Cornerstone General Contractors, Inc. and the Owner. The insurance company must be licensed to do business in the State in which the Project is located and shall have a policy holder rating of at least A- and financial rating of X as defined by A.M. Best Company. Copies of policies shall be provided when requested. NOTE: the Trade Contractor is responsible for insuring their own tools, equipment and any materials that are not permanently incorporated into the work.

2.0 WORKERS' COMPENSATION and EMPLOYER'S LIABILITY INSURANCE. Workers' Compensation insurance shall be provided as required by any applicable law or regulation. Workers' Compensation coverage shall also include a waiver of subrogation endorsement in favor of Cornerstone General Contractors, Inc. and the Owner. Employer's Liability insurance or Stop Gap Liability shall be provided in amounts not less than:
\$1,000,000 each accident for bodily injury by accident
\$1,000,000 policy limit for bodily injury by disease
\$1,000,000 each employee for bodily injury by disease

2.1 INDEPENDENT CONTRACTORS: As applicable, and in accordance with relevant laws, rules and regulations, evidence of a current Independent Contractor Exemption Affidavit is required to be provided in lieu of the above provisions. If the Independent Contractor Exemption Affidavit is not accepted by Cornerstone General Contractors, Inc. workers' compensation insurance company and Cornerstone is responsible for paying insurance premiums for the independent contractor; then Cornerstone reserves the right to charge the Independent Contractor the applicable workers' compensation rates charged to Cornerstone by its workers' compensation insurance company.

3.0 COMMERCIAL GENERAL LIABILITY INSURANCE. Trade Contractor shall carry Commercial General Liability insurance on an occurrence form covering operations by or on behalf of Trade Contractor, providing insurance for bodily injury liability and property damage liability for the limits of liability indicated below and including coverage for:

- | | |
|--|--|
| (1) premises and operations; | (2) products and completed operations; |
| (3) broad form contractual liability; | (4) broad form property damage (including completed operations); |
| (5) explosion, collapse and underground hazards; and | |
| (6) personal and advertising injury | |

3.1 A "claims made" policy form is not acceptable without prior approval.

3.2 A "modified occurrence" policy is not acceptable

3.3 MINIMUM LIMITS of LIABILITY:

3.3.1 Commercial General Liability Form:
\$1,000,000 each occurrence
\$1,000,000 Personal Injury
\$2,000,000 aggregate for Products / Completed Operations
\$2,000,000 general aggregate, which can be achieved through the use of primary and excess/umbrella liability policies. (Reference Line Item 3.4 - Per Project Aggregate)

3.4 PER PROJECT AGGREGATE. The policy must have an endorsement providing that the general aggregate limit applies separately to this project. If a per project aggregate is not provided the aggregate limit shall be \$3,000,000.

- 3.5 WAIVER OF SUBROGATION. **The general liability policy shall also include a waiver of subrogation endorsement in favor of Cornerstone General Contractors, Inc. and , the Owner and any other persons or parties as may be required by the Main Contract.**
- 3.6 ADDITIONAL INSURED ENDORSEMENT and PRIMARY INSURANCE CLAUSE. The Commercial General Liability policy shall include a provision or endorsement, at least as broad as forms CG 20 33 (07/04) **and** CG 20 37 (07/04) or their equivalents, as published by Insurance Services Offices (ISO) and to include Products / Completed Operations, naming both Cornerstone General Contractors and the Owner and their officers and employees as an additional insured with respect to liabilities arising out of Trade Contractor's performance of the work under this Subcontract, and providing that such insurance is primary insurance with respect to the interest of Cornerstone General Contractors and Owner and that any other insurance maintained by Cornerstone General Contractors and Owner is excess and not contributing insurance with the insurance requirement hereunder. Samples of both additional insured forms are attached hereto as well as a Sample Certificate. In addition, other such parties as Cornerstone General Contractors is required under the main contract to name as additional insureds on Cornerstone General Contractor's insurance as "additional insureds" shall also be included.
- 3.7 NOTICE OF CANCELLATION TO CERTIFICATE HOLDERS: The General Liability policy shall be endorsed to provide 30 day notice of cancellation for any reason other than non-payment of premium.
- 4.0 AUTOMOBILE LIABILITY INSURANCE. Trade Contractor shall carry automobile liability insurance, including coverage for all owned, hired and non-owned automobiles. The limits of liability shall be not less than \$1,000,000 combined single limit each accident for bodily injury and property damage.
- 4.1 AUTOMOBILE POLLUTION LIABILITY. If Trade Contractor or their Trade Contractors haul hazardous waste they must carry Automobile Pollution Liability Insurance with a \$2,000,000 combined single limit per occurrence for Bodily Injury and Property Damage applicable to all hazardous waste hauling vehicles and include MCS 90 form.
- 4.2 UMBRELLA LIABILITY.
a) Insurance limits of at least \$1,000,000 per occurrence and \$1,000,000 aggregate.
b) Policy shall be "follow form" or contain similar language/endorsements as required within this contract for underlying coverages.
- 5.0 CERTIFICATES of INSURANCE. Certificates of Insurance, as evidence of the insurance required by this Agreement, shall be furnished by Trade Contractor to Contractor before any work hereunder is commenced by Trade Contractor. **The Certificates of Insurance shall provide that there will be no cancellation or reduction of coverage without thirty (30) days prior written notice to Contractor.** All Certificates of Insurance shall be in a form acceptable to Cornerstone General Contractors and shall provide satisfactory evidence that Trade Contractor has complied with all insurance requirements. Cornerstone General Contractors shall not be obligated to review such certificates or other evidence of insurance, or to advise Trade Contractor of any deficiencies in such documents, and receipt thereof shall not relieve Trade Contractor from nor be deemed a waiver of Cornerstone General Contractors's right to enforce the terms of Trade Contractor's obligations hereunder. Certificates, including additional insured endorsement, shall be furnished for two (2) years following final acceptance of the Project by Owner or such longer period as the Contract Documents may require.
- 6.0 INSURANCE REQUIREMENTS for SUB-TRADE CONTRACTORS. The Trade Contractor shall ensure that all tiers of their Trade Contractors shall procure and maintain insurance in like form and amounts including the Additional Insured requirements. Copies of the certificate must be provided prior to the sub-Trade Contractors entering the site.
- 7.0 PROFESSIONAL LIABILITY EXPOSURES. If Trade Contractor or their Trade Contractor is to provide any professional services, including but not limited to, design or design/build services to the project, Trade Contractor shall procure, maintain and pay for Professional Errors and Omissions insurance with limits of not less than \$2,000,000 per claim and \$2,000,000 annual aggregate. If such insurance is written on a claims made basis, the retroactive date shall be prior to the start of Trade Contractor's Work. Trade Contractor agrees to maintain such coverage for two years after final acceptance of the Project by the Owner or such longer period as the Contract Documents may require. Renewal policies during this period shall maintain the same retroactive date.

- 8.0 RIGGERS LIABILITY. Should Trade Contractor's work involve the lifting, picking, rigging and setting of other people's property, Trade Contractor shall carry "Riggers Liability Insurance" to insure against physical loss or damage to the property being lifted. Evidence of coverage shall be provided in the form of a Certificate of Insurance.
- 9.0 ACCEPTANCE BY CONTRACTOR. The required insurance shall be subject to the approval of Contractor, but any acceptance of insurance certificates by Contractor shall in no way limit or relieve Trade Contractor of the duties and responsibilities by said Trade Contractor in this Agreement. If higher limits or other forms of insurance are required in the Contract Documents, Trade Contractor will comply with such requirements.
- 10.0 ADDITIONAL REQUIREMENTS – HAZARDOUS MATERIALS/POLLUTION LIABILITY. If Trade Contractors or their Trade Contractors are required to perform remedial hazardous material operations such as asbestos containing materials, contaminated soil etc. they must, in addition to the above requirements, carry a "Contractor's Pollution Liability" policy with limits not less than \$2,000,000 per occurrence and not less than \$2,000,000 aggregate for Bodily Injury, Personal Injury and Property Damage, naming Contractor as additional Insured.

End of Addendum 1

**COMMERCIAL
GENERAL LIABILITY**

CG 20 33 07 04

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED – OWNERS, LESSEES OR
CONTRACTORS – AUTOMATIC STATUS WHEN
REQUIRED IN CONSTRUCTION AGREEMENT WITH YOU**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

A. Section II – Who Is An Insured is amended to include as an additional insured any person or organization for whom you are performing operations when you and such person or organization have agreed in writing in a contract or agreement that such person or organization be added as an additional insured on your policy. Such person or organization is an additional insured only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
 2. The acts or omissions of those acting on your behalf;
- in the performance of your ongoing operations for the additional insured.

A person's or organization's status as an additional insured under this endorsement ends when your operations for that additional insured are completed.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to:

1. "Bodily injury", "property damage" or "personal and advertising injury" arising out of the rendering of, or the failure to render, any professional architectural, engineering or surveying services, including:
 - a. The preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings and specifications; or
 - b. Supervisory, inspection, architectural or engineering activities.
2. "Bodily injury" or "property damage" occurring after:
 - a. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
 - b. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or Trade Contractor engaged in performing operations for a principal as a part of the same project.

CG 20 33 07 04

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POLICY NUMBER:

**COMMERCIAL
GENERAL LIABILITY
CG 20 37 07 04**

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED – OWNERS, LESSEES OR
CONTRACTORS – COMPLETED OPERATIONS**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):	Location And Description Of Completed Operations
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused, in whole or in part, by "your work" at the location designated and described in the schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".

CG 20 37 07 04

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STANDARD SUBCONTRACT AGREEMENT

Addendum 2: Safety Requirements

- Safety is of primary importance on all Cornerstone jobsites. It is our policy not to require any laborer or mechanic employed in the performance of the contract to work in unsanitary conditions or conditions that are hazardous or dangerous to their health or safety as outlined under provisions of Title 29, Labor Chapter XIII, Bureau of Labor Standards, Department of Labor, part 1418, Safety and Health Regulations for Construction as published in the Federal Register. Cornerstone's Project Personnel have the authority to stop the work of any Trade Contractor found not in compliance with the above provisions until such time as the unsafe conditions are corrected.
- Cornerstone requires safety programs for this project in accordance with accident prevention programs as required by the Contract Documents and applicable federal, state and local safety regulations governing the project work. Each Trade Contractor is required to comply with the contract requirements, WISHA/OSHA regulations and, when applicable, pertinent provisions of the U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1.
- Trade Contractor is to comply with WISHA/OSHA requirements, including providing all safety equipment required to do the job tasks. Trade Contractor is to develop an Accident Prevention Program and site specific plans consistent with WISHA/OSHA requirements.
- Trade Contractor must take reasonable steps to ensure that it has established work rules that are designed to prevent violations of the Acts (WISHA/OSHA). To accomplish this, Trade Contractor is to:
 - A. Have and implement an Accident Prevention Program which:
 - Includes its roles and responsibilities pertaining to safety;
 - Includes training and corrective action; and
 - Is tailored to the safety and health requirements of particular plants, jobsites or operations that may be involved.
 - B. Have and implement a written site specific Safety Plan that addresses and coordinates the safety issues of all its activities at the site such as:
 - Identify anticipated hazards that will most likely be encountered in all phases of the Project; and
 - Identify the specific means that will be used to address these hazards.
 - C. Have a management commitment that confirms existence of required programs/plans, but also assures review for compliance with the Act and conformance with the Project. Also, Trade Contractor shall complete a safety questionnaire attached herewith.
 - D. Make the Accident Prevention Program and all site specific safety plans available and accessible in accordance with the Act. For example, if trenching is identified as a particular phase of the project for a Trade Contractor, the plan must identify the specific means of protection that will be used (e.g. trench boxes, shoring, sloping, etc.). It is not sufficient to state that the excavation codes will be followed, or that the contractor will use either trench boxes, shoring or sloping.
 - E. Other considerations: In order to establish work rules that are designed to enhance safety and health and to prevent violations of the Act, Trade Contractor shall:
 - 1. Prepare agendas for job safety meetings;
 - 2. Require mandatory attendance of all workers at jobsite safety meetings;
 - 3. Promote communications;
 - 4. Provide a safety recognition program for employees based on actual compliance with safety rules and regulations. However, these programs may not include or be based on the rate of reported injuries; and
 - 5. Provide programs to encourage employees for making safety suggestions.

6. Maintain an MSDS program.
7. Identify the jobsite person responsible for safety matters.

- Trade Contractor is to submit its written site specific safety plan to Cornerstone prior to start of its Work. The program shall be enforced by the Trade Contractor.
- Trade Contractor shall designate a safety representative tasked with ensuring compliance and enforcement of safe working practices by its employees.
- Trade Contractor is to maintain a MSDS program for all material brought onto the project site.
- Trade Contractor has reviewed the project site and has included in this Subcontract Agreement the cost associated to perform its work in a safe manner around any existing operations.
- Trade Contractor shall be responsible for payment of all fines and/or claims for damages levied against the Owner, Architect, or Cornerstone for safety deficiencies relating to the conduct of Trade Contractor's work.
- Cornerstone has the authority to require the removal from the jobsite of any employee of the Trade Contractor for cause. Removal from the site may be for repeated failures (of two times or more) to observe safe work practices, a single blatant safety violation, or any other reason deemed significant by Cornerstone in its sole discretion.
- To improve the safety of the jobsite, Trade Contractor shall ensure that its employees do not bring animals, including but not limited to dogs, to the job site or leave them in vehicles adjacent to the job site. Trade Contractor shall, in addition, not permit its employees to maintain any means of sound amplification on the job site, including but not limited to radios, tape decks, CDs, Boom boxes or other similar devices. Employees violating these provisions shall be immediately removed from the job site at Cornerstone's sole discretion.
- Trade Contractor acknowledges its responsibility to ensure a drug and alcohol free work place and agrees that it shall not supply personnel to Cornerstone's job site whose ability to work is impaired or affected in any way by drug or alcohol usage. Presence of any employee at the job site whose ability to work is impaired or in any way affected by alcohol or drug usage shall require Trade Contractor to remove them from the jobsite and ensure that its employees on Cornerstone's job site are not under the influence of alcohol or drugs and/or that their ability to work has not been impaired or in any way affected by drug or alcohol usage. Trade Contractor shall ensure that its employees shall not possess alcohol or drugs on the job site.
- Pursuant to RCW 28A.400.330, Contractor shall not allow any employee to work on a school site where that employee may have contact with children, if that employee had pled guilty to or been convicted of any felony crime involving the physical neglect of a child under RCW ch. 9A.42, the physical injury or death of a child under RCW ch. 9A.32 or ch. 9A.36 (except motor vehicle violations under RCW ch. 46.61), sexual exploitation of a child under RCW ch. 9.68A, sexual offenses under RCW 9A.44 where the victim is a minor child under RCW 9A.64.030 or violation of similar laws of other jurisdictions.
- Trade Contractor acknowledges its responsibility to conduct work in a safe and professional manner, with special attention, planning and safety measures to address the adjacent occupied school facilities.



STANDARD SUBCONTRACT AGREEMENT

Addendum 3: Indemnification Requirements

Trade Contractor agrees to assume entire responsibility and liability for all damages or injury to all persons, whether employees or otherwise, and to all property, including the loss of use therefrom, arising out of, arising from or in any manner connected with the execution of the Work under this Subcontract or occurring or resulting from the use by Trade Contractor, his agents or employees, of materials, equipment, instrumentality's or other property, whether the same be owned by Cornerstone General Contractors, Inc., Owner, Trade Contractor or third parties; and, to the fullest extent permitted by law, Trade Contractor shall defend and indemnify and hold harmless Cornerstone General Contractors, Inc., Owner, and their respective agents and employees and any other person or party that may be required by the Main Contract (collectively, "Indemnitees" from and against all such claims, damages, losses and expenses, including without limitation claims for which Cornerstone General Contractors, Inc. or Owner may be or may be claimed to be liable, and legal fees and disbursements paid or incurred to defend any such claims or to enforce the provisions of this Addendum 3 to the Subcontract Agreement.

Trade Contractor's duty to indemnify Cornerstone General Contractors, Inc. an Indemnatee for liability for damages arising out of bodily injury to persons or damage to property caused by or resulting from the concurrent negligence of (a) Cornerstone General Contractors, Inc. or Cornerstone General Contractors, Inc.'s Indemnatee or an Indemnatee's agents or employees, and (b) Trade Contractor or Trade Contractor's agents or employees, shall apply only to the extent of negligence of Trade Contractor or Trade Contractor's agents or employees.

Trade Contractor specifically and expressly waives any immunity that may be granted it under the Washington State Industrial Insurance Act, Title 51 RCW. Further, the indemnification obligation under this Subcontract shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable to or for any third party under workers' compensation acts, disability benefit acts or other employee benefits acts; provided Trade Contractor's waiver of immunity by the provisions of this paragraph extends only to claims against Trade Contractor by Cornerstone General Contractors, Inc. and does not include or extend to any claims by Trade Contractor's employees directly and solely against Trade Contractor.

Trade Contractor's duty to defend, indemnify and hold Cornerstone General Contractors, Inc. harmless shall include, as to all claims, demands, losses and liability to which it applies, Cornerstone General Contractors, Inc.'s personnel-related costs, reasonable attorneys' fees, court costs and all other claim-related expenses.

Trade Contractor further agrees to obtain, maintain, and pay for such liability insurance coverage including, or in addition to the insurance required under Addendum 1 of the Subcontract Agreement, as will insure the provisions of this Addendum 3 and other contractual indemnities assumed by the Trade Contractor hereunder. Trade Contractor shall furnish Cornerstone satisfactory evidence that it has complied with these requirements and that the coverage will not be canceled except after 30 days written notice to Cornerstone of the insurance carrier's intention to do so. In addition, Trade Contractor shall include Cornerstone as an additional named insured under such insurance.

Trade Contractor does certify that the provisions of this Addendum were specifically and mutually negotiated by executing the subcontract agreement.



STANDARD SUBCONTRACT AGREEMENT

Exhibit D: Billing Forms

List of Forms:

- 01 – COVER LETTER
- 02 – PAYMENT CHECKLIST (Required each billing)
- 03 – SUB PAY APPLICATION FORM (Required each billing)
- 04 – SUB SOV FORM (Required each billing)
- 05 – SUB-TIER & SUPPLIER LISTING FORM (Required each billing)
- 06 – INTERIM LIEN CLAIM WAIVER (Required each billing)
- 07 – AFFIDAVIT OF PAYMENT FORM (Required each billing)
- 08 – STATUS INQUIRY FORM (Sent by Cornerstone directly to vendors/sub-tiers)
- 09 – ACKNOWLEDGEMENT FORM (Sent by Cornerstone directly to vendors/sub-tiers)
- 10 – APPRENTICESHIP UTILIZATION FORM (Required each billing, if required)
- 11 – SIGNING AUTHORIZATION FORM (Required prior to 1st payment and if signature authorization changes)

SECTION 00 7200 – GENERAL CONDITIONS

PART 1 - GENERAL

1.1 SUMAMRY

- A. The Northshore School District “General Conditions of the Contract for Construction (for GC/CM Projects)” are included herein and shall apply to the work of all Trade Contractors and is a binding part of each Trade Contract Agreement. All documents are bound herewith as part of section 007200 – General Conditions.
- B. In the Contract Documents where the term “GC/CM”, “Contractor” or “Construction Manager” is used, it shall apply to this Subcontractor as it relates to their Scope of Work. The Standard Subcontract Agreement shall take precedence should there be a conflict between documents

END OF SECTION 00 7200

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION (FOR GC/CM PROJECTS)

ARTICLE 1 GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents consist of the Agreement (hereinafter the “Agreement”) between Owner and General Contractor/Construction Manager (“Contractor” or “Construction Manager” or “GCCM”), Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, addenda issued prior to execution of the Contract, Contractor's Sealed Fee Proposal, other documents listed in the Agreement and Modifications issued after execution of the Contract. A “Modification” is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, or (3) a Construction Change Directive. Unless specifically enumerated in the Agreement, the Contract Documents do not include other documents such as bidding requirements (advertisement or invitation to bid, Instructions to Bidders, sample forms, meeting minutes, the Contractor’s bid or portions of addenda relating to bidding requirements).

1.1.2 THE CONTRACT

The Contract Documents form this Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Architect and Contractor, (2) between the Owner and a Subcontractor regardless of tier or (3) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect’s duties.

1.1.3 THE WORK

The term “Work” means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, transportation, equipment and services provided or to be provided by the Contractor to fulfill the Contractor’s obligations. The Work may constitute the whole or a part of the Project.

1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner or by separate contractors.

1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, construction systems, standards and workmanship for the Work, and performance of related services.

1.1.7 THE PROJECT MANUAL

The Project Manual is the volume usually assembled for the Work which may include the bidding requirements, sample forms, General Conditions of the Contract and Specifications.

1.1.8 MAXIMUM ALLOWABLE CONSTRUCTION COST

The Maximum Allowable Construction Cost ("MACC") is the maximum cost of the work to construct the project including a percentage for risk contingency, negotiated support services, and approved change orders that is negotiated by the Contractor and Owner and includes an itemization of costs by detailed categories within each specification division.

1.2 EXECUTION, CORRELATION AND INTENT

1.2.1 The Contract Documents shall be executed by the Owner and Contractor by signing the Agreement.

1.2.1.1 By executing the Contract, Contractor represents and acknowledges that it has carefully examined the Contract Documents and the Project site and that it has satisfied itself as to, and Contractor does hereby assume full and sole responsibility for: the nature, location, character, quality and quantity of the Work; the labor, materials, equipment, goods, supplies, work, services and other items to be furnished, and all other requirements of this Contract, as well as the conditions and other matters that may be encountered at the Project site or affect the performance of the Work or the cost or difficulty thereof, including but not limited to those conditions and matters affecting: transportation, access, disposal, handling and storage of materials, equipment and other items; availability and quality of labor, water, electric power, utilities and fire protection; availability and condition of streets; climatic conditions and seasons; physical and environmental conditions at the Project site and surrounding locality; other construction work planned for the area and required coordination therewith; potentially applicable governmental laws, requirements and permits; potential water and air pollution conditions; topography and ground surface conditions; and equipment and facilities needed preliminary to and at all times during the performance of the Work.

1.2.1.2 Claims for additional compensation or extensions of time because of the failure of the Contractor to so examine the Contract Documents, Project site, local conditions

and potentially applicable laws, regulations and permits and to familiarize itself therewith will not be allowed.

1.2.2 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all. Work not covered in the Contract Documents will be required if it is reasonably inferable as being necessary to produce the results intended by the Contract Documents for a completed project to the level of quality consistent with the nature and standard of such Work required by the Contract Documents.

1.2.3 In the case of inconsistency, conflicts or discrepancies among the Contract Documents, the more stringent requirement shall take precedence unless waived in writing by the Owner. The more stringent requirement shall be interpreted so that the higher quantity, better quality, or more costly Work be provided in accordance with the Architect's interpretation.

1.2.4. Organization of the specifications into divisions, sections and articles, and arrangement of Drawings are for convenience only and shall not be construed as nor imply a division of the Work among Subcontractors nor establish the extent of Work to be performed by any trade. The Contractor shall be responsible for the division of Work and for coordinating the allocation of Work among its Subcontractors and suppliers.

1.2.5. Unless otherwise stated in the Contract Documents, words which have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

1.2.6. In the event of any conflict or inconsistency between any of the Contract Documents, in addition to Paragraph 1.2.3, the conflict or inconsistency shall be resolved according to the following hierarchy of documents, with each document governing those listed below it:

1. Contract Amendments signed by both parties;
2. Change Orders;
3. Agreement
4. General Conditions;
5. Specifications;
6. Drawings; in case of conflict within drawings, large scale drawings shall take precedence over small scale drawings.

1.3 USE OF DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS

1.3.1 The Drawings, Specifications and other documents are instruments through which the Work to be executed by the Contractor is described. The Contractor may retain one contract record set. Neither the Contractor nor any Subcontractor, Sub-subcontractor or material or equipment supplier shall own or claim a copyright in the Drawings, Specifications and other documents. All copies of them, except the Contractor's record set, shall be returned or suitably accounted for to the Architect, on request, upon completion of the Work. The Drawings, Specifications and other documents and copies thereof furnished to the Contractor, are for use solely with respect to this Project. They are not to be used by the Contractor or any Subcontractor, Sub-subcontractor or material or equipment supplier on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner. The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are granted a limited license to use and reproduce applicable portions of the Drawings, Specifications and other documents appropriate to and for use in the execution of their Work under the Contract Documents. All copies made under this license shall bear the statutory copyright notice, if any, shown on the Drawings, Specifications and other documents. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of copyright or other reserved rights.

1.4 CAPITALIZATION

1.4.1 Terms capitalized in these General Conditions include those which are specifically defined herein.

1.5 INTERPRETATION

1.5.1 In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

1.5.2 The General Conditions of the Contract Documents are modified from AIA Document A201, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, 1997 and 2007 Editions.

1.5.3 No oral representation prior to negotiation of the MACC concerning the Work by the Owner or its representatives shall alter or limit in any way the Contractor's responsibilities under this Contract, including, but not limited to, obligations to carefully inspect the site of the work and thoroughly examine and be familiar with the Contract Documents and applicable government regulations and permits pertaining to the work.

ARTICLE 2 OWNER

2.1 DEFINITIONS AND AUTHORITY

2.1.1 The Owner of this project is Northshore School District (“District” or “Owner”) which is governed by its Board of Directors (“Board”). The District shall designate a representative(s) (“Representative”), who shall be an employee of the District, to act on its behalf. Unless specifically limited by the District, its Representative(s) shall have, at (their) discretion, complete authority to transmit instruction, receive information, and to interpret and define the Owner’s policies and decisions with respect to the Work. The Board shall retain the final decision on acceptance of the contract and approval of any proposed Change Orders, except that the Board has delegated to the Owner’s Superintendent of Schools the authority for the Superintendent of Schools to approve change orders, provided that the cost of any such individual change order does not exceed \$50,000. The Superintendent shall advise the school board of all change orders executed in such cases and the school board shall take formal action on such requests at the next school board meeting.

2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

2.2.1 The Owner shall furnish surveys describing legal limitations for the site of the Project, and a legal description of the site upon written request of the Contractor.

2.2.2 Information or services under the Owner’s control which are required to be furnished to the Contractor under the terms of this agreement shall be furnished by the Owner with reasonable promptness to avoid delay in orderly progress of the Work.

2.2.3 Upon request, the Contractor will be furnished free of charge up to twenty-five (25) copies, if available, of Drawings and Specifications from copies returned to Owner from the bidding procedure, including up to twenty-five (25) copies of revised Drawings, Addenda, or Supplementary drawings. Additional sets beyond those readily available to the Owner will be furnished at the cost of reproduction and delivery.

2.2.4 The foregoing are in addition to other duties and responsibilities of the Owner enumerated herein and especially those in respect to Article 6 (Construction by Owner or by Separate Contractors), Article 9 (Payments and Completion) and Article 11 (Insurance and Bonds).

2.3 OWNER’S RIGHT TO STOP THE WORK

2.3.1 If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents as required by Paragraph 12.2 or fails to carry out Work in accordance with the Contract Documents, the Owner, by written order signed personally or by an agent specifically so empowered by the Owner in writing, may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or

entity, except to the extent required by Subparagraph 6.1.3. Owner will exercise the right to stop work only if Contractor's performance deviates from the requirements of the Contract Documents in a material way that is damaging to the interests of the Owner as determined by the Owner.

2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

2.4.1 If the Contractor defaults or neglects to carry out the work in accordance with the Contract Documents and fails within a seven-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In the event such deficiencies threaten the health or safety of Owners, employees, students or occupants or exist within fourteen calendar days of the date on which the Owner is scheduled to begin to operate school at the Project, the Owner may proceed to correct such deficiencies with such notice to the Contractor as is reasonable under the circumstances, which notice shall not exceed 48 hours. When the Owner has undertaken to carry out a portion of the work prior to final acceptance of the contract, an appropriate Modification shall be issued deducting from payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for the Architect's additional service and expenses made necessary by such default, neglect or failure; and the amounts charged to the Contractor are subject to the prior review of the Architect as to decisions and amounts charged. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall promptly pay the difference to the Owner.

2.4.2 In the exercise of Owner's right to carry out the Work, Owner shall have the right to use its own forces or hire another contractor to carry out such work.

2.5 SUSPENSION OF WORK

2.5.1 Owner may, at any time and without cause, and without liability, suspend the Work or any portion thereof for a period of not more than ninety (90) days by notice in writing to Contractor and Architect which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed.

ARTICLE 3 CONTRACTOR

3.1 DEFINITION

3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term “Contractor” means the General Contractor/Construction Manager, or its authorized representative.

3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

3.2.1 The Contractor shall promptly and carefully study and compare the Contract Documents with each other and with information furnished by the Owner pursuant to Subparagraph 2.2.2 and shall at once report to the Architect and to the Owner any errors, inconsistencies or omissions discovered. Prior to and during the execution of the Work, the Contractor shall check all Drawings, Specifications, and job conditions and shall immediately notify the Architect and the Owner in writing of any errors, discrepancies, conflicts or omissions found therein and have the same explained or corrected by the Architect before proceeding with the Work. Work wrongly ordered, fabricated or constructed by the Contractor without such notification shall be corrected by the Contractor at its own expense. The Contractor shall perform no portion of the Work at any time without appropriate Contract Documents or, where required, approved Shop Drawings, Product Data or Samples for such portion of the Work.

3.2.2 The Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing activities. Errors, inconsistencies or omissions discovered shall be reported to the Architect and to the Owner at once.

3.2.3 The Contractor shall notify the Architect and the Owner in writing of materials, systems, procedures or methods of construction, either shown on the Drawings or specified, of which it has knowledge, experience or other information which supports the conclusion that they are incorrect, inadequate, obsolete or unsuitable for the purpose intended and the basis therefor. The Architect will respond to these matters in writing.

3.2.4 The Contractor shall perform the Work in accordance with the Contract Documents and submittals approved pursuant to Paragraph 3.13.

3.2.5 Investigation of subsurface conditions on the site have been made for design purposes. The results of such investigations, if any, are included as an attachment to the Specifications but are not to be considered a part of the Contract Documents. There is no guarantee, either express or implied, that the conditions indicated, if any, are representative of those existing throughout the site, or that unforeseen developments may not occur. If conditions are encountered which are (1) subsurface or otherwise concealed physical conditions

which differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, then the Contractor shall give written notice to the Owner and the Architect promptly before conditions are disturbed but no later than three (3) days after first observance of such conditions. If feasible, within ten (10) days after such notice, the Contractor shall submit any proposed changes to the Contract Sum and/or Contract Time.

3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over safety of the Work Site, for construction means, methods, techniques, sequences and procedures and for protecting and coordinating all portions of the Work under the Contractor, unless the Contract Documents give other specific instructions concerning these matters.

3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons performing portions of the Work under a contract with the Contractor.

3.3.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Contractor.

3.3.4 The Contractor shall be responsible for inspection of portions of Work already performed under this Contract to determine that such portions are in proper condition to receive subsequent Work.

3.3.5 In performing the Work, the Contractor shall comply with all applicable federal, state and local laws and regulations including, but not limited to, the following:

1. Chap. 18.27 RCW relating to Contractor's registration;
2. Chap. 19.27 RCW relating to the State building code;
3. Chap. 27.44 RCW relating to Indian graves;
4. Chap. 27.53 RCW relating to archaeological sites;
5. RCW 28A.210.310 relating to use of tobacco products;
6. RCW 28A.400.330 prohibiting use of employees of contractor with crimes against children;
7. Chap. 39.06 RCW relating to Contractor's registration;
8. Chap. 39.08 RCW relating to Contractor's bonds;

9. Chap. 39.10 RCW relating to alternative public works contracting procedures;
10. Chap. 39.12 RCW relating to prevailing wages;
11. RCW 39.30.060 relating to submittal of names of subcontractors;
12. Chap. 49.17 relating to industrial safety and health;
13. Chap. 49.26 RCW relating to asbestos;
14. Chap. 49.28 RCW relating to hours of labor;
15. Chap. 49.60 RCW prohibiting discrimination;
16. Chap. 49.70 RCW relating to hazardous materials;
17. Chap. 50.24 RCW relating to unemployment compensation;
18. Chap. 60.28 RCW relating to retainage; and
19. Chap. 70.92 RCW relating to the provisions for the aged and physically disabled.

The foregoing list is provided only as a courtesy to the Contractor, and the Owner has not thereby undertaken any obligation to provide legal advice to the Contractor. The Owner makes no representation as to the currency, accuracy, or completeness of the list. The Contractor is responsible for determining the applicability of various laws and regulations.

3.4 LABOR AND MATERIALS

3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for a sufficient labor force and shall pay for materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, hauling arrangements and other facilities and services necessary for timely and proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

3.4.2 After Amendment No. 1 has been executed, the Owner and the Architect may consider a formal request from the Contractor for the substitution of products in place of those specified only under exceptional conditions. Whether or not to grant such request shall be entirely subject to the Owner's discretion upon recommendation(s) from the Architect. By making requests for substitutions, the Contractor:

1. represents that the Contractor has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified;

2. represents that the Contractor will provide the same or greater warranty for the substitution that the Contractor would provide for that specified;
3. certifies that the cost data presented is complete and includes all related costs under this Contract, and waives all claims for additional costs related to the substitution which subsequently become apparent;
4. will coordinate the installation of the accepted substitute, making at Contractor's sole cost such changes as may be required for the Work to be complete in all respects; and
5. shall pay for all the Architect's reasonable and necessary fees in reviewing the proposed substitution and reviewing any resulting changes to the work.

3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit or insubordinate persons or persons not skilled in tasks assigned to them.

3.4.4 The Contractor shall take all reasonable steps to prevent any labor disputes involving the Contractor and any of its Subcontractors or suppliers of any products or services from: (1) disrupting the work under this Contract; (2) interfering with access to the Owner's property by the Owner, including its agents, representatives, employees and officials; (3) interfering with access and work by any other contractors engaged in construction activities; and (4) interfering with access to property by invitees or licensees of the Owner.

In the event any picketing or other activity by employees involved in a labor dispute with the Contractor or its Subcontractors or suppliers interferes in any way with access to the Owner's property or to the site of the work by any persons, the Contractor shall promptly and expeditiously take all reasonable actions to eliminate or minimize such interference, including but not limited to: (1) utilizing all reasonable means of restricting any picketing to a single entrance to the property or site of the work; (2) posting notices or signs which advise interested persons and labor organizations that a particular entrance to the property or site of the work is for the employees of "primary" or, as the case may be "neutral" employers; (3) policing entrances; (4) notifying all interested labor organizations of the "primary" or "neutral" status of particular entrances; and (5) in the event any such picketing or concerted activity is unlawful or has a secondary impact upon the employees of neutral employers, promptly and expeditiously taking appropriate action to seek recourse through the appropriate governmental agency or state or federal courts to limit the location of such picketing so as to reduce the impact thereof upon neutral employers.

The Owner will cooperate with the Contractor to accomplish the foregoing actions and will render assistance as may be in the best interests of the Owner. However, the Owner shall have the right to direct the Contractor to modify any of the foregoing actions the Contractor has taken or plans to take or to overrule such actions, to designate the entrances to be used as "primary" or "neutral" entrances, and to take appropriate legal action in order to protect the Owner's property and interests. In any event, the Contractor shall be liable for all costs,

including costs to the Owner, and actual damages resulting from the relocation, rerouting, delays or actions required to maintain the uninterrupted progress of the work. Failure by the Contractor to take the actions described above or to comply with the directives of the Owner shall be considered a material breach of this Contract and the Owner may terminate the Contract or suspend the Contractor as provided in this Contract.

Whenever Contractor has knowledge of any actual or potential labor dispute which may in any way affect, delay or arise in connection with or as a result of the performance of this Contract, Contractor will immediately notify and submit relevant information to Owner.

3.5 WAGES AND BENEFITS

3.5.1 This Contract is subject to the wage and hour requirements of RCW 39.12 and RCW 49.28 (as amended or supplemented). The Contractor, each Subcontractor and other person doing any work under this Contract shall pay laborers, workmen or mechanics not less than the prevailing rate of wage for an hour's work in the same trade or occupation in the locality within the state of Washington where such labor is performed. Wages and benefits higher than the minimums required by law may be paid. It is the contractor's sole responsibility to determine the wage rates it will actually have to pay. In the event rates of wages and benefits change while this Contract is in force, the Contractor shall bear the cost of such changes and shall have no claim against the Owner on account of such changes. No claim for additional compensation will be allowed which is based upon a lack of knowledge or a misunderstanding of any such requirements by the Bidder/Contractor or a failure to include in the Total Contract Cost adequate increases in such wages over the term of this Contract.

3.5.2 All determinations of the prevailing rate of wage shall be made by the industrial statistician of the Department of Labor and Industries of the state of Washington. The effective date of prevailing wages for services performed under the Agreement will be established as of the date the Owner issues its Request for Final Proposals. The effective date of prevailing wages for work covered by Amendment No. 1 will be as of Owner's approval and acceptance of Amendment No. 1. The schedule of prevailing wage rates as determined by the industrial statistician for the locality or localities where this Contract will be performed are by this reference made a part of this Contract. The state schedule of prevailing wage rates applicable to the Work, as most recently provided by the state, may be found at the following website address of the State Department of Labor and Industries: <http://www.lni.wa.gov/TradesLicensing/PrevWage/WageRates/default.asp>. A copy of the applicable prevailing wage rates are also available for viewing at the office of the Owner's Capital Projects office. Upon request, Owner will mail a copy of the applicable prevailing wage rates for each individual subcontract package for this Project. If or to the extent employing labor is not listed, the Contractor shall request the industrial statistician to determine the correct wage rate for that class and locality.

3.5.3 In case any dispute arises as to what are the prevailing rates of wages for work of a similar nature and such dispute cannot be adjusted by the parties in interest, including labor and management representatives, the matter shall be referred for arbitration to the director of

the Department of Labor and Industries of the State of Washington and his or her decision therein shall be final and conclusive and binding on all parties involved in the dispute.

3.5.4 The Contractor, each Subcontractor and other person required to pay the prevailing rate of wage shall post in a location readily visible to workers at the job site: (1) a copy of the statement of intent to pay prevailing wages approved by the industrial statistician of the Department of Labor and Industries under RCW 39.12.040; and (2) the address and telephone number of the industrial statistician of the Department of Labor and Industries where a complaint or inquiry concerning prevailing wages may be made.

3.5.5 Apprentice workmen employed hereunder for whom an apprenticeship agreement has been registered and approved with the state apprenticeship council pursuant to Chapter 49.04 RCW must be paid at least the prevailing hourly rate for an apprentice for that trade. Any workman for whom an apprenticeship agreement has not been registered and approved by the state apprenticeship council shall be considered to be a fully qualified journeyman, and, therefore, shall be paid at the prevailing hourly rate for journeymen.

3.5.6 Pursuant to RCW 39.12, the Contractor and each Subcontractor from the Contractor or a Subcontractor of any tier shall submit the following documents to the Owner:

1. Before payment is made by Owner, the Contractor and each Subcontractor shall submit a "Statement of Intent to Pay Prevailing Wages" which has been approved by the industrial statistician of the Department of Labor and Industries.
2. With each request for payment, the Contractor shall submit a statement that prevailing wages have been paid in accordance with the "Statement of Intent to Pay Prevailing Wages" filed with Owner.
3. Following final acceptance of the work and before funds retained according to RCW 60.28.011 are released to the Contractor, the Contractor and each Subcontractor shall submit an "Affidavit of Wages Paid" which has been approved by the industrial statistician of the Department of Labor and Industries.

Any fees charged by the department of labor and industries for filing the "Statement of Intent to Pay Prevailing Wages" and the "Affidavit of Wages Paid" shall be paid by the Contractor and each Subcontractor, as applicable. If, for any reason, Owner pays such fees, then the Contractor shall be charged the amounts thereof.

3.5.7 Owner may inspect or audit the Contractor's wage and payroll records at any time while the Contract is in force and for at least three (3) years after the date of final acceptance. The Contractor shall maintain such records for that period. The Contractor shall also guarantee that wage and payroll records of all his Subcontractors and agents shall be open to similar inspection and auditing for the same period of time. Owner will give the Contractor reasonable notice of the starting date if an audit will begin more than sixty (60) days after the final acceptance date.

3.5.8 The Contractor shall make all payments required for unemployment compensation under Title 50 RCW and for industrial insurance and medical aid required under Title 51 RCW. The Contractor shall also obey all federal, state and local laws, ordinances, and regulations establishing safety standards for the protection of employees. If any payment required by Title 50 or Title 51 is not made when due for its workers performing Work on the site or for the Project, Owner may retain such payments from any money due the Contractor and pay the same into the appropriate fund. The Public Works Contract Division of the Department of Labor and Industries will provide the Contractor with applicable industrial insurance and medical aid classification and premium rates. Before release of any funds retained according to RCW 60.28.010, the Contractor shall provide to the Owner such reasonable documentation as the Owner shall require that demonstrates the Contractor has paid such premiums, and Owner shall be entitled to verify the accuracy of such documentation.

3.5.9 Pursuant to RCW 49.28.010, eight (8) hours of labor shall constitute a legal day's work. The Contractor or any Subcontractor shall not require more than eight (8) hours of labor in a day from any person employed in the performance of the Work under this Contract except as may otherwise be allowed by law. Failure of the Contractor to perform the Work in accordance with the hours of labor policies of the State of Washington shall be deemed a failure on his part to comply with the provisions of this Contract.

3.5.10 Subject to applicable laws and governmental permits, overtime and shift work may be established as a regular procedure by the Contractor with reasonable advance written notice to both the Architect and the Owner. Notice must be given a minimum of seventy-two (72) hours prior to the start of overtime and shift work. No work other than overtime and shift work established as a regular procedure shall be performed during weekdays between the hours of 6:00 p.m. and 7:00 a.m. nor on Saturdays or Sundays, except such work as is necessary for the proper care and protection of the Work already performed in case of an emergency or as necessary to recover schedule delays.

3.5.10.1 Except as otherwise provided herein, the additional cost of Work performed after regular working hours shall be borne by the Contractor. No claim for additional compensation shall be allowed for failure of Bidder/Contractor to include in the Total Contract Cost adequate reserves for overtime work.

3.5.10.2 Except as otherwise provided herein, the Contractor shall pay the costs of overtime inspection by the Architect and the Owner except those occurring as a result of overtime and shift work established as a regular procedure. Overtime inspection shall include inspection required during weekdays between the hours of 6:00 p.m. and 7:00 a.m. and on Saturdays or Sundays. Costs of overtime inspection will cover engineering, inspection, general supervision and overhead expenses which are directly chargeable to the overtime work. Contractor agrees that the Owner may deduct such charges from payments due the Contractor. In the event of circumstances beyond the Contractor's control which could not be reasonably foreseen and which require the Contractor to work at other than normal weekday working hours, the Architect may, without obligation and only in writing, waive the requirement that the Contractor pay such overtime inspection costs. In the event of a change order requiring the

Contractor to work in excess of the established schedule of working hours, the Contractor will not be charged for inspection costs of the Owner or the Architect associated therewith.

3.5.11 REPORTING REQUIREMENTS: PREFABRICATED ITEMS: The Contractor or subcontractor directly contracting for “Off-Site, Prefabricated, Non-Standard, Project Specific Items” shall identify and report information required on the affidavit of wages paid form filed with the Department of Labor and Industries. The Contractor shall include language in its subcontracts requiring subcontractors and lower-tier subcontractors to comply with the reporting requirements for” Off-Site, Prefabricated, Non-Standard, Project Specific Item” on the affidavit of wages paid. These reporting requirements apply to contracts issued by Owner that are estimated to cost over \$1 million and are entered into by Owner and Contractor between September 1, 2010 through December 31, 2013.

3.5.11.1 "Off-site, prefabricated, nonstandard, project specific items" means products or items that are:

1. Made primarily of architectural or structural precast concrete, fabricated steel, pipe and pipe systems, or sheet metal and sheet metal duct work;
2. Produced specifically for the public work and not considered to be regularly available shelf items;
3. Produced or manufactured by labor expended to assemble or modify standard items; and
4. Produced at an off-site location outside Washington.

3.5.11.2 The Contractor or subcontractor shall comply with the reporting requirements and instructions on the affidavit of wages paid form, and shall report the following information on the affidavit of wages paid form submitted to the Department of Labor and Industries in order to comply with the reporting requirements for use of these items:

1. The estimated cost of the public works project;
2. The name of the awarding agency and the project title;
3. The contract value of the off-site, prefabricated, nonstandard, project specific items produced outside of Washington State, including labor and materials; and
4. The name, address, and federal employer identification number of the contractor that produced the off-site, prefabricated, nonstandard, project specific items.

3.5.11.3 Owner may direct the Contractor, at no additional cost to Owner, to remove and substitute any Subcontractor(s) found to be out of compliance with the “Off-Site

Prefabricated Non-Standard Project Specific Items” reporting requirements more than one time as determined by the Department of Labor and Industries.

3.6 WORKMANSHIP

3.6.1 The Contractor warrants to the Owner that materials and equipment furnished under the Contract will be of good quality and new unless otherwise specifically required or permitted by the Contract Documents, that the Work will be of good quality and free from faults or defects and that the Work will conform with the requirements of the Contract Documents. The standard of care for any Work performed by or under the direction of the Contractor shall be the care and skill ordinarily used by members of the trades or professions practicing under similar conditions at the same time and locality. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The Contractor’s responsibility excludes remedy for damage or defect caused by abuse, modifications not executed by the Contractor, improper or insufficient maintenance, improper operations, or normal wear and tear under normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. This warranty is not limited by the provisions of Paragraph 12.2 and does not abrogate any warranty or guarantee that may be imposed by law or that may be otherwise provided by the Contractor.

3.6.2 Warranty work shall remedy defective Work, resultant damage to other Work and include any incidental work related to or required for proper correction.

3.7 TAXES

3.7.1 The Work to be performed under this Contract constitutes a “retail sale” as such term is defined in RCW 82.04.050, and the contract price is subject to the State of Washington and local retail sales taxes. The Total Contract Cost shall not include such retail sales taxes. Owner will pay retail sales taxes on each progress payment and final payment to the Contractor for transmittal by the Contractor to the State of Washington Department of Revenue.

3.7.2 All other applicable taxes which the Contractor is required to pay, excepting State and local retail sales tax as specified above, shall be deemed included in the Contractor’s Percent Fee for the Work under this Contract. No adjustment will be made in the amount to be paid by Owner under this Contract because of any misunderstanding by the bidder/Contractor as to its liability for or the amount of any taxes or because of any increases in tax rates imposed by any federal, state or local government.

3.8 PERMITS, FEES AND NOTICES

3.8.1 Contractor shall secure all governmental licenses and inspections necessary for the proper execution and completion of the Work, including Occupancy Permit(s), which are customarily secured after execution of the Contract and which are legally required for and during the prosecution of the work and the subsequent warranty period.

3.8.2 The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations and lawful orders of public authorities bearing on performance of the Work.

3.8.3 If the Contractor observes that the Contract Documents are not in accordance with applicable laws, statutes, ordinances, building codes, and rules and regulations or that portions of the Contract Documents are at variance therewith, the Contractor shall promptly notify the Architect and Owner in writing, and necessary changes shall be accomplished by appropriate Modification.

3.8.4 If the Contractor performs Work knowing it to be contrary to laws, statutes, ordinances, building codes, and rules and regulations without such notice to the Architect and Owner, the Contractor shall assume full responsibility for such Work and shall bear the attributable costs, including, but not limited to, fines, penalties, and interest.

3.8.5 Unless otherwise provided in the Contract Documents, the Contractor shall obtain and pay for all construction permits as a Negotiated Support Service cost, or, at its option, Owner may pay for the permits directly. Owner shall assist the Contractor, when necessary, in obtaining such permits. Contractor shall pay all charges and inspection fees related to the permits necessary for the prosecution of the Work which are applicable on the effective date of the execution of Amendment No. 1 to the Agreement as a Negotiated Support Service cost. The costs to the Contractor to coordinate obtaining the permits shall be part of the Fixed Amount for Specified General Conditions.

3.9 ALLOWANCES

3.9.1 The Contractor shall include in the MACC all allowances stated in the Contract Documents, or as otherwise negotiated as part of the MACC. Items covered by allowances shall be supplied for such amounts.

3.9.2 Allowances shall cover:

1. Materials and equipment delivered at the site, less applicable trade discounts; and
2. Contractor's costs for unloading and handling at the site, labor, and installation costs.

3.9.3 Materials and equipment under an allowance shall be selected promptly by the Owner to avoid delay in the Work;

3.10 SUPERINTENDENT

3.10.1 During the Construction Phase, the Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and

communications given to the superintendent shall be as binding as if given to the Contractor. Important communications shall be similarly confirmed on written request in each case.

3.10.2 The Contractor's Superintendent shall remain on the job at all times during the Construction Phase until the Date of Substantial Completion as determined pursuant to Paragraph 9.8. The Contractor shall give the name of the Superintendent to the Owner and the Architect at the time of execution of the Contract. The Superintendent shall not be changed without the approval of the Owner, which shall not be unreasonably withheld. The Superintendent shall not be employed on any other project during the course of the Work.

3.10.3 As specified in the Agreement, the Contractor shall employ a Project Engineer who shall be in attendance at the Project site during the progress of the Work. The Project Engineer shall be familiar with the quality control aspects of projects similar to the Project. The Project Engineer shall review initial pay draw requests for consistency with the Project schedule of values. The Project Engineer shall review submittals and mock-ups prior to submission to the Architect; coordinate shop drawings with major Subcontractors; and review shop drawings for consistency with Project specifications prior to submission.

3.10.4 As specified in the Agreement, the Contractor shall employ a Project Manager who shall be assigned full time to the Project during the progress of the Work. The Project Manager shall not be changed without the approval of the Owner, which shall not be unreasonably withheld.

3.10.5 The Owner reserves the right, after consultation with the Contractor, to require the Contractor to replace a Superintendent, Project Engineer, Project Manager or other assistants if the Owner determines that such replacement is in the best interests of the Project. The Owner shall exercise such right in a reasonable manner. The Owner shall be entitled to exercise the same rights concerning any replacement.

3.11 CONTRACTOR'S CONSTRUCTION SCHEDULES

3.11.1 The Contractor, promptly after execution of Amendment No. 1, shall prepare and submit for the Owner's and Architect's information a Contractor's time-scaled, cost loaded critical path network construction schedule for the Work that is based on the preliminary Construction Progress Schedule developed during the Preconstruction Services Phase. The initial and any revisions of the Construction Progress Schedule shall be submitted to the Owner and Architect in both a paper copy and an electronic format using a computer program approved in advance by the Owner. The schedule shall not exceed time limits current under the Contract Documents and shall be: (i) updated monthly to show progress; (ii) revised at appropriate intervals as required by the conditions of the Work and Project; (iii) related to the entire Project, including work to be performed by others such as utilities and Owner's Subcontractors and inspectors; and (iv) provide for expeditious and practicable execution of the Work. **Unless otherwise notified in writing by the Owner, the Contractor must assume that the Owner shall begin to operate school at the Project on September 1 of the year in which substantial completion is due. Contractor's work plan and schedule shall avoid disruption to these school operations.** The Contractor may list for its convenience milestone dates in addition to dates of completion specified in the contract documents. However, such

milestone dates shall be labeled “For Contractor’s Information Only.” Review by the Owner or Architect of the Contractor’s Progress Schedule (Schedule) shall not constitute approval or acceptance of the Contractor’s schedules, means, methods, sequencing, or milestone dates or Contractor’s ability to complete the Work in a timely manner. Contractor shall be solely responsible to plan the Work with sufficient forces and/or work shifts in order to obtain timely completion.

3.11.2 The Contractor shall prepare and keep current, for the Architect’s approval, a schedule of submittals which is coordinated with the Schedule and allows the Architect reasonable time, which normally will be fifteen (15) days, to review submittals. The Schedule shall not indicate more than two critical paths. Float time indicated shall be for the joint use of the Owner and Contractor.

3.11.3 The Contractor shall perform its work according to the Schedule and shall conform its Work to the Contractor’s most recent schedule. The schedule shall not indicate more than two critical paths. Float time indicated in the Contractor’s schedule shall be for the joint use and benefit of the Owner and Contractor.

3.11.4 The Contractor shall prepare a Schedule of Values, which is coordinated with the Contractor’s construction schedule. The Schedule of Values serves to break down the Contract Sum in sufficient detail to facilitate continued evaluation of payment requests and progress reports. The Schedule of Values shall indicate at least 2% of the Total Contract Cost shall be earned through completion of all Contract closeout and punchlist activities, and other proportional amounts for completion of all landscape maintenance and for technology cabling. The Contractor shall earn said amounts only when said tasks are fully completed; no payments shall be earned for partial completion of said tasks. Said 2% is for closeout and punchlist activities and is distinct and different from statutory retainage. Covered play areas, building demolition and hazardous materials abatement shall be indicated separately. Line items shall correspond with categories required by the Owner.

3.12 DOCUMENTS AND SAMPLES AT THE SITE

3.12.1 The Contractor shall maintain at the site for the Owner one reproducible, record copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to record changes and selections made during construction, and in addition approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and Owner during the course of the Work. The location of all existing or new underground piping, valves, and utilities, as located during the course of construction, shall be appropriately marked until the actual field location dimensions and coordinates are incorporated on the record drawings. Upon completion of the Work, the Contractor shall certify that the record documents reflect complete and accurate “as-built” conditions and shall deliver the documents as well as the approved permit set of plans in good condition to the Architect for submittal to the Owner in accordance with the provisions of the Contract Documents. Satisfactory maintenance of up-to-date record drawings will be a requirement for approval of progress payments.

3.13 SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND REQUEST FOR INFORMATION

3.13.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some point of the Work.

3.13.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

3.13.3 Samples are physical examples which illustrate materials, equipment and workmanship and establish standards by which the Work will be judged.

3.13.4 Shop Drawings, Product Data, Samples and other similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required the way the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Review by the Architect is subject to the limitations of Subparagraph 4.2.7.

3.13.5 After checking and verifying field measurements, specified performance criteria, installation and materials requirements, catalogue information and the like, the Contractor shall review, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents, with reasonable promptness, bearing the Contractor's certification that the submittals comply with the requirements of the Contract Documents, and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. Submittals made by the Contractor which are not required by the Contract Documents may be returned without action. If Shop Drawings, Product Data, Samples and similar Submittals presented to the Architect by the Contractor contain deviations from requirements of the Contract Documents, the Contractor shall, in writing, designate such deviations at the time of submittal and subsequent resubmittals.

3.13.6 The Contractor shall perform no portion of the Work requiring submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been reviewed by the Architect as provided in Subparagraph 4.2.7. Such Work shall be in accordance with accepted submittals.

3.13.7 By approving and submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents. Corrections required to bring Shop Drawings into conformance with the intent of the Contract Documents shall not be cause for extension of time or cost.

3.13.8 The Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's review of Shop Drawings, Product

Data, Samples or similar submittals unless the Contractor has specifically informed the Architect and Owner in writing of such deviation at the time of submittal and the Owner has given written approval to the specific deviation. The Contractor shall not be relieved of responsibility for errors or omissions in the Shop Drawings, Product Data, Samples or similar submittals by the Architect's review thereof. Any corrections or modifications to Shop Drawings made by the Architect shall be deemed accepted by the Contractor, without change in Contract Sum or Time, unless the Contractor provides the Architect with written notice before commencing any work from such Shop Drawings. The Contractor shall make all corrections requested by the Architect and provide a corrected Submittal without change in Contract Sum or Contract Time.

3.13.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals to revisions other than those requested by the Architect on previous submittals.

3.13.10 Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents.

3.13.11 When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the Architect shall be entitled to rely upon the accuracy and completeness of such calculations and certifications. The Contractor shall make any required corrections and shall resubmit the required number of corrected shop drawings, samples or submittals. Resubmittals necessitated by required corrections shall not be a cause for extension in time.

3.13.12 The Contractor may submit to the Architect requests for clarification or information concerning the Contract Documents. However, if a clarification or information request is unnecessary because the information is clearly provided in the Contract documents, the Contractor shall reimburse the Owner for the costs of the Architect's (and or subconsultant's) time spent responding to the request.

3.14 USE OF SITE

3.14.1 The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents and shall not unreasonably encumber the site or areas adjacent to the site with materials, equipment or debris. Damage to areas of the Site not scheduled for Work shall be remedied, repaired or replaced at Contractor's expense. The Contractor shall coordinate all of its operations with and secure approval of the Owner before using any portion of the site.

3.15 CUTTING AND PATCHING

3.15.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly.

3.15.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or

otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

3.15.3 Existing structures and facilities, including but not limited to buildings, utilities, topography, streets, curbs, and walks, that are damaged or removed due to excavations or other construction work, shall be patched, repaired or replaced by the Contractor to the satisfaction of the Architect, the owner of such structures and facilities, and governmental authorities having jurisdiction. In the event the governmental authorities require that the repairing and patching be done with their own labor and/or materials, the Contractor shall abide by such regulations and it shall pay for such work.

3.16 CLEANING UP

3.16.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work the Contractor shall remove from and about the Project waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials and shall perform all cleaning necessary to make premises ready for occupancy and use. Contractor shall submit, and if approved by Owner, follow a waste management/recycle program.

3.16.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the cost thereof shall be charged to the Contractor.

3.17 ACCESS TO WORK

3.17.1 The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

3.18 ROYALTIES, PATENTS, COPYRIGHTS, AND OTHER INTELLECTUAL PROPERTY

3.18.1 The costs involved in fees, royalties or claims for any patented invention, article, process or method, or any copyright or other intellectual property right that may be used upon or in a manner connected with the work under this Contract or with the use of completed work by the Owner shall be paid by the Contractor as part of the MACC. The Contractor and its sureties shall protect and hold Owner together with its officers, agents and employees, harmless against any and all demands made for such fees or claims brought or made by the holder of any such right. Before final payment is made on the account of this Contract, the Contractor shall, if requested by the Owner, furnish acceptable proof of a proper release from all such fees or claims.

Should the Contractor, his agent, servants or employees, or any of them be enjoined from furnishing or using any invention, article, material or appliances, or any copyrighted item or

other item of intellectual property supplied or required to be supplied or used under the Contract, the Contractor shall promptly substitute other articles, materials or appliances in lieu thereof of equal efficiency, quality, finish, suitability, and market value, and satisfactory in all respects to the Owner and Architect. In the event that the Owner elects, in lieu of such substitution, to have supplied and to retain and use any such invention, article, material or appliances, or any copyrighted item or other item of intellectual property as may be required to be supplied by the Contract, the Contractor shall pay such royalties and secure such valid licenses as may be requisite and necessary for the Owner, its officers, agents, servants and employees, or any of them to use such invention, article, material or appliance, or any copyrighted item or other item of intellectual property without being disturbed or in any way interfered with by any proceeding in law or equity on account thereof. Should the Contractor neglect or refuse to make the substitution promptly or to pay such royalties and secure such licenses as may be necessary, then in that event the Owner shall have the right to make such substitution or the Owner may pay such royalties and secure such licenses and charge the Contractor even though final payment under the Contract may have been made.

3.19 INDEMNITY AND DEFENSE

3.19.1 Except as specifically provided otherwise, to the maximum extent permitted by law, the Contractor agrees to defend, indemnify and hold harmless Owner and its successors, assigns, officers, directors, consultants and employees and agents (“Indemnified Parties”) from and against any liability including any and all suits, claims, actions, losses, costs, penalties, fines, response costs and damages of whatsoever kind or nature, whether in contract, tort, or equity, to the extent arising out of, in connection with, or incident to the performance of this Contract and the Work; provided, however, that if the provisions of RCW 4.24.115 apply to the Work and any such injuries to persons or property arising out of performance of this Contract are caused by or result from the concurrent negligence of the Contractor or its Subcontractors, agents or employees, and an Indemnified Party, the indemnification applies only to the extent of the negligence of the Contractor, its Subcontractors, agents or employees. THE CONTRACTOR SPECIFICALLY ASSUMES POTENTIAL LIABILITY FOR ACTIONS BROUGHT BY THE CONTRACTOR’S OWN EMPLOYEES OR FORMER EMPLOYEES AGAINST ANY INDEMNIFIED PARTY, AND FOR THAT THAT PURPOSE THE CONTRACTOR SPECIFICALLY WAIVES ALL IMMUNITY AND LIMITATIONS ON LIABILITY UNDER THE WORKERS COMPENSATION ACT, RCW TITLE 51, OR ANY INDUSTRIAL INSURANCE ACT, DISABILITY BENEFIT ACT OR OTHER EMPLOYEE BENEFIT ACT OF ANY JURISDICTION THAT WOULD OTHERWISE BE APPLICABLE IN THE CASE OF SUCH CLAIM. This indemnity obligation shall not be limited by any limitation on the amount or type of damages, compensation or benefits payable by or for Contractor or a Subcontractor under workers’ compensation, disability benefit or other employee benefit laws. The Contractor recognizes that this Waiver was specifically entered into and was the subject of mutual negotiation.

3.19.2 In claims against any person or entity indemnified under this Paragraph 3.19 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Paragraph 3.19 shall not be limited by a limitation on amount or type of damages,

compensation or benefits payable by or for the Contractor or a Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

3.19.3 The obligations of the Contractor under this Paragraph 3.19 shall not extend to the liability of the Architect, the Architect's consultants, and agents and employees of any of them.

3.19.4 Contractor agrees to waive its rights of subrogation against the Owner for claims arising from Contractor's negligence, including without limitation, Contractor's concurrent negligence.

ARTICLE 4 ADMINISTRATION OF THE CONTRACT

4.1 ARCHITECT

4.1.1 The Architect is the person lawfully licensed to practice architecture or an entity lawfully practicing architecture identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Architect" means the Architect or the Architect's authorized representative.

4.2 ARCHITECT'S ASSISTANCE IN ADMINISTRATION OF THE CONTRACT

4.2.1 The Architect will assist the Owner in administration of the Contract as described in the Contract Documents, and may, as specifically authorized by the Owner, serve as the Owner's representative (1) during construction, (2) until final payment is due and (3) from time to time during the correction period described in Paragraph 12.2. The Architect will advise and consult with the Owner. The Architect may have authority to act on behalf of the Owner only to the extent provided in the Contract Documents or the agreement between the Owner and the Architect, unless otherwise modified by written instrument in accordance with other provisions of the Contract Documents. The Authority of the Architect is separate from that of the Owner's Representative.

4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction to become familiar with the progress and quality of the completed Work and to determine in general if the Work is being performed in a manner indicating that the Work, when completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check quality or quantity of the Work. On the basis of on-site observations as an architect, the Architect will keep the Owner informed of progress of the Work, and will use its best efforts to guard the Owner against defects and deficiencies in the Work. The Architect shall not exercise prerogatives or perform duties in a manner that will increase the cost of construction or increase construction time without Owner's prior written approval. It is the Contractor's responsibility to inform Owner, in writing, of direction by Architect that may affect Contract Sum or Contract Time prior to proceeding with that work.

4.2.3 The Architect will not have control over or charge of and will not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's responsibility as provided in Paragraph 3.3. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or of any other persons performing portions of the Work.

4.2.4 Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner. The Contractor additionally shall PROVIDE THE OWNER WITH A DIRECT COPY OF ALL IMPORTANT WRITTEN COMMUNICATIONS TO THE ARCHITECT, including all notices, claims, and potential changes in the Contract Sum or Time.

4.2.5 Based on the Architect's observations and evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

4.2.6 The Architect will have the authority to reject Work which does not conform to the Contract Documents. If the Contractor disputes the rejection of any Work and the correction thereof shall involve additional costs or time, the Contractor shall inform the Owner of the correction in writing and it shall be the Owner's option to accept such Work whether it is conforming or nonconforming. The Owner will not exercise this option with respect to nonconforming Work that the Architect certifies as presenting a threat to the durability of the building, a threat to human health or life, or that violates any applicable code requirement. Whenever the Architect considers it necessary or advisable for implementation of the intent of the Contract Documents, the Architect will have authority to require additional inspection or testing of the Work in accordance with Subparagraphs 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons performing portions of the Work.

4.2.7 The Architect will review and take appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purposes of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken with such reasonable promptness as to cause no delay in the Work or in the activities of the Owner, Contractor or separate contractors, while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the

obligations under Paragraphs 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's review of a specific item shall not indicate approval of an assembly of which the item is a component.

4.2.8 The Architect will prepare Change Orders and Construction Change Directives. While the Architect has authority to make minor changes in the Work, its authority is limited to providing advice regarding other changes to the Work.

4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion, will receive and forward to the Owner for the Owner's review and records written warranties, operations and maintenance manuals, record drawings and related documents required by the Contract and assembled by the Contractor, and will issue a final Certificate for Payment upon compliance with the requirements of the Contract Documents.

4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site.

4.2.11 The Architect will interpret and decide matters concerning performance under and requirements of the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made with reasonable promptness and within any time limits agreed upon. If no agreement is made concerning the time within which interpretations required of the Architect shall be furnished in compliance with this Paragraph 4.2, then delay, if any, shall not be recognized on account of failure by the Architect to furnish such interpretations until fifteen (15) days after written request is made for them or after the Architect has received from the Owner or Contractor all of the information necessary for the Architect to respond to the request, whichever is later.

4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by Contractor.

4.2.13 As between the Architect and the Contractor, the Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

4.2.14 The Architect shall conduct meetings at least once weekly with the Contractor and such Subcontractors as may be requested by the Architect to review the progress of the work and the status of schedules. The Architect shall prepare and circulate minutes of such meetings.

4.3 INITIAL NOTICES AND CLAIMS

4.3.1 All claims for additional costs and/or time (regardless of how described) must be made in accordance with the requirements of this Article or they will be waived.

4.3.2 An “Initial Notice” is the mechanism the Contractor must use to provide the Owner with initial notice of events that have or may result in a Claim. At a minimum, initial Notices must be in writing and describe the event, identify persons with knowledge of the event, qualitatively describe the likely or potential impacts of the event, and identify provisions of the Contract Documents that are implicated by the event.

4.3.3 A “Claim” is a substantiated demand or assertion by the Contractor seeking, as a matter of right, adjustment or interpretation of Contract terms, payment of money, extension of time or other relief with respect to the terms of the Contract. The term “Claim” also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract.

4.3.4 Claims must be made in writing and substantiated by detailed information. The responsibility to substantiate Claims rests solely with the Contractor. The substantiation of a Claim shall include, at a minimum, the following:

1. A written narrative explaining the factual basis of the claim and the bases for the claim under the Contract Documents;
2. A written and/or graphic explanation of how the alleged acts or failure to act by the Owner under the Contract directly caused the damages or delay complained of;
3. Full documentation of the additional costs or damages allegedly resulting in such detail as may be requested by the Owner, including original bid and budget records;
4. Schedule analyses which demonstrate that the alleged acts or failure to act caused delays to the critical path activities of the Contractor; and
5. Such other job records, reports, documents, calculations and bid or estimate information as the Owner may reasonably require to evaluate the Claim.

In the event the Contractor believes that a change in the Work that is the responsibility of the Owner has caused, or may cause, an increase in the Contractor’s costs in the form of labor and equipment inefficiencies or lost productivity, such alleged costs must be specifically identified in the Claim. In addition, the Contractor must establish that the alleged cost increases result directly from such change and must demonstrate the impact by utilizing comparisons of the Work performed during the impacted period with Work performed during a non-impacted period or on a closely similar but different part of the Work if such comparisons are reasonably available or feasible.

4.3.5 Claims, including those alleging an error or omission by the Architect, shall be submitted to the Owner. A decision by the Owner, shall be required as a condition precedent to litigation of a Claim between the Contractor and Owner as to all such matters arising prior to the date final payment is due, regardless of (1) whether such matters relate to execution and

progress of the Work or (2) the extent to which the Work has been completed. If the Owner fails to issue such a decision within thirty (30) days of Owner's receipt of a Claim, the Claim shall be deemed denied.

4.3.6 Pending final resolution of a Claim, unless otherwise agreed in writing, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments that are not in dispute in accordance with the Contract Documents.

4.3.7 If conditions are encountered at the site which constitute subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents, then Initial Notice by the Contractor shall be given to the Owner promptly before such conditions are disturbed and in no event later than three (3) days after first observance of such conditions. The Architect will promptly investigate such conditions and, if they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both, to the Owner for consideration. If the Architect and Owner determine that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Owner shall so notify the Contractor in writing, stating the reasons. Protests in opposition to such determination must be set forth in writing within fourteen (14) days after the Owner has given notice of the decision. If the Owner and Contractor cannot agree on an adjustment in the Contract Sum or Contract Time, any claim by the Contractor arising there from shall be made in accordance with the dispute resolution procedure in Paragraph 4.4.

4.3.8 If the Contractor claims that an additional cost is involved because of conflicts or omissions within a particular type of Contract Document (e.g., Drawings), the Contractor and Subcontractors will be deemed to have carefully reviewed all of the Contract Documents, including drawings, schedules, and specifications, and the most expensive work indicated on the particular type of Contract Document within which a conflict or omission is claimed shall be provided with no change in the Contract Sum or Time. In the event that work is shown on Drawings but not contained in Specifications, it will be assumed the work as shown shall be provided at no change in the Contract Sum or Time, according to specifications to be issued by the Architect. The Contractor shall not be entitled to an increase in the Contract Sum or Time arising out of an error or conflict where the Contractor failed adequately to review the Contract Documents and timely report the error or conflict to the Architect.

4.3.9 If the Contractor wishes to make a Claim for an increase in the Contract Sum, Initial Notice as provided herein timely filed as provided in this Article shall be given before proceeding to execute the related Work, and a timely Claim shall be submitted as provided in this Article. Prior Initial Notice is not required only for Claims relating to an emergency endangering life or property arising under Paragraph 10.3.

4.3.10 If the Contractor wishes to make Claim for an increase in the Contract Time, Initial notice as provided herein timely filed as provided in this Article shall be given and a Claim timely submitted as provided in this Article. In the case of a continuing delay, only one Initial Notice and one Claim are necessary, provided, they state that the delay and the

conditions causing such delay are continuing. Subject to the provisions of Subparagraph 8.3.3 herein limiting the Contractor's right of recovery to time extensions only for reasonable delays, the Contractor's daily cost of any change in Contract Time associated with a delay for which the Contractor is entitled to damages or an adjustment in the Contract Sum shall be limited for each day of such delay to the lesser of the Contractor's actual costs or five percent (5%) of the MACC divided by the number of calendar days in the Contract Time.

4.3.11 If adverse weather conditions are the basis for a Claim for additional time or cost, such Claim shall also be documented by data substantiating that weather conditions were abnormal for the period of time and could not have been reasonably anticipated, and that weather conditions had an adverse effect on the critical path of the current submitted construction schedule.

4.3.12 Neither Contract Time nor the Contract Sum will be adjusted for normal inclement weather. The Contractor shall be entitled to a change in the Contract Time only if the Contractor can substantiate to the reasonable satisfaction of the Owner and Architect that there was materially greater than normal inclement weather considering the full term of the Contract Time and using a ten-year average of accumulated record mean values from climatological data compiled by the U.S. Department of Commerce National Oceanic and Atmospheric Administration for the locale closest to the Project, and that the alleged abnormal inclement weather actually extended the critical path of the Work. To preclude the difficulties of actual measurement, the parties hereto agree that weather data at the site of the work shall be expressly deemed to be the same as that measured at the Seattle-Tacoma International Airport by the Environmental Data and Information Service of the National Oceanic and Atmospheric Administration (NOAA) of the U.S. Department of Commerce. If the total net accumulated number of calendar days lost due to inclement weather from commencement of the Work until Final Completion exceeds the total net accumulated number to be expected for the same period from the aforesaid data, and the Owner grants the Contractor a time extension, the Contract Time will be extended by the corresponding number of calendar days indicated on the critical path of the Contractor's approved Construction schedule.

4.3.13 For the purposes of this subparagraph, a "month" shall mean a calendar month and a "week" shall mean a calendar week of Sunday through Saturday.

4.3.14 If either party to the Contract suffers injury or damage to person or property because of an act or omission of the other party, of any of the other party's employees or agents, or of others for whose acts such party is legally liable, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding fourteen (14) days after first observance. The notice shall provide sufficient detail to enable the other party to investigate the matter. If a Claim for additional cost or time related to such events is to be asserted, it must comply with the provisions of this Article.

4.4 DISPUTE RESOLUTION

4.4.1 All Claims, disputes and other matters in question of the Contractor arising out of, or relating to, the project or the Contract Documents or the breach thereof, except Claims which have been waived under the terms of the Contract Documents shall be decided

exclusively by the following dispute resolution procedure specified in Paragraph 4.4 unless the parties mutually agree in writing otherwise.

4.4.2 The Contractor shall give written notice to the Owner and the Architect of all Claims within twenty-one (21) days of the event giving rise to them. Failure to properly give such notice shall constitute waiver of the Claim. The Contractor shall not be entitled to any change in the Contract Sum or the Contract Time, nor any other compensation, for any events or costs that occurred more than twenty-one (21) days before the written notice. The written notice must be substantiated in accordance with Subparagraph 4.3.2 above. The notice shall be deemed to include a statement that the Claim covers all changes in cost and in time (direct, indirect, impact, consequential, and otherwise) to which the Contractor (and Subcontractors and Suppliers) is entitled. The Owner or its representative shall have the right to audit the books and records of the Contractor and/or of any Subcontractor of any tier making a Claim.

1. If a Claim is not resolved, the Contractor may bring no Claim against the Owner in litigation unless the Claim is first subject to consideration by the Disputes Review Board, as provided in Exhibit 4 to the Agreement.
2. The Contractor may bring no litigation on Claims unless such claims have been properly raised and considered in the procedures of Subparagraphs 4.4.1 through 4.4.2.1 above. All unresolved Claims shall be waived and released unless the Contractor has strictly complied with the time limits of the Contract Documents, and litigation is served and filed within the earlier of (a) sixty (60) days after Final Acceptance, or (b) one hundred twenty (120) days after Substantial Completion. This requirement can be waived only by an explicit written waiver signed by the Owner.

4.4.3 The Contractor shall diligently carry on the Work and maintain the progress schedule during any dispute resolution proceedings, unless otherwise agreed by it and the Owner in writing.

4.4.4 The Contractor agrees that the Owner and Architect may join the Contractor as a party to any litigation/arbitration/mediation involving the Project in any way. All disputes unresolved after mediation shall be decided by litigation in accordance with the Contract Documents.

4.4.5 Notwithstanding the above, the Owner may demand arbitration, before a single arbitrator appointed by the American Arbitration Association under the Expedited Procedure of the Construction Industry Arbitration Rules within five (5) days of the demand, for the purpose of seeking a declaratory judgment regarding the propriety of the Owner's prospective termination of the Contract. The hearing shall occur within seven days of the appointment of the arbitrator, and the award shall be made within two days of the close of the hearing and shall be final and binding.

4.5 WRITTEN NOTICE OF CLAIMS

4.5.1 Any Claim of the Contractor against the Owner for damages, additional payment for any reason, or extension of time, whether under the Contract or otherwise, shall be conclusively deemed to have been waived by the Contractor unless a timely and substantiated written notice of claim therefor is made pursuant to and in strict accordance with the applicable provisions of the Contract, particularly Paragraphs 4.3 and 4.4 of these General Conditions; or, if (and only if) no such provision is applicable, unless such Claim is substantiated in writing and received by the Owner within twenty-one (21) calendar days of the event giving rise to it. No act, omission, or knowledge, actual or constructive, of the Owner or the Architect shall in any way be deemed to be a waiver of the requirement for timely written notice unless the Owner provides the Contractor with an explicit, written waiver of timely notice.

4.5.2 All Claims shall be addressed to:

Evan Ujiye, Director of Capital Projects
Northshore School District
22105 23rd Dr. S.E.
Bothell, WA 98021

4.6 RETENTION OF RECORDS AND AUDIT

The Contractor shall maintain and retain for a period of not less than six (6) years after the date of acceptance of Work all documents related to the Contractor's bid for this Contract (e.g., estimating sheets, take-offs, etc.) and all records pertaining to the performance of the Work under this Contract, including Work performed as extra work. The Contractor shall ensure each of his Subcontractors maintains and retains for said period all records pertaining to performance of Subcontractor Work under this Contract, including Work performed as extra work. Upon twenty-one (21) days' notice to Contractor, all such documents and records shall be open to inspection and audit by Owner or others designated or authorized by Owner or under applicable law and regulations. If an audit is to be commenced more than sixty (60) calendar days after the acceptance of Work, Owner will give reasonable notice of the time when the audit is to begin.

ARTICLE 5 SUBCONTRACTORS

5.1 DEFINITIONS

5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the subcontractor. The term "Subcontractor" does not include a separate contractor or Subcontractors of a separate contractor.

5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-

subcontractor” is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

5.1.3 A Supplier is a person or entity who has a direct or indirect contract with the Contractor or a Subcontractor of any tier to furnish materials or equipment to be incorporated in the Work.

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

5.2.1 Except as authorized by RCW 39.10.385, all Subcontracts and other contracts for portions of the Work shall be selected pursuant to competitive bidding in accordance with RCW Chapter 39.10.

5.3 SUBCONTRACTUAL RELATIONS

5.3.1 The Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, as part of each subcontract bid package, copies of the Contract Documents to which the Subcontractor will be bound, and the terms and conditions of the proposed subcontract agreement which may be at variance with the Contract Documents. Subcontractors shall similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

5.3.2 Any part of the Work performed for the Contractor by a Subcontractor shall be pursuant to a written subcontract agreement between the Contractor and such Subcontractor that is consistent with the requirements and restrictions of RCW Chapter 39.10, which shall be available to the Owner for review upon request. The Contractor shall schedule, supervise, and coordinate the operations of all Subcontractors and Suppliers of any tier. No subcontracting of any of the Work shall relieve the Contractor from its responsibility for the performance of the Work or its obligations under the Contract Documents. In addition to the requirements of Paragraph 5.3.1, each such Subcontractor Agreement shall:

- 1.** Require that such Work be performed in accordance with all of the requirements of the Contract Documents and applicable laws and regulations;

2. Waive all rights the contracting parties and their insurers may have against one another or that the Subcontractor may have against the Owner for damages caused by fire or other perils covered by the property insurance described in the Contract Documents;
3. Require the Subcontractor to carry and maintain insurance in accordance with the Contract Documents, if any;
4. Require the Subcontractor to furnish such certificates and waivers as may be reasonably requested to the extent Subcontractor has been paid for Work performed under the Subcontract Agreement;
5. Require the Subcontractor to incorporate EEO statements in accordance with the Contract Documents, if any;
6. Require payment of prevailing wages in accordance with the Contract Documents.

5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner provided that:

1. Assignment is effective only after termination of the Contract by the Owner for cause pursuant to Paragraph 14.2 and only for those subcontract agreements which the Owner accepts by notifying the Subcontractor in writing; and
2. Assignment is subject to the prior rights of the surety, if any, obligated under a bond relating to the Contract.

5.5 LIENS

The Contractor shall defend, indemnify and hold harmless the Owner from any liens arising out of the work.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. The Contractor shall coordinate its Work with that of

separate contractors. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor may file and document a Claim subject to the Claim provisions in the Contract Documents.

6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term “Contractor” in the Contract Documents in each case shall mean the Contractor that executes each separate Owner-Contractor Agreement.

6.1.3 The Owner shall provide for coordination of the activities of the Owner’s own forces and of each separate contractor with the Work of the Contractor, who shall fully cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules when directed to do so. The Contractor shall make any revisions to the construction schedule pursuant to paragraph 3.11 of the General Conditions that are deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner unless and until subsequently revised.

6.1.4 Occupancy or use of any portion of the Work site by Owner shall not be construed as Substantial Completion.

6.2 MUTUAL RESPONSIBILITY

6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities and shall connect and coordinate the Contractor’s construction and operations with theirs as required by the Contract Documents.

6.2.2 If part of the Contractor’s Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner’s or separate contractors’ completed or partially completed construction is fit and proper to receive the Contractor’s Work, except as to defects not then reasonably discoverable.

6.2.3 Costs caused by delays or by improperly timed activities or defective construction shall be borne by the party responsible therefor.

6.2.4 The Contractor shall promptly remedy damage caused by the Contractor to completed or partially completed construction or to property of the Owner or separate contractors as provided in Subparagraph 10.2.5.

6.2.5 Claims and other disputes and matters in question between the Contractor and a separate contractor shall be subject to the provisions of Paragraphs 4.3 and 4.4 provided the separate contractor has reciprocal obligations.

6.2.6 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Paragraph 3.15.

6.3 OWNER'S RIGHT TO CLEAN UP

6.3.1 If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish as described in Paragraph 3.16, the Owner may clean up and allocate the cost among those responsible as the Owner determines to be reasonable.

ARTICLE 7 CHANGES IN THE WORK

7.1 CHANGES

7.1.1 Changes in the Work after execution of Amendment No. 1 may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents. The Contractor shall be responsible for notifying the bonding and insurance company(ies) of any changes in the Work; provided that neither the number or quality of changes nor Contractor's failure to provide notice shall release or impair bonding or insurance obligations or coverages.

7.1.1.1 Before effectuating a change in the Work, the Owner may request the Contractor to propose the amount of change in the Contract Sum, if any, and the amount of change in the Contract Time, if any, arising from a proposed change in the Work. The Contractor shall submit its responsive proposal within no more than 14 days and shall in good faith specify the amounts by which the Contract Sum and/or Time would change. The Owner may accept the proposal in writing, in which case it will be included in a future Change Order, and the change in the Work may commence immediately. The Owner may reject the proposal, in which case the Owner may either not effectuate the change or may order the change through a Construction Change Directive.

7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect. A Construction Change Directive may be issued by the Owner alone.

7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed upon receipt of written Notice to Proceed from the Owner, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

7.1.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are so changed in a proposed Change Order or Construction Change Directive that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

7.2 CHANGE ORDERS

7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect, stating their agreement upon all of the following:

1. A change in the Work;
2. The amount of the adjustment in the Contract Sum, if any; and
3. The extent of the adjustment in the Contract Time, if any.

7.2.2 A Change Order shall constitute final resolution of the matter addressed by the Change Order.

7.2.3 Methods used in determining adjustments to the Contract Sum may include those listed in Subparagraph 7.3.3.

7.3 CONSTRUCTION CHANGE DIRECTIVES

7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

1. mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
2. unit prices stated in the Contract Documents or subsequently agreed upon;
3. cost to be determined in a manner agreed upon by the parties (accompanied by an itemized estimate of probable cost) and a mutually acceptable fixed or percentage fee; or
4. as provided in Subparagraph 7.3.6.

7.3.4 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved. As soon as possible, and within fourteen (14) days of receipt, the Contractor shall advise the Architect in writing of the Contractor's agreement or disagreement with the proposed method for adjustment in the Contract Sum or Contract Time. The Contractor's response shall reasonably specify the

reasons for its disagreement and the amount or other terms that it proposes. Without such timely written response, the Contractor shall conclusively be deemed to have accepted the Owner's adjustment. The Contractor's disagreement shall not relieve the Contractor of its obligation to comply promptly with any written notice issued by the Owner or the Architect. The adjustment shall then be determined by the Architect in strict accordance with the provisions of the Contract Documents.

7.3.5 A Construction Change Directive signed by the Contractor indicates the agreement of the Contractor therewith, including adjustment in the Cost of the Work and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be incorporated into a Change Order.

7.3.6 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Cost of the Work, or if cost is to be determined under Subparagraph 7.3.3.3, the Contractor shall keep and present within twenty-one days' written demand from the Owner, in such form as the Architect may prescribe, an itemized accounting of the time and material expended, together with supporting data. In order to facilitate checking of such quotations, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by complete itemization of costs, including labor, materials, equipment and subcontract costs. Labor, equipment and materials shall be itemized in the manner described in Paragraph 7.5. When major cost items arise from Subcontractors of any tier, these items shall also be itemized, and the Contractor must include a statement that the Contractor has reviewed the Subcontractors' costs and believes them to be accurate. Approval may not be given without such itemization. Failure to provide data within 21 days of the Architect's request shall constitute waiver of any Claim for changes in the Contract Time or Contract Sum. The total cost of any change, including a Claim under Paragraph 4.3 or 4.4, shall be limited to the reasonable value, as determined by the Architect (subject to appeal through the dispute resolution procedure of Paragraph 4.4), of the items in Paragraph 7.5. Unless otherwise agreed in writing by the Owner, the cost shall not exceed the lower of the prevailing cost for the work in the locality of the Project or the cost of the work in the current edition of R. S. Means Company, Inc., Building Construction Cost Data as adjusted to local costs and conditions. The Architect and the Owner may confer directly with Subcontractors of any tier concerning any item chargeable directly or indirectly to the Owner under this article to confirm contract balances due and to obtain statements or lien waivers.

7.3.7 If the Owner and Contractor do not agree with the adjustment in Contract Time or the method for determining it, the adjustment or the method shall be referred to the Architect for determination. Any adjustment in the Contract Time arising from a Change or a Claim shall be limited to the change in the actual critical path of the Contractor's Construction Schedule directly caused thereby.

7.3.8 When the Owner and Contractor agree with the determination made by the Architect concerning the adjustments in the Cost of the Work and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and shall be recorded by preparation and execution of an appropriate Change Order.

7.4 MINOR CHANGES IN THE WORK

7.4.1 The Architect will have authority to order minor changes in the Work, which are defined as changes not involving adjustment in the Cost of the Work or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. The Owner shall effect such changes by issuing a zero-value Construction Change Directive, which shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly even if the Contractor intends to file a Claim, in which case the notice of claim must be filed in advance of any such Work pursuant to the provisions of Paragraph 4.3.

7.5 PRICING COMPONENTS

The total cost of any changed Work or of any other increase or decrease in the Contract Sum, including without limitation a Claim or a Change, shall be limited to the following components.

7.5.1 Direct labor costs: These are the on-site labor costs determined by either an agreed estimate or actual number of additional craft hours and the hourly cost necessary to perform directly the change in the Work, or the unit labor costs applied to the reasonably incurred and necessary material quantities and extended, provided the unit labor costs are developed from the above craft hour cost, whichever is applicable, according to industry practice.

The hourly cost shall be based upon the following:

1. Basic wages: The hourly wage (without markup, fringe benefits or labor burden and not to exceed that specified in the applicable “Intent to Pay Prevailing Wages”) for the laborers, apprentices, journeymen, and foremen performing and/or directly supervising the changed Work on the site. The premium portion of overtime wages is not included unless pre-approved by the Owner.
2. Fringe benefits: Fringe benefits paid by the Contractor as established by the Washington Department of Labor and Industries, or contributed to labor trust funds as itemized fringe benefits, whichever is applicable. Cost paid or incurred by the Contractor for vacations, per diem, bonuses, stock options, or discretionary payments to employees are not reimbursable.
3. Workers’ insurances: Direct contributions to the State of Washington as industrial insurance; medical aid; and supplemental pension by class and rates established the Washington Department of Labor and Industries.
4. Federal insurances: Direct contributions required by the Federal Insurance Compensation Act (FICA); Federal Unemployment Tax Act (FUTA); and State Unemployment Compensation Act (SUCA).

7.5.2 Direct material costs: This is an itemization, including material invoices, of the quantity and cost of additional materials reasonable and necessary to perform the change in the Work. These costs shall be by the unit cost applied to the quantity and extended. The unit cost shall be based upon the net cost after all discounts or rebates, freight costs, express charges, or special delivery costs when applicable. No lump sum costs will be allowed except when approved in advance by the Owner.

7.5.3 Construction equipment usage costs: This is an itemization of the actual length of time that construction equipment appropriate for the Work will be used solely on the change in the Work at the site times the applicable rental cost. Rental equipment shall be obtained from the lowest cost rental source whether it is the Construction Manager or a third party. Rates and quantities of equipment rented shall be subject to the Owner's prior approval.

If the Construction Manager rents equipment from a third party, then the rate shall be the lowest available rate. If the Construction Manager rents equipment from itself or any entity in which the Construction Manager or one or more of its owners has a direct or indirect ownership interest, the rental rate shall not exceed seventy-five percent (75%) of the prevailing rate for the area in which the Project is located, as published in the Rental Rate Blue Book by Data Quest, San Jose, California. If more than one rate is applicable, the lowest rate will be utilized. The rates in effect at the time of the performance of the Work are the maximum rates allowable for equipment of modern design and in good working condition and include full compensation for furnishing all fuel, oil, lubrication, repairs, maintenance, and insurance. Equipment not of modern design and/or not in good working condition will have lower rates. Hourly, weekly and/or monthly rates, as appropriate, shall be applied to yield the lowest total cost. The rate for equipment necessarily standing for future use on the Work shall be 50% of the rate established above. If equipment is required for which a rental rate is not established by the Rental Rate Blue Book, an agreed rental rate shall be established for that equipment, which rate and use must be approved by the Owner prior to performing the Work. Repair and/or maintenance of Construction Manager's equipment is not intended to restore the equipment to a condition better than it was when it initially came to the Project.

7.5.4 Cost of change in insurance or bond premium. This is defined as:

1. Contractors' liability insurance: The cost (expressed as a percentage) of any changes in the Contractor's liability insurance arising directly from the changed Work; and
2. Public works bond: The cost (expressed as a percentage) of the change in the Contractor's premium for performance and payment bonds required by the Owner and arising directly from the changed Work.

Upon request, the Contractor shall provide the Owner with supporting documentation from its insurer or surety.

7.5.5 Subcontractor costs: These are payments the Contractor makes to Subcontractors for changed Work performed by Subcontractors. The Subcontractors' cost of

changed Work shall be determined in the same manner as prescribed in Subparagraphs 7.5.1 through 7.5.4.

7.5.6 Percent Fee: The Percent Fee is the percentage for all combined overhead and profit as defined in the Contract Documents, (including without limitation job shack, sanicans, job truck, utilities of any kind, temporary equipment and devices, et al.), and site overhead (including Superintendent's time, Project Manager's time, project engineer's time, foreman's time, et al. and miscellaneous charges and allowances including but not limited to small tools and OSHA/WISHA), costs of developing and maintaining Project schedules, costs of modifying as-built drawings, costs of Project Coordination and Safety, all applicable taxes except state and local sales taxes, and includes impact costs of any kind, added to the total cost to the Owner of any Change Order, Construction Change Directive, Claim or any claim for additional work or extra payment of any kind on this Project. It shall include direct and indirect delay, acceleration or impact and be strictly limited in all cases to the following schedule:

1. For the Contractor, concerning Owner initiated and approved changes only, for any materials or work performed by the Contractor's own forces, or by its Subcontractor(s) the Percent Fee specified in paragraph 5.1 of the Agreement of the Cost of the change, said amount to fully compensate the Contractor for all of its coordination and other similar duties arising from such changes.
2. In addition to the Percent Fee, the Owner will compensate the Contractor the following fees for changes to the Subcontractor Costs as follows:
 - a. Where one or more tiers of subcontracts are used to develop the cost of the added work, each Subcontractor that was selected via RCW 39.10.385 who actually performs the Work will be paid the percentage fee that such Subcontractor bid to the Contractor in connection with its selection; and all other Subcontractors who actually perform the Work, at whatever tier, will be paid through the Contractor after payment by Owner, a fee of 15 percent of the Owner-approved costs incurred by such Subcontractor and that any higher tier Subcontractor will be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
 - b. If a change in the Work involves both additive and deductive items, the Fee identified in 7.5.6.2.a will be added to the net difference of the items. If the net difference is negative, no Fee will be added to the negative figure as a further deduction.

ARTICLE 8 TIME

8.1 DEFINITIONS

8.1.1 Unless otherwise provided, the “Contract Time” is the period of time allotted in the Contract Documents from Notice to Proceed to date of Substantial Completion of the Work as defined in Subparagraph 8.1.3. The only adjustments thereto are by Change Order.

8.1.2 The date of commencement of construction of the Work is the date provided by written Notice to Proceed. The date shall not be postponed by the failure to act of the Contractor or of persons or entities for whom the Contractor is responsible.

8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Paragraph 9.8.

8.1.4 The term “day” as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

8.1.5 “Conditional Notice to Proceed” is the written notice issued by the Owner identifying the date of commencement of the Work and identifying conditions to be satisfied before execution of the Contract and Work on site may commence.

8.2 PROGRESS AND COMPLETION

8.2.1 Prior to execution of Amendment No. 1, the Contractor shall submit payment and performance bonds, initial construction schedule, certificates of insurance, any documents required by state or local authorities, and all other documents required by the Contract.

8.2.2 Time is of the essence for commencement and completion of the Work. The Owner is relying materially on a specific construction period and will suffer serious direct, indirect and consequential damages should the established dates not be met. The Contractor shall promptly start the Work as soon as possible after the date of the Notice to Proceed and shall prosecute the Work so that the various portions of the Work shall be complete in accordance with any intermediate and final completion date(s) set forth in the Contract Documents and the Contractor’s Schedule. During periods when weather or other conditions are unfavorable for construction, the Contractor shall pursue only such portions of the Work as will not be damaged thereby; no portions of the Work shall be constructed while those conditions exist if acceptable quality or efficiency will be adversely affected. It is expressly understood and agreed by and between the Contractor and the Owner that the Contract Time for completion of the Work described herein is a reasonable time taking into consideration the weather conditions and other factors prevailing in the locality of the Work.

8.2.3 The Contractor shall provide construction schedules, cash flow projections and additional reports, as may be specified in the Contract Documents or as reasonably requested by the Owner, demonstrating the Contractor’s logic and sequencing plan for scheduling and completing the Work within the Contract Time. Contract Time extensions approved by the Owner shall be incorporated into updated schedules reflecting their effect at the time of occurrence. Progress payments will not be considered by the Owner until the Contractor complies with these requirements.

8.2.3.1 The Contractor shall promptly notify the Architect and the Owner in writing of any facts or conditions which would affect the Contractor's ability to meet the intermediate, substantial, or final completion date(s) for the Work. If the Contractor fails to maintain the progress necessary for the completion of the intermediate, substantial, or final completion date(s) as required under the Contract Documents, the Owner shall have all of the rights and remedies provided by law and under this Contract. Notwithstanding such rights and remedies, the Contractor shall, upon written notice by the Owner and at no additional cost to the Owner, work such hours as allowed by applicable permits and other such constraints, and furnish such additional personnel, equipment and construction plant for such a period of time as necessary to regain and thereafter maintain the progress required by the Contract. If the Contractor fails to comply with the Owner's notice or fails to regain and thereafter maintain the progress required by the Contract, the Owner shall have all the rights and remedies provided by law and provided by this Contract, including those set forth in Paragraph 14.2 herein.

8.2.4 In the event the Work is delayed, the Owner will suffer losses and damages which may be impossible or impracticable to calculate. Should the Contractor fail to perform the work within the Contract Time as stipulated in the Contract Documents, Contractor shall pay to Owner, as liquidated damages and not as a penalty, the amount of \$3,000 per day of delay in achieving Substantial Completion for either the entire project or a particular phase, and \$1,000 per day for each day beyond sixty (60) days after Substantial Completion during which the Project is not finally complete. The Owner shall have the right to deduct the liquidated damages from any money otherwise due, or to become due, to Contractor. The liquidated damages amounts are not intended to preclude the Owner from pursuing claims and causes of action for other damages to the Owner resulting from the failures or defaults of the Contractor unrelated to delay in the Work.

8.2.5 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor. Neither the date of commencement of the Work nor the date of completion of the Work shall be changed by the effective date of such insurance.

8.2.6 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1 If the Contractor is unavoidably delayed at any time in progress of the Work by an act or neglect of the Owner or Architect or of a separate contractor employed by the Owner, or by changes ordered in the Work, or by labor disputes, fire, unavoidable casualties or other causes which are both beyond the Contractor's control and could not be reasonably anticipated, or by other unavoidable causes which the Architect determines may justify delay, then the Contract Time but not the Total Contract Cost shall be extended by Change Order for such reasonable time as the Owner may determine after considering the recommendations of the Architect.

8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Paragraphs 4.3, 4.4 and 4.5.

8.3.3 For delays concerning which the Contractor has given proper and timely notice pursuant to Paragraphs 4.3, 4.4 and 4.5, the Contractor shall submit to the Owner and Architect a substantiated Claim. The Owner may grant an extension of time to the extent that unavoidable and reasonable delays necessarily affect controlling operations in the construction schedule. During such extension of time no damages for delay will be charged to the Contractor. It is understood and agreed by the Contractor and Owner that time extensions due to unavoidable and reasonable delays necessarily involve controlling operations which would prevent completion of Work within the Contract Time. To the extent that any such extension of time is caused by act(s) or omission(s) of someone other than the Owner or persons acting for the Owner, or to the extent that the extension of time arises from a reasonable delay, the Contractor's sole remedy shall be the extension of time and it may not recover any damages whatsoever arising in any manner from such delay. For purposes of this paragraph, any individual delay of up to five (5) days of the Contract Time (as extended) shall be deemed reasonable and any individual delay of greater than five (5) days of the Contract Time (as extended) shall be deemed unreasonable for the purposes of this paragraph.

ARTICLE 9 PAYMENTS AND COMPLETION

9.1 CONTRACT SUM

9.1.1 The Owner shall pay to the Contractor the Total Contract Cost (which may also be called the "Contract Sum") plus applicable sales taxes for performance of the Work in accordance with the Contract Documents.

9.2 SCHEDULE OF VALUES

9.2.1 At least fourteen (14) days before the Contractor submits its first Application for Payment, the Contractor shall submit to the Architect a schedule of values allocated to various portions of the Work as required in Subparagraph 3.11.4, prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

9.3 APPLICATION FOR PAYMENT

9.3.1 Contractor shall submit to Architect an itemized Application for Payment for Work completed during the monthly application period and not covered in a preceding Application for Payment. Such application shall be in the form required by the Owner, and shall be supported by such data substantiating Contractor's right to payment as Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers and any EEO compliance forms. Such applications shall reflect any retainage amount required herein, shall contain the statements required herein, and shall be accompanied by an updated progress schedule per Section 3.11, and by partial lien releases executed by all

Subcontractors, mechanics and materialmen who supplied labor or materials or both in the performance of Work for which progress payments were previously made. Such application may not include a request for payment of any amount Contractor does not intend to pay to a Subcontractor, mechanic or materialman because of a dispute or other reason.

9.3.1.1 At the last weekly meeting each calendar month, the Contractor shall submit to the Architect a report on the current progress of the Work as compared to the Contractor's Construction Schedule, and a draft, itemized application for payment for Work performed during the prior month to the date of submission. This shall not constitute a payment request. The Contractor and Architect shall confer at the meeting regarding the current progress of the Work and the amount of payment to which the Contractor is entitled.

9.3.1.2 The Architect or Owner may request the Contractor to provide data substantiating the Contractor's right to payment, including, without limitation:

1. Copies of requisitions from Subcontractors;
2. lien releases (see Subparagraph 5.3.2.4);
3. certified payroll records for Contractor and all Subcontractors designated in writing by Owner;
4. retainage documentation; and
5. other documentation as provided elsewhere in the Contract Documents.

9.3.1.3 The Contractor shall not be entitled to make a payment request, nor is any payment due the Contractor, until data requested by Architect or Owner is furnished.

9.3.1.4 After the Contractor and the Architect have met and conferred regarding the draft application, and the Contractor has furnished all progress information required and all data requested by the Architect under Subparagraphs 9.3.1.1 and 9.3.1.2 above, the Contractor may submit a payment request in the agreed-upon amount, in the form of a signed, itemized Application for Payment for Work performed during the prior month to the date of the last weekly meeting referenced above, on a form supplied or approved by the Owner. Among other things, the Application shall state that prevailing wages have been paid in accordance with the pre-filed statement(s) of intent to pay prevailing wages on file with the Owner and that all payments due Subcontractors and Suppliers of any tier from the Owner's payment the prior month have been made. **THE SUBMISSION OF THIS APPLICATION CONSTITUTES A CERTIFICATION THAT THE WORK IS CURRENT ON THE CONTRACTOR'S CONSTRUCTION SCHEDULE**, unless otherwise noted on the application.

9.3.1.5 If the Contractor believes it is entitled to payment for Work performed during the prior calendar month in addition to the agreed-upon amount, the Contractor may, within the same five-day time period, submit to the Owner and the Architect a separate written payment request specifying the exact additional amount due, the category in the Schedule of Values in which the payment is due, the specific Work for which the additional amount is due,

and why the additional payment is due. Furthermore, the Contractor and all Subcontractors shall file with the Owner within the five-day time period certified copies of all payroll records relating to the additional amount due.

9.3.1.6 A payment request shall not be valid unless it complies with the requirements of the Contract Documents. If a separate payment request concerning a disputed amount does not comply with the requirements of the Contract, the Owner will provide a written statement to the Contractor.

9.3.1.7 No payment request shall include amounts the Contractor does not intend to pay to a Subcontractor or Supplier because of a dispute or other reason. If after making a request for payment but before paying a Subcontractor or Supplier for its performance covered by the payment request, the Contractor discovers that part or all of the payment otherwise due to the Subcontractor or Supplier is subject to withholding from the Subcontractor or Supplier under the subcontract for unsatisfactory performance, the Contractor may withhold the amount as allowed under the subcontract, but it shall give the Subcontractor, the Owner and the Architect written notice of the remedial actions that must be taken as soon as practicable after determining the cause for withholding but before the due date for the Subcontractor/Supplier payment, and pay the Subcontractor/Supplier within eight working days after the Subcontractor/Supplier satisfactorily completes the remedial action identified in the notice.

9.3.2 If Architect has received the Contractor's Application for Payment in a timely manner, Architect will issue to Owner a Certificate for Payment, with a copy to Contractor, for such amount as Architect and Owner determine is properly due against the pending application for payment. Owner shall make a progress payment to Contractor, in accordance with paragraph 9.6.1.

9.3.3 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at an insured and secure location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

9.3.4 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials or equipment relating to the Work.

9.3.5 Owner shall retain from any amount otherwise earned by Contractor hereunder a sum equal to five percent (5%) of the amount earned by Contractor in accordance with RCW Chapter 60.28. For retainage purposes under RCW 60.28 only, Owner and Contractor shall administer, and request that agencies with jurisdiction administer, the Preconstruction Phase and the Construction Phase as separate contracts. If the Contractor elects to submit a retainage bond in accordance with Chapter 60.28 RCW, the bond must be issued by a surety licensed to do business in the state where the Work is located with an A.M. Best rating of A+/IX or better. The Contractor may withhold from Contractor's payments to its Subcontractors and Suppliers not more than 5% as retainage from moneys earned by such persons or entities.

9.3.5.1 The retainage shall be held as a trust fund for the protection and payment of any person or persons, mechanic, Subcontractor, or materialman who shall perform any labor under this Contract, as provided by Chapter 60.28 Revised Code of Washington (RCW) and all persons who shall supply such person or persons of Subcontractors with provisions, and supplies for the carrying on of such Work, and the State with respect to taxes and premiums imposed pursuant to RCW Titles 50, 51, and 82 which may be due from Contractor. In accordance with the provisions of Chapter 60.28 RCW, said trust fund shall be retained for the statutory period, and every person performing labor or furnishing supplies toward the completion of said Work shall have a lien upon said fund provided that proper notice of the lien shall be given as required by law. After the expiration of the statutory notice period, and after receipt of a clearance of the Department of Revenue, Employment Security Department, and Department of Labor & Industries, the reserve in excess of a sum sufficient to discharge the taxes certified as due or to become due by the Department of Revenue, Employment Security Department, and the Department of Labor & Industries, and the claims of materialmen and laborers who have filed their claims, together with a sum sufficient to defray the cost of foreclosing the liens of such claims, and to pay attorneys' fees, shall be paid to Contractor.

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

1. Retained in a fund by the Owner with no interest paid thereon to the Contractor; or
2. Deposited by the Owner in an interest-bearing account in a bank, mutual savings bank, or savings and loan association, not subject to withdrawal until after final acceptance of all work, or a portion thereof, as may be approved by the Owner; or
3. Placed in escrow in a bank or trust company by the Owner. When the monies reserved are to be placed in escrow, the Owner will issue a check representing the sum of the monies reserved payable to the bank or trust company and the Contractor jointly. Such check shall be converted into bonds and securities chosen by the Contractor and approved by the Owner, and the bonds and securities held in escrow. Interest on the bonds and securities shall be paid to the Contractor as the interest accrues.

9.3.5.3 Under option b and c above, interest will be paid to the Contractor as the interest accrues. The Contractor shall designate the option desired on a form as may be provided by the Owner. This form shall be submitted no later than with the Contractor's first partial payment request. The Contractor in choosing option b or c agrees to assume full responsibility to pay all costs which may accrue from escrow services, brokerage charges, or both, and further agrees to assume all risks in connection with the investment of the retained monies. If retainage funds are placed in escrow, the escrow agreement shall be a format that is acceptable to Owner.

9.4 CERTIFICATES FOR PAYMENT

9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect and Owner determine is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Subparagraph 9.5.1.

9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's observations at the site and the data comprising the Application for Payment, that the Work has progressed to the point indicated and that, to the best of the Architect's knowledge, information and belief, quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to minor deviations from the Contract Documents correctable prior to completion and to specific qualifications expressed by the Architect.

9.5 CERTIFICATION AND PAYMENTS WITHHELD

9.5.1. The Architect may decide not to certify payment and may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Subparagraph 9.4.2 cannot be made or if the Contractor's Application for Payment does not comply with the requirements of the Contract. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Subparagraph 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representation to the Owner. The Owner may, with or without the Architect's concurrence, withhold payment, and the Architect may also decide not to certify payment or, because of subsequently discovered evidence or subsequent observations, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Owner's or Architect's opinion to protect the Owner from loss because of:

1. Defective Work or unsatisfactory performance not remedied;
2. Third party claims filed against the Owner relating to the Work or reasonable evidence indicating probable filing of such claims;

3. Failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment; or failure to submit statement, affidavits or other documents pertaining to wages paid as required by the Contract Documents;
4. Damage to the Owner or another contractor;
5. Reasonable evidence that the Work will not be completed within the Contract Time;
6. Failure to carry out the Work in accordance with the Contract Documents;
7. If Owner or Architect, in its good faith judgment, determines that the portion of the Contract Sum then remaining unpaid will not be sufficient to complete the Work in accordance with the Contract Documents, then the Owner shall make no additional payments and none will become due to the Contractor unless and until the Contractor, at its sole cost, performs a sufficient portion of the Work so that the Contract Sum then remaining unpaid is determined by the Owner or Architect to be sufficient to so complete the Work;
8. Failure of the Contractor to submit timely schedule updates; or delay by the Contractor and/or its Subcontractor(s) of any tier, or failure to comply with Contractor's Progress Schedule; or
9. Liquidated damages.

9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

9.5.3 Owner shall not be deemed to be in breach of this Contract by reason of the withholding of any payment if the Work in question shall have been rejected by any governmental authority. The Owner shall have no obligation to make payments for defective Work and unsatisfactory performance until such Work and performance is corrected or replaced as provided herein and compensation is thereby earned.

9.5.4 Pursuant to RCW 39.12, the Contractor will not receive any payment until the Contractor and all Subcontractors of any tier have submitted a "Statement of Intent to Pay Prevailing Wage" to the Owner. The statement must have the approval of the Industrial Statistician of the Department of Labor and Industries before it is submitted to the Owner. The statement must include the Contractor's registration number, the number of workers in each trade classification, and the applicable wage rate for each trade listed. The Contractor agrees to provide each Subcontractor with a schedule of applicable prevailing wage rates. The Contractor and the respective Subcontractors shall pay all fees required by the Department of Labor and Industries, including fees for the approval of the "Statement of Intent to Pay Prevailing Wages." Approved copies of the "Statement of Intent to Pay Prevailing Wages" must be posted where workers can easily read them.

9.6 PROGRESS PAYMENTS

9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect. The Owner will make any progress payment otherwise due within thirty (30) days of its receipt of the Architect's Certificate for Payment, but shall be entitled to withhold payment according to Subparagraph 9.5, notwithstanding the issuance of a Certificate for Payment.

9.6.2 The Contractor shall promptly pay each Subcontractor, upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor's portion of the Work, the amount to which said Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of such Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with Subcontractors, require each Subcontractor to make payments to Sub-subcontractors in similar manner. If the Contractor does not receive payment for any cause which is not the fault of a particular Subcontractor, the Owner, or the Architect, the Contractor shall pay that Subcontractor on demand, made at any time after which such payment to the Contractor would have been made, for its work to the extent completed, less the retained percentage.

9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

9.6.4 Neither the Architect shall have an obligation to certify for payment nor the Owner the obligation to pay or to see to the payment of money to a Subcontractor except as may otherwise be required by law.

9.6.5 Payment to material suppliers shall be treated in a manner similar to that provided in Subparagraphs 9.6.2, 9.6.3 and 9.6.4.

9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work.

9.7 LITIGATION DELAY COSTS

9.7.1 In the event of delays primarily due to litigation which qualifies under RCW 60.28.080, the parties hereto agree that the reasonable costs of such litigation delay shall consist only of the following:

- 1.** Actual and necessary direct costs to the Contractor directly attributable to the period of delay for wages, wage taxes and labor costs other than wages; provided, that such costs could not be otherwise avoided by layoffs or employment on other projects during the period of delay. The wage rates shall not exceed those listed on the Contractor's "Statement of Intent

to Pay Prevailing Wages on Public Works Contract” as approved by the Industrial Statistician of the State of Washington.

2. Additional and necessary direct costs for materials and equipment rentals actually incurred and paid by the Contractor directly attributable to the period of delay.
3. Actual equipment standby costs established by rental agreements or, if Contractor owned, by the lowest rate utilized by The Contractor for purposes of its project accounting.
4. Additional and necessary direct costs of insurance premiums and bonds actually incurred and paid by the Contractor directly attributable to the period of delay.
5. Additional and necessary costs for subcontracts actually incurred and paid by the Contractor directly attributable to the period of delay; provided, that such additional costs could not be avoided by cancellation or renegotiation of such subcontracts.
6. To such costs shall be added an amount equal to the Percent Fee specified in the Agreement.

Within three days after notice of litigation delay under this paragraph, the Contractor shall notify the Owner and Architect in writing of the Contractor’s estimated weekly litigation delay costs as described above; provided, however, that in no event will payment for actual litigation delay costs exceed one hundred twenty-five percent (125%) of the said estimated costs. The Contractor shall submit to the Architect no later than the fifth day of each month a request for such litigation delay costs incurred during the previous calendar month. The request for payment shall be in a form satisfactory to the Architect and Owner and shall include copies of invoices, correspondence and such other verifiable evidence of delay costs actually and necessarily incurred by the Contractor as the Owner or Architect may require. This paragraph shall be the Contractor’s exclusive remedy for litigation delay costs.

9.8 SUBSTANTIAL COMPLETION

9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended purpose, as determined by Owner and Architect. Substantial Completion shall not be granted until receipt of a satisfactory HVAC balancing report by Owner. No portion of the project will be considered substantially complete until the local building, fire and other regulatory authorities with jurisdiction have issued Certificates of Occupancies and or other approval for occupancy and use covering that portion of the Work. All of the Project’s parts and systems shall be accessible, operable, and commissioned to be usable by the Owner, including site Work. The Project site shall be clean. Preliminary training of personnel must take place. Only incidental corrective Work under “Punch Lists” and final cleaning (if required) may remain to be done.

9.8.1.1 There may be a separate Date of Substantial Completion specified in the Contract Documents for completion of one or more receiving areas to be used by the Owner for receiving assembly and delivery of Owner-supplied items. The Work is not Substantially Complete if all systems and parts are not usable and commissioned, if utilities are not connected and operating normally, or if the Work is not accessible by normal vehicular and pedestrian traffic routes. The fact that the Owner may occupy the Work or designated portion thereof does not indicate that the Work is Substantially Complete or is acceptable in whole or in part, nor does such occupation toll or change any liquidated damages due the Owner.

9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected. The Contractor shall proceed promptly to complete and correct items on the list. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete to assist the Contractor in completing the Work. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not in accordance with the requirements of the Contract Documents, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. The Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion. The cost of this and any additional inspections by the Architect shall be at Contractor's expense in accordance with Subparagraph 9.8.2.1 below. When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion which shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. The general Project warranty and all other warranties required by the Contract Documents shall commence on the date of Final Completion and Acceptance by Owner's Board of Directors of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion. The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate.

9.8.2.1 The Architect and Owner will make one Punch List check and perform one back check of the Punch List to determine Final Completion in accordance with Section 9.10. Added inspections or meetings shall be at Contractor's expense at Architect's applicable rates. Such inspection meetings may be required because of:

1. Failure on the part of Contractor to satisfactorily complete all items on Punch List prior to Back Check of the Punch List, or
2. Additional inspections required by defective installations or equipment.

9.8.3 Upon Substantial Completion of the Work or designated portion thereof and upon application by the Contractor and certification by the Architect, the Owner shall make payment, reflecting adjustment in retainage, if any, for such Work or portion thereof as provided in the Contract Documents.

9.8.4 Contractor's acceptance of Substantial Completion payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified in writing by the Contractor as unsettled at the time of the application for payment for the substantial Completion payment, and except for the retainage, if any, due after Final Acceptance.

9.9 PARTIAL OCCUPANCY OR USE

9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by change order, provided such occupancy or use is consented to by the insurer as required under Subparagraph 11.3.3 and authorized by public authorities having jurisdiction over the Work. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payment, retainage if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Subparagraph 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Owner upon recommendation of the Architect.

9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

9.9.3 Use by Owner of any finished part of the Work, which has specifically been identified in the Contract Documents, or which Owner, Architect and Contractor agree constitutes a separately functioning process, facility or portion of the Work that can be used by Owner without significant interference with Contractor's performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following:

Owner at any time may request Contractor in writing to permit Owner to use any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If Contractor agrees, Contractor will certify to Owner and Architect that said part of the Work is substantially complete and request Architect to issue a Certificate of Substantial Completion for that part of the Work. Contractor at any time may notify Owner and Architect in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Architect to issue a Certificate of Substantial Completion for that part of the Work. Within a reasonable time after either

such request, Owner, Contractor and Architect shall make an inspection of that part of the Work to determine its status of completion. If Architect does not consider that part of the Work to be substantially complete, Architect will notify Owner and Contractor in writing giving the reasons therefor. If Architect considers that part of the Work to be substantially complete, the provisions of Subparagraphs 9.8.1 and 9.8.2 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

9.9.4 Unless otherwise agreed, Owner's partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

9.10 FINAL COMPLETION AND FINAL PAYMENT

9.10.1 Upon receipt of written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect and Owner will promptly make such tests and inspection and, when the Architect and Owner find the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's observations and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the balance found to be due the Contractor and noted in said final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Subparagraph 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled. Final Completion must be achieved within sixty (60) days of the scheduled Substantial Completion date as described in Paragraph 9.8.

9.10.2 Final Acceptance will not be granted until Owner has received and accepted Record Documents, Operations and Maintenance Manuals, commissioning and testing reports, staff training on all operable equipment, final certificates of occupancy from local jurisdictions and all required certificates or other evidence of warranties.

9.10.3 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least thirty (30) days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety to final payment, (5) other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner or as may be

required by applicable laws and regulations, and (6) all claims by the Contractor have been waived or resolved. Such forms and filings shall include:

1. Certificates approved by the Washington State Department of Labor and Industries, Washington State Employment Security Department, and all other departments and agencies having jurisdiction over the activities of the Contractor have been provided to the Owner;
2. A release obtained from the Washington State Department of Revenue that state taxes have been paid; and
3. "Affidavits of Wages Paid" for the Contractor and each Subcontractor approved by the Industrial Statistician of the Washington State Department of Labor and Industries have been provided to the Owner.

If such taxes have not been discharged or the claims, expenses, and fees have not been paid, the Owner shall either retain in its funds, or in an interest bearing account, or retain in escrow, at the option of the Contractor, an amount equal to such unpaid taxes and unpaid claims together with a sum sufficient to defray the costs and attorney fees incurred in foreclosing the lien of such claims, and shall pay, or release from escrow, the remainder to the Contractor.

9.10.4 If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. Lien notices shall be delivered to:

Evan Ujiiye, Director of Capital Projects
Northshore School District
22105 23rd Dr. S.E.
Bothell, WA 98021

9.10.5 The making of final payment shall not constitute a waiver of any claims by the Owner, including, but not limited to, those arising from:

1. Unsettled liens;
2. Faulty or defective Work appearing after Substantial completion;
3. Failure of the Work to comply with the requirements of the Contract Documents; or
4. Terms of any warranties or guarantees required by the Contract Documents or supplemental agreements between the Owner and Contractor.

9.10.6 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the

Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

9.10.7 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified in writing by that payee as unsettled at the time of final Application for Payment. Such waivers shall be in addition to any waivers of Claims resulting from the operation of Paragraphs 4.3, 4.4, 4.5 and 9.8.4.

9.10.8 The Owner reserves the right pursuant to Chapter 60.28 RCW to withhold from any retainage funds remaining after the clearance of claims for liens and taxes an amount necessary to satisfy claims by the Owner against the Contractor, and the remainder of the retainage shall be released to the Contractor.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

10.1.1 The Contractor shall be solely and completely responsible for conditions of the work site, including safety of all persons and property, during performance of the Work. The Contractor shall maintain the Work site and perform the Work in a manner which meets statutory and common law for the provision of a safe place to work. This requirement shall apply continuously and not be limited to normal working hours. That the Architect or Owner conducts construction review of the Contractor's performance does not and shall not be intended to include review of the adequacy of the Contractor's safety measures in, on or near the site of the Work. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

10.1.2 Prior to commencement of the Construction Phase of the Work, the Contractor shall thoroughly review the Project site and then prepare and submit in a meeting with the Owner and Architect the Contractor's Safety Manual for this Project. The Contractor's Safety Manual shall consider the needs of students, staff and Owner operations, as well as the needs of the general public. The Contractor's Safety Plan shall include the following minimum elements: a site-specific written safety plan that is consistent with the requirements of the Contract documents; a process for submitting accident and other reports; an emergency response plan; a resume of the Contractor's safety representative; a hazardous materials communication program; any indicated specialized programs for specific project site hazard analysis; an environmental waste disposal plan; a drug and alcohol plan; safety training programs; and elements necessary to comply with any applicable local laws, regulation and

other legal requirements. Observations, reports or reviews by the Architect or Owner of any element of the Contractor's Safety Manual or related performance shall in no way affect the Contractor's sole responsibility for performing the Work safely or Contractor's responsibility for the safety and welfare of its employees, subcontractors and suppliers of any tier or the Contractor's responsibility for the protection of property, students, staff and the general public; nor shall such observations, reports or reviews by the Architect or Owner impose any obligation on any of them to ensure the Contractor performs the work safely. Contractor shall immediately notify Owner and Architect of any accidents or injuries, and shall submit written reports of same to Owner and Architect within three working days of such event(s).

10.2 SAFETY OF PERSONS AND PROPERTY

10.2.1 The Contractor shall take reasonable precautions for the safety of, and shall provide reasonable protection to prevent damage, injury or loss to:

1. Employees on the Work and other persons who may be affected thereby;
2. The Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
3. Other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

10.2.2 The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss. The Contractor shall comply with the safety regulations set forth in WAC Chapter 296-155 and any other requirements published by the Washington State Department of Labor and Industries and any other agencies with jurisdiction. The Contractor shall comply with the provisions of the Washington Industrial Safety Act of 1973 (WISHA), including all revisions, amendments and regulations issued thereunder by the Washington State Department of Labor and Industries, and any other applicable safety requirements. The WISHA regulations shall apply to all excavation, trenching and ditching operations. In case of conflict between any such requirements, the more stringent regulation or requirement shall apply.

10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety precaution, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users and adjacent sites and utilities. The Contractor shall maintain at the work site office or other well known place at the work site all materials (e.g., a first aid kit) necessary for giving first aid to the injured, and shall establish, publish and make known to all employees procedures for ensuring immediate removal to a hospital or a doctor's care, persons, including employees, who may have been injured on the site. Employees shall not be permitted to work on the site before the Contractor has established and made known procedures for removal of

injured persons to a hospital or a doctor's care. The Contractor and/or any Subcontractors shall ensure that at least one of such employees has a valid, effective first aid card.

10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

10.2.5 The Contractor shall promptly remedy damage and loss to property referred to in Subparagraphs 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Subparagraph 10.2.1, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault of negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Paragraph 3.19.

10.2.6 The Contractor shall designate a Safety Officer whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

10.2.7 At all times until the Owner's occupancy of the Work or a designated portion of the Work, the Contractor shall protect from damage, weather, deterioration, theft, vandalism and malicious mischief all materials, equipment, tools, and other items incorporated or to be incorporated in the Work or designated portion, or consumed or used in the performance of the Work or designated portion, and all Work in process and completed Work or designated portion.

10.2.8 The Contractor shall not load or permit any part of the construction or site to be loaded so as to endanger its safety.

10.3 HAZARDOUS MATERIALS

10.3.1 If reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons or liability resulting from discovery of a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing. The discovery of a material or substance may be indicated visually by staining, discoloration, or water sheen, through odors suggesting presence of a contaminating substance, or by chemical analysis. A hazardous material shall be defined as any chemical or substance defined as hazardous by the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or the Washington Model Toxics Control Act (MTCA) WAC 173-340 and present in amounts or concentrations exceeding cleanup levels for residential soils established in MTCA.

10.3.2 The Owner shall obtain the services of an environmental contractor and a licensed or accredited laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to verify that it has been remediated in accordance with applicable legal requirements. Upon proper characterization of the hazardous material, Owner and the Contractor will jointly determine whether the Contractor or Owner will perform the necessary remediation. The Contract Sum will be increased for work performed by the Contractor. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. The Contract Time may be extended appropriately and the Contract Sum may be increased in the amount of the Contractor's demonstrated, reasonable additional costs of shut-down, delay or start-up, which adjustment shall be accomplished as provided in Article 7.

10.3.3 The Contractor shall not install in the Work any hazardous material. The Owner shall not be responsible under Paragraph 10.3 for materials or substances brought to the site by the Contractor.

10.4 PUBLIC SAFETY AND CONVENIENCE

10.4.1 The Contractor shall conduct its Work so as to ensure the least possible obstruction to vehicular traffic and inconvenience to the general public, landowners, the residents and other contractors in the vicinity of the Work and to ensure the protection of persons, property and natural resources. No road or street shall be closed to the public except with the permission of the Owner and the proper governmental authority. Fire hydrants on or adjacent to the Work shall be accessible to fire fighting equipment at all times. Temporary provisions shall be made by the Contractor to ensure the use of sidewalks, fire lanes, private and public driveways and proper functioning of gutters, sewer inlets, drainage ditches and culverts, irrigation ditches and natural water courses, if any, on the Work site.

10.5 SANITATION

10.5.1 The Contractor shall comply with WAC 296-155-140 and other applicable laws and regulations establishing sanitation standards in the construction industry.

10.6 EMERGENCIES

10.6.1 In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of the time claimed by the Contractor on account of an emergency beyond the control of the Contractor shall be determined as provided in Paragraph 4.3 and Article 7.

10.7 ARCHAEOLOGICAL INVESTIGATION

10.7.1 Preliminary review indicates there are no cultural resources present at the Project site. However, if the Contractor uncovers or exposes any suspected archaeological resources or suspected artifact, Contractor shall stop work in the area of the find and

immediately contact Owner. If cultural resources are discovered as part of this Project, archaeological evaluation will be required. Due to determination of findings, the Contractor may be required to change its method of operation to a method that has less impact on the site and is approved by Owner.

10.7.2 In the event that the construction or excavation activities exposes or uncovers any archaeological items of significance to Owner's designated archaeologist, if any, said person may require that certain work be delayed or temporarily stopped. If the delay or work stoppage exceeds ten (10) days, this will be grounds for the Contractor to request additional time to complete the work under this Agreement. If the delay or work stoppage exceeds thirty (30) calendar days, Owner may terminate the Agreement as specified in Section 14.3 of the General Conditions. As an alternative to closing down and terminating the contract, Owner may choose to negotiate a mutually acceptable suspension of the work which includes compensation for reasonable costs caused by the temporary stoppage. No claim for additional compensation will be considered unless the delay or stoppage for the certain work exceeds thirty (30) days and the stoppage has caused actual monetary damages to the Contractor.

ARTICLE 11 INSURANCE AND BONDS

11.1 CONTRACTOR'S LIABILITY INSURANCE

11.1.1 The Contractor shall purchase and maintain in a company or companies licensed to do business in the state which the project is located, with an A.M. Best rating of A/IX or better and reasonably satisfactory to Owner, such insurance as will protect Contractor and Owner from claims set forth below which may arise out of or result from the Contractor's operations under the Contract, whether such operations be by itself or by any Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. All reinsurers that may be called upon to support or share in an insurer's obligations specified in connection with insurance required of the Contractor by the Contract Documents must have an A.M. Best rating of A- or better.

1. Claims under workers' or workmen's compensation, disability benefit and other similar employee benefit acts which is applicable to Work to be performed;
2. Claims for damages, because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
3. Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
4. Claims for damages insured by usual personal injury liability coverage which are sustained (1) by a person as a result of an act or omission directly or indirectly related to employment of such person by the Contractor, or (2) by another person;

5. Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
6. Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
7. Claims involving contractual liability insurance applicable to the Contractor's obligations under Paragraph 3.19;
8. Liability insurance shall include all major divisions of coverage and be written on an occurrence-based on commercial general liability form, and shall include the following coverage:
 - a. Premises liability coverage (including X, C & U as applicable);
 - b. Independent Contractor's protective;
 - c. Products and completed operations;
 - d. Personal injury liability with employment exclusion deleted;
 - e. Contractual, including specific provision for Contractor's obligation under Paragraph 3.18;
 - f. Owned, non-owned and hired motor vehicles;
 - g. Broad form property damage including completed operations;
 - h. Umbrella excess liability.
 - i. Contractor's Errors and Omissions Liability; and
 - j. Contractor's Pollution Liability. This coverage may be provided through a Subcontractor if the Owner receives (i) an original, signed copy of the Subcontract that provides for this coverage, (ii) evidence of such insurance in the form of a Certificate of Insurance or copy of the actual policy, and (iii) a copy of an endorsement to the policy that names both the Contractor and the Owner as additional insureds.

11.1.2 The insurance required by Subparagraph 11.1.1 shall be written for not less than limits of liability specified below or required by law, whichever coverage is greater. Coverages, written on an occurrence basis unless otherwise specified below, shall be maintained without interruption from date of commencement of the Work as documented in the effective date of the Notice to Proceed with preconstruction services until one year after the actual Substantial Completion date of the Work, unless a longer period is specified below. All

coverage will be primary to and non-contributory with any insurance Owner may maintain, and the Contractor shall provide an endorsement for such coverage to Owner.

11.1.2.1 Workers Compensation:

- (A) State: Statutory
- (B) Applicable Federal (e.g., Longshoremens): Statutory
- (C) Employers Liability: \$1,000,000.00

11.1.2.2 Commercial General Liability Policy using Insurance Services Office form GC0001 (07-04) or the equivalent. Limits shall not be less than \$1,000,000 combined single limit each occurrence and \$5,000,000 aggregate for bodily injury and property damage. Policy shall contain a Per Project Aggregate. Policy shall contain a Waiver of Subrogation endorsement in favor of Owner.

- (A) Products and completed operations coverage to be maintained for three years after final payment.
- (B) Employers Stop Gap Liability: \$1,000,000

11.1.2.3 Contractual Liability:

- (A) Bodily Injury:
\$1,000,000.00. Each occurrence
- (B) Property Damage:
\$1,000,000.00. Each occurrence
\$1,000,000.00. Annual occurrence

11.1.2.4 Personal Injury, with employment exclusive deleted: \$1,000,000.
Annual aggregate

11.1.2.5 Comprehensive Automobile Liability (with owned, non-owned, and hired vehicle coverage) with limits of not less than \$1,000,000 combined single limit each accident for bodily injury and property damage.

11.1.2.6 Umbrella Excess Liability: \$10,000,000 each occurrence and \$10,000,000 aggregate over underlying Commercial General Liability and Commercial Auto Liability primary insurance coverage as reflected above.

11.1.2.7 Contractor's Pollution Liability: \$5,000,000 each occurrence and \$5,000,000 aggregate. Coverage to include Natural Resource Damage coverage with a limit not less than \$1,000,000 each occurrence and \$1,000,000 aggregate. Policy shall name Owner as an additional insured. Policy shall be specific for this Project only. Coverage on a claims-made basis is acceptable, provided that coverage shall be maintained for at least three (3) years following Substantial Completion of the Project. Within 30 days of execution of Amendment

No.1, the Contractor shall provide Owner with a copy of the complete Pollution Liability Insurance policy required by this subparagraph.

11.1.3 Except for Contractor's Pollution Liability coverage, Certificates of Insurance and Endorsements acceptable to the Owner for all coverages required under this paragraph 11.1 shall be filed with the Owner within ten days following notice of award of the Contract, but in any event prior to commencement of Pre-Construction Services. Certificates of insurance and endorsements for Contractor's Pollution Liability coverage shall be filed with Owner prior to or on the date of execution of Amendment No. 1. The insurance policies required by this Paragraph 11.1 shall contain a provision, or Contractor shall obtain and endorsement verifying that coverages afforded under the policies will not be reduced, canceled or allowed to expire until at least thirty (30) days' prior written notice has been given to the Owner. The Certificates shall list any and all reinsurers and excess liability insurers.

11.1.3.1 Except for the Contractor's Errors and Omissions Liability policy, on which the Owner shall not be named as an additional insured, the Owner shall have the following insured status under the policies required under this Paragraph 11.1:

1. For all other policy coverages including, but not limited to, Products and Completed Operations hazard and On-Going Operations, Owner shall be included as an Additional Insured. Endorsement(s) verifying all required additional insured status shall be timely provided to Owner by the Contractor. As respects commercial general liability, Insurance Services Office forms CG 2010(07-04) and CG 2037(07-04) or the equivalent shall be used.

11.1.3.2 An additional certificate evidencing continuation of any coverage beyond the final payment shall be submitted with the final Application for Payment as required by Subparagraph 9.10.3. Information concerning reduction of coverage shall be furnished by the Contractor with reasonable promptness in accordance with the Contractor's information and belief.

11.1.4 None of the liability policies required by this paragraph 11.1 shall be subject to a liability deductible or self-insured retained limit in excess of \$20,000. Contractor shall be solely responsible for payment of any such deductible or self-insured amounts as a cost covered by the Percent Fee.

11.1.5 The Contractor shall furnish one copy each of the certificates of insurance and endorsement herein required for each copy of the Contract which shall specifically set forth evidence of all coverage required by Subparagraphs 11.1.1, 11.1.2 and 11.1.3. The Contractor shall furnish to the Owner copies of any endorsements that are subsequently issued.

11.2 OWNER'S LIABILITY INSURANCE

11.2.1 The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance. Optionally, the Owner may purchase and maintain other insurance for self-protection against claims which may arise from operations under the Contract. The

Contractor shall not be responsible for purchasing and maintaining this optional Owner's liability insurance unless specifically required by the Contract Documents.

11.2.2 Owner's insurance shall be excess to all insurance required under paragraph 11.1.

11.3 PROPERTY INSURANCE

11.3.1 Before execution of Amendment No. 1, the Contractor will submit written evidence (via certificate of insurance) that it has purchased (as Negotiated Support Services) for the period of this Contract, Builder's Risk "All-Risk" Completed Value Insurance Coverage, and Full Replacement Cost Coverage, in the amount of the Total Contract Cost plus sales taxes, (including coverage for fire, Collapse, and Damage resulting from Faulty Workmanship, Material, or Design; but not including Flood, Earthquake or Landslide unless specified for a given project) upon the entire work which is the subject of this Contract, including completed work and work in progress but excluding structures in existence at the time Amendment No. 1 was executed. Such insurance shall include as Additional Named Insureds: The Owner(s) and each of their officers, agents and employees; and any other persons with an insurable interest designated by the Owner as Additional Named Insureds. Such insurance must be issued by an insurer(s) and reinsurers meeting the qualification requirements of subparagraph 11.1.1. Within 30 days of execution of Amendment No. 1, the Contractor shall also provide the Owner with a copy of the insurance policy required by this subparagraph. The Owner shall be a loss payee under said coverage and coverage shall be adequate to prevent the Owner from having a co-insurance exposure. Such insurance may have a deductible clause but not to exceed \$10,000.00. (The deductible on earthquake, flood and landslide may be in accordance with the Underwriters' requirements.) The Contractor shall be solely responsible for any such deductibles as cost covered by the Percent Fee.

11.3.2 Upon the occurrence of an insured loss, the Owner, as first named insured, shall have the right and final decision-making authority to adjust and settle any loss with the insurers. The Owner shall deposit in a separate account any monies received, and shall distribute such funds in accordance with such agreement as the parties in interest may reach. If no agreement is reached, any damaged Work shall first be repaired or replaced, and payment therefor made from the separate account by Change Order or by payment to a separate contractor, at Owner's option; further disbursements from the separate account will then be determined pursuant to the provisions of subparagraphs 4.4 and 4.5 above.

11.3.3 Where required, partial occupancy or use in accordance with Paragraph 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

11.4 PERFORMANCE AND PAYMENT BONDS

11.4.1 The Contractor shall secure and pay for a Performance Bond and a Payment Bond(s), each in the full amount of the Total Contract Cost plus sales tax, pursuant to Chapter 39.08 RCW. Said bond shall meet all requirements of Chapter 39.08 RCW and shall be issued by a surety with an A.M. Best rating of A/IX or better on a form acceptable to Owner. All reinsurers that may be called upon to support or share in a surety's obligations specified in connection with the performance and payment bonds required of the Contractor by the Contract Documents must be listed on the Bonds or related document provided to the Owner by the Contractor, and have an A.M. Best rating of A/X or better. Said bonds shall include without limitation security for any and all Contractor warranty obligations under the Contract Documents. Within 10 days after the issuance of the Notice of Intent to Award for the Construction Phase of the Work, the Contractor shall deliver two originals of the Bond to the Owner and one copy to the Architect. **THE OWNER WILL NOT EXECUTE AMENDMENT NO. 1 UNTIL SUCH SURETY BONDS ARE RECEIVED AND APPROVED BY OWNER.** If Amendment No. 1 is executed, the Contract Time shall be reduced by one day for each day after 10 days that said bonds are not received by the Owner, and there shall be no adjustment to the substantial completion date.

11.4.2 All Subcontractors who bid work over three hundred thousand dollars shall post a bid bond. All Subcontractors who are awarded a contract over three hundred thousand dollars shall provide a performance and payment bond for the subcontract amount. The Owner may require certain other Subcontractors to provide to Owner evidence in writing of their ability to obtain performance and payment bonds in the amounts of their subcontracts. Owner may also require such other Subcontractors to provide a performance and payment bond for the subcontract amount. The cost of required bonds shall be part of the Cost of the Work and shall be issued by a surety licensed to do business in this state with an A.M. Best rating of A/V or better.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

12.1 UNCOVERING OF WORK

12.1.1 If a portion of the Work is covered contrary to the Architect's, Owner's, or governmental authority with jurisdiction request or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Architect, Owner, or governmental authority with jurisdiction, be uncovered at Contractor's expense for the Architect's observation and be replaced at the Contractor's expense without change in the Contract Time.

12.1.2 If a portion of the Work has been covered which the Architect has not specifically requested to observe prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, and Contractor has notified Owner in writing of Architect's request and Contractor has signed a sworn statement that the Work is in compliance with the Contract Documents and submits evidence of reasonable care, quality control and inspection completed by Contractor to determine such, costs of uncovering and replacement shall, by appropriate

Change Order, be charged to the Owner. If such Work is not in accordance with the Contract Documents, the Contractor shall pay such costs, except to the extent the condition was caused by the Owner or a separate contractor of Owner, in which event the Owner shall be responsible for purposes of this Contract only for payment of such costs to the extent of its proportionate responsibility.

12.2 WARRANTIES AND CORRECTION OF WORK

12.2.1 The Contractor shall promptly correct Work rejected by the Architect or Owner failing to conform to the requirements of the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear costs of correcting such rejected Work, including additional testing and inspections and compensation for the Architect's services and expenses made necessary thereby.

12.2.2 The general project warranty period of one year from Final Completion and Acceptance by the Owner's Board of Directors shall be extended with respect to portions of Work first performed or corrected after Substantial Completion by the period of time between Substantial Completion and the satisfactory performance or correction of the Work. At the election of the Owner, the extended periods of warranty shall be confirmed by submission by the Contractor of written special warranties. If, within one year after the date of Final Completion and Acceptance of the Work or designated portion thereof, or after the date for commencement of warranties established under Subparagraph 9.8.2, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. This obligation under this Subparagraph 12.2.2 shall survive acceptance of the Work under the Contract and termination of the Contract. The Owner shall give such notice promptly after discovery of the condition.

12.2.3 The Contractor shall remove from the site portions of the Work which are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner in writing.

12.2.4 If the Contractor fails to correct nonconforming Work within a reasonable time, the Owner may correct it in accordance with Paragraph 2.4. If the Contractor does not proceed with correction of such nonconforming Work within a reasonable time fixed by written notice from the Architect, the Owner may remove it and store the salvable materials or equipment at the Contractor's expense. If the Contractor does not pay costs of such removal and storage within ten (10) days after written notice, the Owner may sell such materials and equipment at auction or at private sale and shall account for the proceeds thereof, after deducting costs and damages that should have been borne by the Contractor, including compensation for the Architect's services, attorneys' services, and expenses made necessary thereby. If such proceeds of sale do not cover costs which the Contractor should have borne, the Contract Sum shall be reduced by the deficiency. If payments then or thereafter due the

Contractor are not sufficient to cover such amount, the Contractor promptly shall pay the difference to the Owner.

12.2.5 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work which is not in accordance with the requirements of Contract Documents.

12.2.6 Nothing contained in this Paragraph 12.2 shall be construed to establish a period of limitation with respect to other obligations which the Contractor might have under the Contract Documents. Establishment of the time period of one year as described in Subparagraph 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work. Correction of Work may be performed by Owner's selected contractors at Contractor's expense.

12.3 ACCEPTANCE OF NONCONFORMING WORK

12.3.1 If the Owner prefers to accept Work which is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

13.1 GOVERNING LAW

13.1.1 The Contract shall be governed by the laws of the place where the Project is located. The venue of any litigation under the Contract shall be in Snohomish County, Washington.

13.2 SUCCESSORS AND ASSIGNS

13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to the other party hereto and to partners, successors, assigns and legal representatives of such other party in respect to covenants, agreements and obligations contained in the Contract Documents. Except to the extent specifically provided elsewhere in the Contract Documents, neither party to the Contract shall assign the Contract in whole or in part without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

13.3 WRITTEN NOTICE

13.3.1 Written notice shall be deemed to have been duly served if delivered in person to the individual or a member of the firm or entity or to an officer of the corporation for which it was intended, actual receipt by facsimile or if delivered at or sent by registered or certified mail to the last business address of a party. The addresses and facsimile contact numbers for Owner, Architect and Contractor are listed in the Project Manual.

13.4 RIGHTS AND REMEDIES

13.4.1 An alleged cause of action arising out of this project shall be deemed to have accrued in any and all events no later than the date of substantial completion of construction of the project. The statute of limitations for filing suit after accrual shall be as provided by law applicable to public works projects in the Washington state.

13.4.2 Except as limited herein or specially provided for herein, the parties shall have such other duties, obligations, rights, and remedies otherwise imposed or made available by the law of the State of Washington.

13.4.3 The failure of any party to insist in any one or more instances upon the strict performance of any one or more of the provisions of this Contract, or to exercise any right herein contained or provided by law, shall not be construed as a waiver or relinquishment of the performance of such provisions or rights or of the right to subsequently demand such strict performance or exercise of such rights.

13.4.4 If any clause, sentence, or provision of the Contract Documents is held as a matter of law to be void or unenforceable, the remainder of the Contract Documents shall be enforceable without such clause, sentence, or provision.

13.5 TESTS AND INSPECTIONS

13.5.1 Tests, inspections and approvals of portions of the Work required by the Contract Documents or by laws, ordinances, rules, regulations, orders of public authorities having jurisdiction shall be made at an appropriate time. The Contractor shall make timely arrangements for such tests, inspections and approvals with an independent testing laboratory or entity provided by the Owner, or with the appropriate public authority and the Owner, and shall bear all related costs of tests, inspections and approvals except as noted otherwise in the Contract Documents. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so the Architect may observe such procedures. The Owner shall bear costs of tests, inspections or approvals which have become requirements after Amendment No. 1 is executed.

13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Subparagraph 13.5.1, the Architect will, upon consent of the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by any entity acceptable

to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so the Architect may observe such procedures. The Owner shall bear such costs except as provided in Subparagraph 13.5.3.

13.5.3 If such procedures for testing, inspection or approval under Subparagraphs 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, the Contractor shall bear all costs as part of the Percent Fee, made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses. If the Owner is responsible under the Contract Documents, law or regulation to pay only for an inspection of any inspector, consultant or Architect, the Owner shall be required to pay only for the first actual inspection. If the Contractor arranges for an inspection and the inspector is required to wait, to leave without inspecting, to perform a partial inspection, to return to complete or re-inspect, or otherwise to expend time other than for the primary inspection, the Contractor shall be responsible for all such costs. If the Contractor does not pay the charges for which it is responsible within 30 days of billing, the Owner may pay the charges directly and back-charge the Contractor on the next progress payment the amount paid plus a 10% handling fee.

13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

13.5.7 No acceptance of any Work shall be construed to result from any inspections, tests or failure to inspect or test by the Owner, the Owner's representatives, the Architect or any other person. No inspection, test, failure to inspect or test, or failure to discover any defect or nonconformity by the Owner, the Owner's representatives, the Architect or any other person shall relieve the Contractor of its responsibility for meeting the requirements of the Contract Documents or impair the Owner's right to reject defective or nonconforming items or right to avail itself of any other remedy to which the Owner may be entitled, notwithstanding the Owner's knowledge of the defect or nonconformity, its substantiality or the ease of its discovery.

13.6 INTEREST

13.6.1 Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate provided under RCW Chapter 39.76.

13.7 PARTNERING

13.7.1 Owner, Contractor, and Architect agree to utilize the "partnering" concept for this Project. Partnering emphasizes a cooperative approach to problem solving involving all key parties to the Project: Owner, Architect, Contractor and principal Subcontractors.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR

14.1.1 The Contractor shall have the right to terminate the Contract only under the circumstances and with the rights and remedies provided in RCW 60.28.080.

14.2 TERMINATION BY THE OWNER FOR CAUSE

14.2.1 The Owner may, upon seven (7) days' written notice to the Contractor, terminate (without prejudice to any right or remedy of the Owner) the whole or any portion of the Contract or Work for cause, including, but not limited to, the following circumstances:

1. The Contractor fails to prosecute the Work or any portion thereof with sufficient diligence to ensure the Substantial Completion of the Work within the Contract Time;
2. The Contractor is adjudged bankrupt, makes a general assignment for the benefit of its creditors, or if a receiver is appointed on account of its insolvency;
3. The Contractor fails to supply a sufficient number of properly skilled workers or proper materials;
4. The Contractor fails to make prompt payment due to Subcontractors or for materials or labor;
5. The Contractor disregards or violates laws, ordinances, rules, regulations or orders of any public authority having jurisdiction; or
6. The Contractor breaches any material provision of the Contract Documents.

14.2.2 When any of the above reasons exist, or when any other legally sufficient cause exists, the Owner, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

1. Take possession of the site and of all materials, equipment, tools and construction equipment and machinery thereon owned by the Contractor;
2. Accept assignment of subcontracts pursuant to Paragraph 5.4; and
3. Finish the Work by whatever reasonable method the Owner may deem expedient.

14.2.3 When the Owner terminates the Contract for cause pursuant to Subparagraph 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services, attorneys' fees, and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall promptly pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall survive termination of the Contract.

14.2.5 If, after Contractor has been terminated pursuant to this paragraph, it is determined that legally sufficient cause does not exist, then such termination shall be considered a termination for convenience pursuant to Paragraph 14.3.

14.2.6 If the Owner terminates in whole or in any part of the Work pursuant to Paragraph 14.2, the Owner may procure, upon such terms and in such manner as it deems appropriate, supplies or services similar to those so terminated, and the Contractor shall be liable to the Owner for any excess costs for such similar supplies or services. The Contractor shall continue the performance of the Contract to the extent not terminated hereunder.

14.3 TERMINATION OR SUSPENSION BY THE OWNER FOR CONVENIENCE

14.3.1 The Owner may, at any time upon ten (10) days' written notice to the Contractor and Contractor's surety, terminate (without prejudice to any right or remedy of the Owner) or suspend the whole or any portion of the Work for the convenience of the Owner.

14.3.2 If the Owner terminates the Work or any portion thereof for convenience, the Owner shall be liable to Contractor only for those costs reimbursable to Contractor in accordance with Subparagraph 14.3.3, in accordance with the following: Fee plus two percent of the actual costs recovered under 14.3.3.

14.3.3 If the Owner terminates the Work or any portion thereof for convenience, the Owner shall pay the Contractor as follows:

1. An amount consistent with the terms of the Contract Documents for supplies, services, or property accepted by the Owner pursuant to Subparagraph 14.4.1.6 (or sold or acquired pursuant to Subparagraph 14.4.1.7) for which the Owner has not paid;

2. the amount due under Article 9 of this Agreement for the performance of the Work already performed, exclusive of any costs attributable to supplies or services otherwise paid or to be paid for under this Subparagraph; and
3. the cost of settling and paying claims arising out of the termination of Work under subcontracts or orders, pursuant to Subparagraph 14.4.1.5, which are properly chargeable to the terminated portion of the Work (exclusive of amounts paid or payable on account of completed items of equipment delivered or services furnished by subcontractors or vendors prior to the effective date of the Notice of Termination and exclusive of unearned profit).

14.3.4 If the Owner suspends all or any portion of the Work in accordance with Subparagraph 2.5.1 for the Owner's convenience, the Contract Sum and/or Time shall be equitably adjusted only to the extent the Contractor can demonstrate actual impact as a result of such suspension.

14.3.5 The total sum to be paid to the Contractor under this paragraph 14.3 shall not exceed the Contract Sum as reduced by the amount of payments otherwise made and the price of Work not terminated, and as otherwise permitted by the Contract Documents. The amounts payable to the Contractor shall exclude the fair value of property which is destroyed, lost, stolen, or damaged so as to become undeliverable to the Owner or to a buyer pursuant to Subparagraph 14.4.1.7.

14.4 CONTRACTOR'S DUTIES ON TERMINATION

14.4.1 Unless the Owner directs otherwise, after receipt of a Notice of Termination from the Owner pursuant to paragraphs 14.2 or 14.3, the Contractor shall promptly:

1. Stop Work under the Contract on the date and as specified in the Notice of Termination;
2. place no further orders or subcontracts for materials, equipment, services or facilities, except as may be necessary for completion of such portion of the Work as is not terminated;
3. procure cancellation of all orders and subcontracts, upon terms acceptable to the Owner, to the extent that they relate to the performance of Work terminated;
4. assign to the Owner all of the right, title and interest of the Contractor under all orders and subcontracts, subject to paragraph 5.4.1.1, above, in which case the Owner shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;

5. settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts;
6. transfer title and deliver to the entity or entities designated by the Owner the fabricated or unfabricated parts, Work in process, partially completed supplies and equipment, materials, parts, tools, dies, jigs and other fixtures, completed Work, supplies and other material produced as part of, or acquired in connection with the performance of, the Work terminated, and the completed or partially completed plans, drawings, information and other property related to the Work;
7. use its best efforts to sell any property of the types referred to in Subparagraph 14.4.1.6. The Contractor shall not be required to extend credit to any buyer, and may acquire any such property under the conditions prescribed by and at a price or prices approved by the Owner, and the proceeds of any such transfer or disposition may be applied in reduction of any payments to be made by the Owner to the Contractor;
8. take such action as may be necessary or as directed by the Owner to preserve and protect the Work and property related to this Project in the possession of the Contractor in which the Owner has an interest; and
9. continue performance only to the extent not terminated.

14.4.2 The Contractor shall, from the effective Date of Termination until the expiration of three years after final settlement under the Contract, preserve and make available to the Owner, at all reasonable times at the office of the Contractor, and without charge to the Owner, all books, records, documents, photographs and other evidence bearing on the costs and expenses of the Contractor under this Contract and relating to the terminated or completed Work.

14.4.3 In arriving at any amount due the Contractor after termination, the following shall apply:

1. The Contractor shall refund to the Owner any amounts paid by the Owner to the Contractor in excess of costs reimbursable under paragraph 14.3.
2. The damages and relief from termination by the Owner specifically provided in Article 14 shall be the Contractor's sole entitlement in the event of termination.

Dated: July 25, 2018

SECTION 01 2200 - UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Administrative and procedural requirements
 - 2. Unit Price Adjustments to Contract Sum
 - 3. Unit Price Schedule

1.2 ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS

- A. Unit Prices establish a means for adjusting Contract Sum through a Change Order in conformance based upon Unit Costs per Unit of Measure for each Unit Price Item to Conditions of the Contract.
- B. Unit price is an amount proposed by bidders, stated on the Bid Form, as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or quantities of Work required by the Contract Documents are increased or decreased. The unit prices shall be in effect for all additional material required to be added or deducted up to the estimates given quantity.
- C. State dollar amounts to establish Unit Prices for each Unit Price Item in spaces provided on the Bid Form. Do not include applicable State and Local Sales Taxes but include all other taxes.
- D. State dollar amount to cover complete work for each Unit Price Item. Include all labor, material, equipment, overhead and profit, coordination/supervision to complete all the Work, and all other applicable costs.
- E. Take measurements and compute quantities for Unit Price Items as Work proceeds. Maintain log for Owner review. When requested by Owner, provide equipment, and personnel necessary to assist in field verification of measurements and quantities.
- F. Adjust Contract Sum by Change Order for Unit Prices in accordance to provision of Contract Documents.

1.3 UNIT PRICE ADJUSTMENTS TO CONTRACT SUM

- A. Unit prices will be used only in the determination of payment due the Contractor in the event of a modification to the Contract amount brought about by the necessity of adding or deleting Work which is in addition or subtraction to that shown in the Contract Documents.
- B. Make written request to Owner to adjust Contract Sum through Contract modification procedures required by General Conditions of the Contract for Unit Price work.

- C. Where actual Unit Price work is determined to have increased in excess of 100 percent from Estimated Quantity for Unit Price work, Owner or Contractor may make written request to adjust Contract Sum.
- D. Submit complete quantity breakdown made on basis of actual measurement and quantity, accepted by Owner and Architect, multiplied by Unit Price in Unit of Measure stated by Bidder on Form of Proposal.
- E. Owner reserves right to reject Contractor's measurement or quantity take-off for in- place work and to verify quantity or measure by independent surveyor or inspector, acceptable to Contractor.
- F. Adjustment to Contract Sum will be determined by Unit Price work incorporated into or deleted from estimated quantity of work, as established and verified by Owner.

1.4 PROCEDURES

- A. Contractor shall include in the base bid the cost of achieving the final grades shown on the Contract Documents. All excavations, export, import, filling, and compaction required to achieve the final grades and completed structures shall be included in the base bid.
 - 1. Over-Excavation: A unit price shall be applied to unsuitable soils (as determined by the Geotechnical Engineer) encountered below the subgrade elevation. The contractor shall be responsible for measuring the quantity of unsuitable material that is removed (in place) bank yards by field measurement and such quantity to be verified in writing by the Geotechnical Engineer prior to backfilling with imported structural fill or approved on-site structural fill.
 - 2. Sub Grade: For the purposes of the Contractor Bid, the following shall define the sub-grade elevations, unless otherwise noted:
 - a. Footings: The elevation of the bottom of the footing.
 - b. Buildings: The elevation at the bottom of the capillary break.
 - c. Paving: The elevation at the bottom of the paving section.
 - d. Utility Trenches: The elevation of the bottom of the pipe bedding.
 - e. Landscape Areas: The elevation below the stripping depth or soil plantings.
 - 3. Contractor shall include in the Base Bid an amount sufficient to cover the maximum quantities listed under each unit price as stated in the Unit Price Schedule. Payment to the contractor for authorized over-excavation, fill or backfill shall be based on Unit Prices. Any unused portion of the "Quantity" identified in the Unit Price Schedule will be credited back to the Owner at the Unit Price rate.
 - 4. Unit prices include, but are not limited to, all necessary material, plus cost for delivery, installation, special equipment, temporary facilities, insurance, overhead, profit, and applicable taxes except sales tax. The unit price shall include all applicable costs.
 - 5. Unsuitable Material will be determined by the Geotechnical Engineer in the field. Unsuitable material shall be that material below the sub-grade elevation that does not meet bearing capacity requirements as defined by the Geotechnical Engineer.

6. Soil integrity will be influenced by the weather conditions and the Contractor's handling and protection of the material as it is removed and placed. It is the sole responsibility of the Contractor to protect soils from the elements. Material that is deemed unsuitable due to lack of protection will not be applied to the unit price. The Contractor will be responsible for removing such material and replacing with acceptable material at no additional cost to the Owner.
7. Measurement is to be of units' in-place as noted in this Section.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

- A. See Division 00 for description of project Unit Prices.

END OF SECTION 01 2200

SECTION 01 2300 - ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Alternates, describing basic changes to be incorporated into the Work of Contract Documents, subject to acceptance of Alternate by Owner.

1.2 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.3 SUBMISSION REQUIREMENTS

- A. Submit Alternate Bids described by Schedule of Alternates. Include associated costs in Alternate Bid as necessary to complete work of each Alternate and related work affected by acceptance of Alternate.
- B. Submit where indicated in Bid Proposal Form. Failure to include each Alternate Bid is ground for rejecting Bidder's responsiveness.
- C. Coordinate related work and modify surrounding work to integrate the Work of each Alternate.
- D. Additional Alternates, published by Addenda prior to Bid Opening, are subject to provisions of this Section as if included in this Section.

1.4 SELECTION AND AWARD OF ALTERNATES

- A. Alternates quoted on Bid Form will be reviewed and accepted or rejected at the Owner's option. Accepted Alternates will be identified in Document 00500 - Standard Form of Agreement Between Owner and Contractor.
- B. The selection and acceptance of Alternate Bids by the Owner will be used in determining the low Bid.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. See Division 00 for description of project Alternates.

END OF SECTION 01 2300

SECTION 01 2500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for consideration of requests for substitutions during the Bidding, Procurement and Construction Stage.
- B. Attachments: Substitution Request Form.
- C. Related Requirements:
 - 1. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.2 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
- B. Performance, Reference Standard, and Descriptive Specifications:
 - 1. Manufacturer is not specified, and requirements are specified purely by descriptive requirements, design requirements, performance requirements, reference standards, or codes.
 - 2. Products and options meeting or exceeding specified provisions are accepted.
- C. Open Proprietary Specifications:
 - 1. Products by one or more manufacturers are specified and specification makes provision for substitution requests.
 - 2. Conform to provisions for making substitution request as specified by this Section.
- D. Closed Proprietary Specifications:
 - 1. Products by one or more manufacturers are specified and specification Section does include provision for substitution requests.
 - 2. Provide work as specified. No substitution will be accepted.

1.3 SUBSTITUTION REQUESTS DURING BIDDING PHASE

- A. Substitution Requests are required to be submitted through a prime bidder interested in bidding substitution request. Substitutions submitted by subcontractors, manufacturers, suppliers, and others will not be reviewed.
- B. Submit Substitution Request to reach Architect's office before 5:00 PM at least 10 calendar days prior to date for receiving Bids.

- C. Bidders will be notified of accepted substitutions by Addendum. No other form of acceptance is valid, including as stated verbally, written, emailed, faxed, or implied in other manner.

1.4 SUBSTITUTION REQUESTS DURING CONSTRUCTION PHASE

- A. Submit Substitution Requests directly by or through Contractor to Architect.
- B. Substitution Requests following Bid Date will not be considered, except at discretion of Owner and subject to reimbursement at Architect's standard hourly fee for review. Review fee will apply whether or not substitution request is accepted.
- C. Exception: Substitution Requests may be reviewed in the event of special circumstances beyond Contractor's control. Attach reason for substitution request on Substitution Request Form.
- D. Reasons for consideration of substitutions include:
 - 1. Unavailability: Specified item has been discontinued, there are no available qualified installers, or lead-time conflicts with Progress Construction Schedule.
 - 2. Unsuitability: Subsequent information discloses specified item as unsuitable, inappropriate, unable to perform properly, or to fit designated space.
 - 3. Regulatory Requirements: Specified item fails to conform to building code interpretations or insurance regulations.
 - 4. Warranty: Manufacturer or fabricator has declared that specified item is unsuitable for intended use or refuses to certify or warrant performance of specified item for condition of use.
 - 5. Owner Prerogative: As requested by Owner for reduction of Contract Cost or Contract Time.
- E. During Construction Period, Contractor will be notified by Architect in writing of decision to accept or reject Substitution Request.

1.5 SUBMITTAL FORMAT AND OTHER REQUIREMENTS

- A. Submit Substitution Request on completed Substitution Request Form attached to this Section or exact facsimile.
- B. Submit only one Substitution Request on each Substitution Request Form. Multiple Substitution Requests on a single form will not be accepted.
- C. Submit drawings, product data, samples, and certified test results as needed to fully describe Substitution Request for evaluation by Architect. Costs incurred by contractor for production of additional documents, obtaining test results, or shipping of samples shall be borne by the Contractor and will not be reimbursed.
- D. Where product data includes products other than that proposed by Substitution Request, clearly mark, or otherwise indicate, exact substitution.
- E. Substantiate that proposed substitution conforms to specified requirements, including design, performance, quality assurance, regulatory, and installation requirements.

- F. Substitutions indicated or implied on submittals, such as shop drawings, are not accepted.
- G. Substitutions installed into the Work and not accepted by Architect, constitute non-conforming work and may be considered defective by Owner.
- H. Burden of proof is upon submitter of Substitution Request to include sufficient data to indicate conformance to or equivalency to specified requirements.
- I. Submittal of Substitution Request constitutes representation that bidder/Contractor has investigated proposed substitution, determined that it meets or exceeds specified requirements, and agrees to:
 - 1. Provide same or better Warranty for substitution as for that specified.
 - 2. Coordinate accepted substitution with related work and make changes as needed for completion of Work of this Contract.
 - 3. Waive claims for additional cost or time extension due to acceptance of Substitution Request.
 - 4. Reimburse Owner for additional review time and redesign services, resulting from acceptance of Substitution Request.
- J. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a request for substitution. Architect will notify Contractor through the GCCM of acceptance or rejection of proposed substitution within two weeks of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
 - 1. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
 - 2. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.6 UNACCEPTABLE SUBSTITUTIONS

- A. Substitutions not accepted in writing by Architect.
- B. Substitutions that are not submitted on Substitution Request Form or facsimile following this Section.
- C. Substitution Requests that do not provide complete, adequate, or clearly defined information for a thorough and timely evaluation.
- D. Substitutions that, if accepted, will require substantial revisions to Contract Documents.
- E. Substitutions that are shown or implied by shop drawings and other submittals.
- F. Substitutions that are not accepted by published Addenda during Bidding Period and not accepted in writing by Architect during Construction Period.
- G. Substitutions installed into the Work and not accepted by Architect constitute non-conforming work and may be considered defective by Owner.

1.7 **QUALITY ASSURANCE**

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 2500

ATTACHMENTS

- ☐ Substitution Request Form

SUBSTITUTION REQUEST FORM

SUBMIT TO Marissa Rutler
 Hutteball + Oremus Architecture, Inc.
 4010 Lake Washington Blvd. NE; Suite 320
 Kirkland, WA 98033

SPECIFIED ITEM

<i>Section No.</i>	<i>Paragraph No.</i>	<i>Description of Specified Item</i>
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PROPOSED SUBSTITUTION

Undersigned requests consideration for following substitution to that specified:

ATTACHMENTS

Include product data, specifications, drawings, photographs, performance characteristics, test data, and other information as necessary for evaluation.

1. State limitations and in what manner proposed substitution differs from that specified.
2. Identify proposed substitution in data and drawings included with substitution request.
3. Include description of changes to Work of this Contract required by proposed substitution.
4. State reason for substitution request, effect on cost, and cost savings, if any.

CERTIFICATION

Undersigned, as an authorized representative, certifies that following paragraphs are correct, except as modified by attachment:

1. Proposed substitution is equivalent or superior in function, appearance, and quality to that specified.
2. Proposed substitution conforms to specified provisions of Contract Documents.
3. Proposed substitution accommodates dimensions and clearances shown on Drawings, will not adversely affect work of other Sections, and will accommodate Progress Schedule.
4. Technical representation, maintenance materials, and servicing are locally available for proposed substitution.
5. Undersigned agrees to pay cost associated with acceptance of proposed substitution necessitating changes to design, details, and construction, including associated architectural, engineering, and consultant fees.

SUBMITTED BY

Signature_____

Firm_____

Address_____

Date_____

Tel () _____ Fax() _____

Email_____

FOR USE BY ARCHITECT

☐ Accepted ☐ Accepted as Noted

☐ Not Accepted ☐ Received too Late

By_____

Date_____

Remarks _____

END OF SUBSTITUTION REQUEST FORM

SECTION 01 2600 - CONTRACT MODIFICATION PROCEDURES PART

1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
 - 1. Minor Changes in the Work
 - 2. Change Order Proposal Requests
 - 3. Construction Change Directives
 - 4. Change Order Procedures.
- B. Related Requirements: The following sections contain requirements that relate to this section.
 - 1. Section 012200 - Unit Prices for administrative requirements governing use of unit prices.
 - 2. Section 012500 - Substitution Procedures for administrative procedures for handling requests for substitutions made after award of the Contract.
 - 3. Section 012900 - Payment Procedures for administrative procedures governing Applications for Payment.
 - 4. Section 013300 - Submittal Procedures for requirements for the Contractor's Construction Schedule.

1.2 SUBMITTALS

- A. Submit name of individual authorized to receive Change Documents, and to be responsible for informing others in Contractor's employ and to applicable subcontractors of changes to the Work.
- B. Signatures: All approved electronic process that indicate acceptance of an agreement ["e-signatures"], signatures using a certificate-based digital ID to authenticate a signer's identity ["digital signatures"], and original handwritten signature in blue ink performed by officer or agent of Contractor authorized to commit Contractor to additional work and financial expenditure are accepted. Photocopy and other facsimile of signature are not accepted.

1.3 MINOR CHANGES IN THE WORK

- A. Architect/Engineer will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on Architect/engineer's supplemental instructions form or by way of the Contractor's RFI or DCVR form requesting such information.

1.4 CHANGE ORDER PROPOSAL REQUESTS

- A. Owner or Architect-Initiated Proposal Requests: The Architect/ Engineer will issue a detailed description of proposed changes in the Work that will require adjustment to the Contract Sum or Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
1. Proposal requests issued by the Architect/ Engineer are for information only. Do not consider them as an instruction either to stop work in progress or to execute the proposed change.
 2. Within 10 days of receipt of a proposal request, submit an estimate of cost necessary to execute the change to the Architect/ Engineer for the Owner's review, based upon Article 7 of the General Conditions.
 - a. Include a list of quantities of products and all labor, including supervision, required and unit costs, with the total amount of purchases to be made and manpower required. Furnish survey or estimate assumptions data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include a statement indicating the effect the proposed change in the Work will have on the Contract Time, if any. Thoroughly, and in the greatest possible detail, document justification for any anticipated Contract Time changes.
 - d. Proposal Requests shall state the time period during which the price and other terms of the proposal are guaranteed. This period shall be sixty (60) days from the date of submission to the Architect/ Engineer if a compelling reason for a shorter guarantee period is not provided in writing
- B. Contractor-Initiated Proposals: When latent or unforeseen conditions require modifications to the Contract, the Contractor may propose changes by submitting a request for a change to the Architect/ Engineer within 10 days of noticing such conditions, based upon Article 7 of the General Conditions.
1. Include a statement outlining the reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum.
 2. Include a list of quantities of products and all labor, including supervision, required and unit costs, with the total amount of purchases to be made and manpower required. Furnish survey data or estimate assumptions to substantiate quantities.
 3. Indicate applicable taxes, bonds, insurance, delivery charges, equipment rental, and amounts of trade discounts.
 4. Comply with requirements in Section "Product Substitutions" if the proposed change requires substitution of one product or system for a product or system specified.
 5. Include a statement indicating the effect the proposed change in the Work will have on the Contract Time, if any. Thoroughly, and in the greatest possible detail, document justification for any anticipated Contract Time changes.
 6. Proposal Requests shall state the time period during which the price and other terms of the proposal are guaranteed. This period shall be sixty (60) days from the date of submission to the Architect/ Engineer if a compelling reason for a shorter guarantee period is not provided in writing

1.5 CONSTRUCTION CHANGE DIRECTIVES

- A. Construction Change Directive (CCD): When the Owner and the Contractor disagree on the terms of a Proposal Request or when time is of concern to the Architect/ Engineer, Owner or Contractor, the Architect/ Engineer may issue, on behalf of the Owner, a Construction Change Directive. The Construction Change Directive instructs the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. The Owner's signature and dating of the form is authorization and a directive to proceed expeditiously with the Work described thereon.
 - 1. The Construction Change Directive contains a complete description of the change in the Work. It also designates the method to be followed to determine change in the Contract Sum or Contract Time.
 - 2. The Contractor shall sign and date to indicate agreement with the terms. If the Contractor does not sign the Construction Change Directive for any reason, the work shall nevertheless proceed expeditiously and the Contractor shall submit in writing within 5 days why he disagrees with the terms of the Construction Change Directive and what he proposes as acceptable terms.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive. Separate all CCD related work from existing Contract Work on a CCD by CCD basis for time, materials and equipment by each trade and/or supplier. Provide receipts including date and time of equipment rentals.
 - 1. After completion of the change, submit an itemized account and supporting data necessary to substantiate any requested cost and time adjustments to the Contract, based upon Article 7 of the General Conditions. Provide account and data within 14 days of completion of the work under each CCD.
- C. Construction Change Directive Form: Architects form for Construction Change Directives.

1.6 CHANGE ORDER PROCEDURES

- A. The Architect/ Engineer and the Owner review Proposal Requests and Construction Change Directives related issues and responds in one of the following ways:
 - 1. Approves the changes to Contract Sum and Work and/or Contract Time, if any.
 - a. Approval of Proposal Requests containing Contract Time extensions will not occur if any conditions which include, but are not limited to the following, exist at the time of the review:
 - 1) The network analysis system (CPM Schedule) is overdue, out of date or unapproved.
 - 2) The Contractor is not in compliance with the CPM Schedule.
 - 2. Requests additional information or substantiating data.
 - 3. Rejects as improper documentation or format requiring reorganization or resubmission prior to further Owner review.
 - 4. Rejects entirely as the Work is within the scope of the existing Contract.
- B. Upon the Architect/ Engineer's and Owner's approval of a Proposal Request or the cost/ time documentation associated with a Construction Change Directive, the

Architect/ Engineer will issue a Change Order for signatures of the Owner and the Contractor.

1. The Owner reserves the right, for administrative efficiency, to wait until a sufficient amount of Proposal Request and/ or Construction Change Directive work has accumulated to warrant issuance of a Change Order.
 2. Every Proposal Request and/ or Construction Change Directive need not have a Change Order issued individually.
- C. Upon approval to proceed with changes to the Work, the Contractor shall undertake the work. Including the cost of the work in an Application for Payment will not be accepted until a Change Order has been issued and signed by all parties.
- D. Change Orders based on Unit Prices
1. When the content of a change order is based on unit pricing, the basis of the change shall be established upon one of the following:
 - a. Number of units designated in the Owner's proposal request and as agreed to by the Owner and Contractor.
 - b. Number of units designated in the Contractor's proposal request and as agreed to by the Owner and Contractor.
 - c. Survey of the completed work.
 2. The cost per unit is as:
 - a. Stated on the Contractor's bid form or
 - b. A price agreed upon by the Owner and Contractor for items not on the bid form.
 3. When number of units and cost of units can be agreed upon before the work is executed, a Change Order can be issued, signed and the work becomes part of the Contract and can be authorized for payment upon its completion or partial payment upon substantive progress.
 4. When number of units or cost of units cannot be determined or agreed upon prior to start of the work, procedures shall be as follows:
 - a. A signed directive will be issued by the Architect/ Engineer with the Owner's signature and be in the form of a CCD.
 - b. The CCD will note applicable unit prices, estimated number of units anticipated, extended cost for total units and a maximum amount approved for the work.
 - c. The Contractor shall not exceed the maximum amount approved in the CCD without written authorization in the form of a new CCD or amended CCD. A new maximum amount shall be established.
 - d. At completion of work governed by unit prices, Contractor is to account for number of units expended and base a total cost of the work on the agreed upon unit price.
 - 1) Contractor shall document units expended.
 - 2) If the Owner and Architect/Engineer agree with documentation the amount may be included in the next Change Order.
 - 3) If the amount is not agreed to, a survey of the work in place may be conducted by the Owner. The amount documented by the survey will be extended by the unit price and may be included in the next Change Order if agreed to by the Contractor.
 - 4) If the Contractor disagrees with the survey, it may agree to include the extended amount into a Change Order, while holding the difference between the survey amount and the Contractor's claimed

amount in dispute or it may hold the whole amount in dispute for further negotiation and documentation

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 2600

REQUEST FOR INFORMATION

To Architect:

Owner's
Representative:

From Contractor:

Document Reference:

Signature: _____

(Drawing Sheet, Detail No. / Spec. Section)

- Architectural
- Civil
- Structural
- Mechanical
- Electrical
- Other

Request

Request / Recommended Solution:

- Attachments

Date Required For Response: _____ Initiated By: _____
(Name) (Firm)

Response

Architect's Response:

- Attachments

Response By: _____ Firm: _____ Date: _____

NOTE: This is not an authorization to proceed with work involving additional cost and/or time. Notification must be given in accordance with the Contract Documents if any response causes any change to the Contract Sum and/or Contract Time.

Copies: • Owner's Representative • Consultant _____ • Other _____ • File

END OF SECTION 01 2602

SECTION 01 2900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare, process and submit Applications for Payment.
- B. Coordinate the Schedule of Values and Applications for Payment with the Contractor's Construction Schedule, Submittal Schedule, and List of Subcontracts.
- C. Related Requirements:
 - 1. Division 00 - Conditions of the Contract for additional requirements relating to provisions of this Section
 - 2. Section 012973 - Schedule of Values
 - 3. Section 013200 - Construction Progress Documentation
 - 4. Section 013300 - Submittal Procedures
 - 5. Section 017419 - Construction Waste Management and Disposal
 - 6. Section 017700 - Contract Closeout
 - 7. Section 017839 - Project Record Documents

1.2 REFERENCES

- A. Intent to Pay Prevailing Wages Form: Washington State Prevailing Wage Rates for Public Works Contracts. Conform to Department of Labor and Industries (L&I) for current prevailing wage rates to be paid for Work of this Contract. (<https://lni.wa.gov/licensing-permits/public-works-projects/prevailing-wage-rates/>)

1.3 APPLICATION FOR PAYMENT SUBMITTAL PROCEDURES

- A. Draft Application for Payment: Submit prior to each Application for Payment.
 - 1. Meet with Owner on site by the 24th of each month to review a draft of the Application for Payment, or as agreed between the Owner and Contractor.
 - 2. Submit to Architect for acceptance by the 25th of each month or as agreed between Owner and Contractor.
 - 3. Project costs to the end of each month.
 - 4. Revise as directed or accepted by Architect prior to submittal of Application for Payment.
- B. Application for Payment: Submit on date each monthly as agreed between Owner and Contractor, approximately corresponding to meeting of Owner Board of Directors.
 - 1. Submit Application for Payment submittal to Architect.
 - 2. Submit with transmittal letter as specified for Submittals in Section 013300.
- C. Architect will review, sign, and transmit complete and correct Application for Payments to Owner for processing.

- D. Architect will return annotated copy of corrected Application for Payments to Contractor as accepted by Owner.

1.4 FORMAT

- A. Forms: AIA G702 Application and Certificate for Payment and AIA G703 Continuation Sheet, or electronic media versions, as accepted by Owner.
- B. Provide column listing each of following on Application for Payment form and continuation sheet
 1. Item Number.
 2. Description of work.
 3. Scheduled Values.
 4. Previous Applications.
 5. Work under this Application.
 6. Authorized Change Orders.
 7. Total Completed to Date of Application.
 8. Percentage of Completion.
 9. Balance to Finish.
 10. Retainage.

1.5 PREPARATION OF APPLICATIONS

- A. Certify each Application for Payment and following documents with signature by Contractor's representative authorized to represent Contractor in legal and financial matters.
- B. Complete and Submit Certificate of Payment for Labor and Materials.
- C. Fill in amounts from submitted and accepted Schedule of Values. Provide dollar value in each column for each line item for portion of work performed.
- D. List each authorized Change Order as an extension on AIA G703 continuation sheet, listing Change Order number and dollar amount as for an original item of Work. Do not bill for Change Order Proposals until incorporated into Owner accepted Change Order.
- E. Statement of Payment to Sub-Contractors: Except initial Application for Payment, submit on Contractor's letterhead statement reading as follows:

This letter certifies that sub-contractors and suppliers have been paid in full sums due to them as stated in the last Application for Payment, except applicable retainages. Receipts listing actual amount paid, signed by an officer of the business entity paid, are attached for principal sub-contractors and suppliers. Payment receipts also represent that they have been paid in full wages, taxes, and fringe benefits due for sub-contract work to the extent of work stated in the last Application for Payment.

- F. Payment Requests for Products Stored on Site: Include materials suitably stored on site conforming to manufacturer's instructions and specified requirements and completed preparatory work.
- G. Payment Requests for Products Stored Off-Site: Request for payment is at discretion of Owner. Conform to Conditions of the Contract and following documentation.
 - 1. Invoice from supplier.
 - 2. Bonding or insurance company coverage accepting total responsibility for full value of stored materials including time impact on Project.

1.6 SUBSTANTIATING DATA

- A. When Architect or Owner requires substantiating information, submit data justifying dollar amounts in question.
- B. Provide data with a cover letter. Indicate Application for Payment number and date. Annotate each line item by number and description.

1.7 PROGRESS PAYMENT RETAINAGE

- A. Retainage Amount for Each Progress Payment: As stipulated by the Agreement Between Owner and Contractor.
- B. Release of Retainage: Due and payable, as agreed between Owner and Contractor, in conformance to Conditions to the Contract.

1.8 INITIAL APPLICATION FOR PAYMENT

- A. Complete and submit documents prior to or coinciding with first Application for Payment in conformance to Conditions of the Contract.
- B. Processing of Application for Payment will not begin until following are on file with Owner.
 - 1. List of subcontractors.
 - 2. List of principal suppliers and fabricators.
 - 3. Accepted Schedule of Values.
 - 4. Accepted Contractor's Construction Schedule.
 - 5. Schedule of principal products and submittals.
 - 6. Schedule of unit prices.
 - 7. List of Contractor's staff assignments.
 - 8. List of Contractor's principal consultants.
 - 9. Copies of building permits, authorizations, and licenses from Authorities Having Jurisdiction that are required to be obtained by Contractor for performance of the Work.
 - 10. Initial progress and preconstruction meeting report.
 - 11. Certificates of insurance and insurance policies not previously required or filed.

12. Washington State Accepted Intent to Pay Prevailing Wages Form: Submit for each classification of laborers, workers, and mechanics employed by Contractor and subcontractors that will be included in Application for Payment.
13. Schedule of Values: As specified Section 012973.
14. Progress Schedule: As specified Section 013200.
15. Written Instruction to Owner for Disposition of Retainage Funds: Options include:
 - a. Retained in fund by Owner.
 - b. Bonded in full or in part in form acceptable to Owner.
 - c. Placed in escrow with bank or trust company by Owner.
 - d. Escrow Agent: Bank or trust company in State of Washington, selected by Contractor and accepted by Owner.

1.9 APPLICATION FOR PAYMENT AT SUBSTANTIAL COMPLETION

- A. Following Certificate of Substantial Completion, complete and submit documents required by the Conditions of the Contract and Section 017700 - Closeout Procedures.
- B. Submit following prior to processing Application for Payment.
 1. Testing/adjusting/balancing records.
 2. Testing reports for data technology system.
 3. Signed and itemized receipt that maintenance and other personnel instruction and classes have been presented.
 - a. Include signed receipt for each instructional session from Owner's Representative.
 - b. List date, length of time, and names of Owner's personnel in attendance and location.
 4. Startup performance reports.
 5. Removal of temporary facilities and services no longer required by the Work.
 6. Application for reduction of retainage and consent of surety, if requested by Architect.
- C. Where a Certificate of Partial Substantial Completion has been issued, make adjustments in Application for Payment for Owner occupancy of designated portions of the Work,

1.10 FINAL APPLICATION FOR PAYMENT

- A. Following Certificate of Final Completion, complete and submit accepted documents as required by the Conditions of the Contract and Section 017700 - Closeout Procedures.
- B. Complete and submit following prior to processing of Final Application for Payment.
 1. Completion of Project closeout requirements as noted in Division 1 section, "Project Closeout".
 2. Ensure that unsettled claims have been settled.
 3. Signed receipt of transmittal of required Project construction records to the Owner.
 4. Property survey if required by Contract Documents.
 5. Removal of temporary facilities and services, if not previously accomplished.
 6. Removal of surplus materials, rubbish, and similar elements.

7. Project Permit Drawings and related documents including copies of the signed off permit sheets.
8. All final submittals shall be submitted at the same time. Partial submittals will not be processed.
9. Punch List Items: Complete and accepted.
10. Final Change Orders: Accepted and signed.
11. Affidavit of Wages Paid for Subcontractors: Submitted.
12. Updated List of Sub-tier Subcontractors and Suppliers: Submitted.
13. Final Lien Waiver: Fully executed and submitted.
14. Required Permits: Signed off.
15. Project Record Documents: Submitted as specified Section 017839.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 2900

SECTION 01 2973 - SCHEDULE OF VALUES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Administrative and procedural requirements for processing and submitting Schedule of Values.
- B. Related Requirements:
 - 1. Division 00 - Conditions of the Contract for additional requirements relating to provisions of this Section
 - 2. Section 013216 - Construction Progress Documentation
 - 3. Section 013300 - Submittal Procedures
 - 4. Section 017419 - Construction Waste Management and disposal
 - 5. Section 017700 - Closeout Procedures
 - 6. Section 017839 - Project Record Documents

1.2 REFERENCES

- A. Washington State, Superintendent of Public Instruction, Form D-9 - Actual Construction Costs. <http://www.k12.wa.us/SchFacilities/FormsApplications/D-Forms.aspx>.

1.3 SCHEDULE OF VALUES SUBMITTAL PROCEDURES

- A. Submit a Schedule of Values for review by Architect and Owner within 14 days after Notice to Proceed and no less than 30 days prior to submittal of first Application for Payment.
- B. Submit updated Schedule of Values with each subsequent Application for Payment.
- C. Submit revised Schedule of Values reflecting Owner accepted Change Orders and other Modifications to Contract that affect Contract Sum or Contract Time.
- D. Owner reserves right to reject Schedule of Values submittals that appear front loaded or do not reasonably approximate anticipated cost of identified line items.

1.4 FORMAT

- A. Forms: AIA Form G703 - Application and Certificate for Payment Continuation Sheet, electronic media facsimile, or forms as accepted by Owner.
- B. Format Size: 8-1/2 inch by 11 inch.

1.5 GENERAL REQUIREMENTS

- A. Maintain Schedule of Values as basis for supporting Application for Payment amounts requested for each progress payment.
- B. Correlate corresponding items listed by Schedule of Values line items with other required administrative schedules and forms, including:
 - 1. Contractor's Construction Progress Schedule.
 - 2. Application for Payment forms, including Continuation Sheets. Correlate Schedule of Values line items to that listed by Application for Payment:
 - a. Correspond to indirect costs and margins on actual cost.
 - b. Make amounts for total cost and overhead and profit complete and proportionate.
 - c. Include overhead and profit as a single line item.
 - 3. List of subcontractors.
 - 4. List of principal suppliers and fabricators.
 - 5. Schedule of submittals and list of products.
- C. Use as basis for determining dollar value amount for each work activity and component of work for duration of Project.
- D. Make Schedule of Values total sum equal to current Contract Sum.
- E. Round-off figures to nearest dollar amount.
- F. Identify Schedule of Value line items by corresponding Section Titles in Project Manual Table of Contents.
- G. Break down major portion of work by areas, disciplines, phase, systems, or as appropriate for ease of review.
- H. For work that exceeds 1.0 percent of Contract Sum, break out separate line items according to major work activities, components, products, or operations.

1.6 CONTENT

- A. Identification: Include the following Project identification on the Schedule of Values:
 - 1. Project name and location.
 - 2. Owner's name.
 - 3. Name of the Architect / Engineer.
 - 4. Project number.
 - 5. Contractor's name and address.
 - 6. Date of original submittal.
 - 7. Date of revised submittals.
- B. Work Activities: Indicate Cost Values for labor, material, equipment, and Contractor's overhead and profit, and Total Cost Value for each line item.
 - 1. Distribute Contractor's office overhead and profit proportionally among allocated cost for each work activity.

2. Costs associated with ongoing mobilization activities can be listed separately or distributed evenly among allocated cost for each work activity.
 3. Assign overhead costs corresponding to start and finish dates for each work-related activity.
 4. Pro-rate associated work expenses related to work activities, including supervision, temporary utilities, and small tools, over total Contract Time.
 5. Assign directly related costs, including bonds, insurance, and schedules, to appropriate work activities.
 6. Claims for additional cost for storage of materials off-site are not accepted as a basis for monetary claims, except where need for off-site storage arose after the Bid and at request of the Owner.
- C. Overhead and Administrative Costs: Distribute major cost items which are not a direct cost of actual work-in-place as line item in schedule of values or distributed as general overhead expense.
1. Conditions of the Contract for Construction and Mobilization: Maximum 3 percent of Contract Sum.
 2. Demobilization: Maximum 1 percent of Contract Sum.
 3. Commissioning of Operational Systems: See paragraph G for required 1% of HVAC Contract to be itemized on the Schedule of Values.
 4. Closeout: Minimum of 2 percent of Contract Sum to cover closeout submittals and documentation and 3 percent of contract sum to cover punchlist identification and completion.
 5. See Paragraph E and F for required 1 percent of Contract Sum for Project Record Documents completion and 1 percent for Operations and Maintenance Manuals completion.
- D. Stored Items: For materials not yet installed, for which Progress Payments are requested, no payment for materials stored offsite will be made without prior notice to and acceptance by Owner.
1. Submit clear title to ownership of materials in writing to Owner.
 2. Support initial value with proof of purchase invoices.
 3. Include value-added costs as separate line item when subsequently delivered to site and installed.
 4. Differentiate between items stored on-site and items stored off-site.
 5. Provide acceptable proof of insurance and bonding of storage facility and contents.
 6. Store materials no greater distance than 50 miles from Project site.
 7. Make storage facilities available and open to Owner and Architect observation.
 8. Store materials for which payments are requested in separate areas away from other materials and clearly marked or labeled to identify name of Owner, Project, and Contractor.
- E. Project Record Documents: Include line item of at least one percent of Contract Sum for preparation, maintenance, and duplication. Upon completion, a portion of this amount will be released based upon percentage of completion of the Work as a whole.
- F. Operation and Maintenance Manuals: Include line item of at least one percent of Contract Sum for preparation, maintenance, and duplication. Upon completion, a portion of this amount will be released based upon percentage of completion of the Work as a whole.

- G. Commissioning: Include line item of at least 1.0 percent of Contract Sum for Section 230800 – Commissioning of HVAC Systems, for cooperation and coordination with Commissioning Agent.
 - 1. Commissioning Agent work includes systems documentation, start up, operation, control system calibration and verification, performance testing, adjusting building systems, and as required for completion of commissioning work of Section 019113.
 - 2. Payment for of each line item of work will be made based upon percentage completion of work and percentage of completion of commissioning work.
- H. Punch List Work: Include line item of 5 percent of Contract Sum or itemize separately by line item for each work activity. Payment of this 5 percent for each line item will be authorized as each line item of work is complete and related testing and inspections are satisfactorily completed.
- I. Total Contract Sum for Actual Construction Costs:
 - 1. Total Contract Sum (base bid plus accepted alternates) on Schedule of Values is required to correlate with amounts submitted on Washington Department of Education Form D-9.
 - 2. Break out New Construction, Modernization, and Nonmatchable Construction itemized on Form D-9 and include in Sub-Schedules submitted with Schedule of Values.
 - 3. Where a project is phased, further sub-divide categories by Phases of the Work.

1.7 LINE ITEM CATEGORIES

- A. Arrange Schedule of Values in tabular form with separate columns. Break out following for each work activity listing.
 - 1. Section Number from Project Specifications Table of Contents
 - 2. Description of Work.
 - 3. Name of subcontractor.
 - 4. Name of manufacturer or fabricator.
 - 5. Name of supplier.
 - 6. Scheduled Value for each Item of Work.
 - 7. Previous Work Complete, including Cost Value and Percent Complete.
 - 8. Present Work Complete, including Cost Value and Percent Complete.
 - 9. Change Orders (numbers) that affect value.
 - 10. Total Billing, including Billing to Date, Percent of Contract Sum, and Balance to Finish. Show dollar value as percentage of Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
 - 11. Retainage.
 - 12. Stored Material.

1.8 COST CATEGORIES

- A. Assign the following, making sum equal to total cost for each line item activity to show initial costs of work activity and total installed cost.
 - 1. Labor.
 - 2. Equipment.

3. Material.
4. Subcontractor.
5. Overhead and Profit.
6. Total Cost.

B. Show total sum for each cost category as well as total cost for each work activity.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 2973

SECTION 01 3100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Administrative and procedural requirements for management and coordination of project, including subcontractors, work of other contracts, and Owner.
- B. Related Sections:
 - 1. Section 011100 - Summary of Work
 - 2. Section 013119 - Project Meetings
 - 3. Section 013300 - Submittal Procedures
 - 4. Section 013544 - Hazardous Material Procedures
 - 5. Section 014523 - Testing and Inspection Services
 - 6. Section 015721 - Temporary Indoor Air Quality Control
 - 7. Section 016400 - Owner-Furnished Products
 - 8. Section 017700 - Contract Closeout
 - 9. Section 017123 - Field Engineering
 - 10. Section 018100 - Sustainable Design Requirements for WSSP requirements
 - 11. Section 019113 - Commissioning, for coordination and commissioning of building mechanical and equipment systems.

1.2 GENERAL COORDINATION REQUIREMENTS

- A. Coordinate, sequence, schedule, and manage work activities and overall construction process to expedite the Work as a whole for satisfactory completion.
 - 1. Achieve efficient and orderly sequence of construction operations and installations of interdependent components.
 - 2. Fit together related parts of work and construction elements scheduled for subsequent installation.
 - 3. Order long lead items for delivery in time to meet Construction Progress Schedule Critical Path.
- B. Project Managers, Supervisors, and Overseers of Project Work: Be familiar with Project administrative and procedural requirements of Division 00 - Contracting Requirements, Division 01 - General Requirements, Technical Specifications, Drawings, and Other Contract Documents as a whole.
- C. Quality Assurance Activities: Oversee and direct as necessary maintain overall quality control of work activities for various Sections, disciplines, and trade jurisdictions by subcontractors, suppliers, and manufacturers.
- D. At all times that Work is underway on the Project, The Contractor's superintendent or a fully knowledgeable and qualified foreman, shall be on site to assure proper coordination and maintain overall quality of the Work.

- E. Inspections and Tests: Coordinate temporary enclosures to minimize the necessity of uncovering completed construction.
- F. Temporary Facilities and Controls: Provide and maintain as necessary to assure environmental controls and field conditions in conformance to manufacturer instructions for handling, storing, and installing products.
- G. Installation Conditions: Require installers to inspect substrates and conditions as satisfactory prior to installing work. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- H. Room Numbers:
 - 1. Coordinate room names and numbers shown on Drawings and signage schedule with new Owner assigned room names and numbers for the Work.
 - 2. Verify that Owner assigned room names and numbers are referenced correctly to work activities, including for:
 - a. Electrical panels.
 - b. Low voltage systems including fire alarm, data, security, TV, intercom, and security.
 - c. Controls for HVAC.
 - d. Record documents.
- I. Health, Safety, and Environmental Conditions: Coordinate and manage construction operations to limit exposure to dangerous, damaging, deleterious, and other hazardous conditions, including:
 - 1. Loading, testing practices, and trade practices that may cause damage or failure to construction systems and structural integrity.
 - 2. Infestations of pests, biological, and chemical contamination
 - 3. Compromise of site security leading to vandalism and theft.
 - 4. Storage and practices that may lead to fire or explosion.
 - 5. Compromise of building enclosure systems to resist moisture, exterior air, and weather penetration.

1.3 SUBCONTRACTOR INSTRUCTIONS

- A. Become familiar with Division 00 - Contracting Requirements and Division 01 - General Requirements for administrative and procedural requirements for each Section.
- B. Become familiar with work of related Sections as necessary to coordinate and complete the Work.
- C. Attend Pre-installation Meetings and perform other activities as required to coordinate the Work.
- D. Notify Contractor of conditions that may adversely affect the Work.

1.4 OWNER ACTIVITIES

- A. Owner Use of Site: Coordinate work activities so as to accommodate and not interfere with partial occupancy of portions of the Project Site and work under separate contracts as described by Section 002413 – Specific Scope of Work.
- B. Verify with Owner, Architect, and Regulatory Authorities prior to proceeding with activities affecting areas outside Project site boundaries.
- C. Coordinate time to permit arrangements for Owner's inspection services. Refer to additional requirements specified Section 014523.

1.5 WORK UNDER SEPARATE CONTRACT

- A. Cooperate and coordinate to expedite work of contractors and personnel under separate contract with Owner. Refer to Section 002410 – General Scope of Work.

1.6 DAILY PROJECT REPORTS

- A. Project Engineer: Provide to the Owner via electronic posting to Owner's website a daily update of ongoing activities concerning the Work.
- B. At a minimum, this report shall be tied to the Project Schedule and tasks and shall include:
 - 1. Subcontractor's onsite and their activities;
 - 2. Daily and cumulative Man-hours;
 - 3. Safety events;
 - 4. Quality Assurance activities;
 - 5. Meetings;
 - 6. Daily progress;
 - 7. Weather;
 - 8. Critical issues for the next day's progress.

1.7 COORDINATION OF SUBMITTALS

1.8 Coordinate Submittals to Architect for review and transmittal to Architect in accordance with Section 013300 – Submittal Procedures. FIELD MEASUREMENTS AND TEMPLATES

- A. Obtain field Measurements as required for accurate fabrication and installation of work for each Section.
- B. Obtain templates, patterns, and setting instructions as required for installation of hardware, equipment, and other work

1.9 CLEARANCES, TOLERANCES AND DIMENSIONS

- A. Fire Suppression, Plumbing, HVAC Equipment, Communications, and Electrical:

Inglemoor High School Concert Hall + Music Building

1. Coordinate layout of pipes, ducts, conduits, utilities, and building automation and control systems work shown diagrammatically on Drawings
 2. Accommodate clearances, tolerances, space requirements, supports, and dimensions with Architectural and Structural systems and assemblies.
 3. Coordinate installations, placements, and connections to follow routing for pipes, ducts, and conduit, as closely as practicable to that as shown on Drawings
 4. Determine and verify actual space requirements and characteristics of related utility services, equipment, and operating systems for compatibility.
 5. Utilize available spaces and clearance to allow for installation, access, maintenance, and repairs.
 6. Locate pipes, ducts, wiring and other utilities concealed within finished construction, placing runs parallel with lines of building, except as otherwise shown as exposed on Drawings.
 7. Location exposed mechanical and electrical work such as lighting fixtures, receptacles, outlets, grilles, and plumbing systems for finished appearance and compatibility with finish equipment locations.
- B. Coordinate modifications to the Contract, and product substitutions. Verify configurations, dimensions, rough-ins, and other variances from specified products and systems affecting installation, placement, and other issues as necessary to complete the Work.

1.10 COORDINATION SHOP DRAWINGS

- A. Overlay Shop Drawings: Prepare reflected ceiling plans, and sections showing layout and interfacements of related work. Prepare by applicable trades to determine how work is to be installed or constructed in relation to other work.
1. HVAC: Show locations, size, and elevation of ductwork, grilles, registers, equipment, and access doors.
 2. Plumbing: Show locations and elevation of piping, valves, cleanouts, seismic bracing, fixtures, and access doors.
 3. Fire Protection: Show layout of fire sprinkler system, including hangers, seismic bracing, pipe runs. Show location of sprinkler heads in a separate drawing. Relate to acoustical ceiling system layout.
 4. Electrical: Show layout of fixtures, large conduit runs, clearances, pull boxes, junction boxes, sound system speakers, cable trays, electrical equipment, and panels.
 5. Architectural and Structural: Show locations, dimensions, and clearances structural framing and reinforcing within floor/ceiling assemblies and construction as necessary to coordinate other work.
 6. Underslab Building Services: Show building services and utilities located below interior slab-on-grade locations, including dimensions, clearances, access doors or panels and terminations.
- B. Review Coordination Shop Drawings at Project Meetings.

1.11 CONTRACT CLOSEOUT

- A. Construction Completion and Clean-Up: Coordinate completion and cleanup of work of each Section in preparation for Substantial Completion and Owner occupancy.

- B. Where applicable, make provisions for portions of project site designated for Owner partial occupancy prior to Substantial Completion.
- C. Assemble and coordinate closeout Submittals specified in Section 017700 - Contract Closeout.
- D. Following Owner Occupancy, coordinate access to site for correction of defective work and work not conforming to Contract Document provisions so as to minimize disruption of Owner activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 3100

SECTION 01 3119 - PROJECT MEETINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Administrative and procedural requirements for project meetings.
 - 1. Pre-Contract Meeting
 - 2. Pre-Demolition/Pre-Construction Meeting
 - 3. Progress Meetings
 - 4. Pre-Installation Meetings
 - 5. Safety Meetings
 - 6. Commissioning meetings
 - 7. Closeout meetings
- B. Related Requirements:
 - 1. Section 013113 - Project Coordination for procedures for coordinating project meetings with other construction activities.
 - 2. Section 013300 - Submittal Procedures for submitting the Contractor's Construction Schedule.
 - 3. Section 017419 - Construction Waste Management
 - 4. Section 018100 - Sustainable Design Requirements for WSSP provisions
 - 5. Section 017700 - Closeout Procedures
 - 6. Section 019100 - Commissioning

1.2 RECORDING MEETING MINUTES

- A. Owner reserves right to make electronic recordings of events and actions related to the Work by means necessary, times, and locations at Owner discretion.
 - 1. Includes electronic collection of voice and images by voice recorders, photography, and video display.
 - 2. Includes component storage, manufacture, fabrication, and meetings on or off the site where work related to the project is occurring.
 - 3. This right extends to sub-contractor and supplier agreements with Contractor.

1.3 PRE-CONSTRUCTION / PRE-DEMOLITION MEETING

- A. Purpose: Complete administrative and procedural requirements connected with the Contract.
- B. Contractor: Schedule a conference after Notice of Award of Contract. Record minutes and distribute to Owner and Architect.

- C. Attendance: Owner, Architect, Structural Engineer, Contractor's project manager and superintendent, and others as designated by Owner, Architect, and Contractor including major subcontractors and consultants.
- D. Meeting Time: Within 14 days after Notice of Award of Contract Notice to Proceed.
- E. Meeting Location: Project Site or as designated by Owner.
- F. Suggested Agenda Items:
 - 1. Outstanding Contract issues, as applicable including Contract, Bonds, Insurance or other requirements.
 - 2. Designation of responsible personnel for Owner, Architect, Contractor, including Contractor's superintendent, and other applicable entities.
 - 3. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal requests, Change Orders, and Contract closeout procedures, including electronic Submittals.
 - 4. Status of outstanding Permits.
 - 5. Distribution of Contract Documents.
 - 6. Owner's requirements and use of premises by Owner and Contractor.
 - 7. Construction office and site storage areas.
 - 8. Scheduling Progress Meetings.
 - 9. Demolition.
 - 10. Owner's salvage and Owner furnished Items.
 - 11. Review of concurrent work by Owner or others.
 - 12. Temporary utilities and sanitary facilities.
 - 13. Housekeeping and site maintenance procedures.
 - 14. Environmental controls on noise, storm water run-off, dust control, air pollution, and other issues as necessary to meet regulatory requirements and maintain good relations with neighborhood.
 - 15. Working hours.
 - 16. Site access and parking.
 - 17. Project geometry.
 - 18. Safety, first aid, and security measures.
 - 19. Schedules.
 - 20. Testing procedures.
 - 21. Maintenance of Record Documents, logs, and submittals.
 - 22. Construction signage.
 - 23. Requirements for start-up of equipment.
 - 24. Inspection and acceptance of equipment put into service during construction period.
 - 25. Contract Completion and Closeout Procedures.
- G. Review Contractor Waste Management Plan for Recycling and Adaptive Reuse specified in Section 017419.

1.4 PROGRESS MEETINGS

- A. Purpose: Perform business relating to completion of the Work, including construction progress, scheduling, clarifications, proposals, contract modifications, progress payments, submittals, and measures to be taken.

- B. Contractor: Schedule and administer weekly meetings throughout progress of the Work, except as changed by mutual agreement between Owner, Contractor, and Architect. Record minutes and distribute to Owner and Architect.
- C. Meeting Location: Contractor's field office, except as otherwise determined by Owner and Architect.
- D. Attendance: Contractor's superintendent and project manager, Owner, and Architect. Others, as applicable to agenda, including consultants, subcontractors, and suppliers, at discretion of Owner, Architect, and Contractor.
- E. Suggested Agenda:
 - 1. Previous Meeting Minutes: Review, amend, and approve.
 - 2. Review of Work in Progress: Discussion and field review.
 - 3. Progress Schedule: Review, identify problems, impact on progress and Project completion date, and planned progress during succeeding work period.
 - 4. Submit new Submittals. Review Submittal schedules, and status of Submittals.
 - 5. Off-Site Fabrication: Review delivery schedules.
 - 6. Work Standards: Maintenance, coordination, and quality.
 - 7. Corrective Measures.
 - 8. Proposed Changes: Effect on progress schedule and coordination
 - 9. Modifications to the Contract.
 - 10. Application for Payment.
 - 11. Contractor updated schedule and logs.
 - 12. Other business relating to the Work
- F. Review:
 - 1. Contractor's Waste Management Plan for Recycling and Adaptive Reuse specified by Section 017419.
 - 2. WSSP Sustainable Design Requirements specified by Section 018100.

1.5 PRE-INSTALLATION MEETINGS

- A. Purpose: Discuss and coordinate work of affected Sections. Clarify, and define the Work. Highlight safety and quality assurance requirements for the project.
- B. Contractor: Record minutes and distribute to Architect and Owner.
- C. Meeting Time: As specified prior to beginning work of specifying Section and as requested by Owner or Architect.
- D. Meeting Location: Work site.
- E. Attendance: Owner, Architect, Contractor's project superintendent and project engineer, those asked to attend at discretion of Owner, Architect, and Contractor, and as specified by individual Sections. Other participants may include subcontractors, suppliers, manufacturer's representatives, testing laboratories, and inspecting consultants as designated by Owner or Architect.

- F. Agenda: Refer to specified administrative requirements by applicable Sections for preinstallation meetings. Include preinstallation meetings for following whether specified or not:
 - 1. Mock-ups and field samples as required for testing and establishing quality standards for workmanship, suitability, testing, and visual acceptance.

1.6 SAFETY MEETINGS

- A. Purpose: Discuss and coordinate project safety. Highlight safety requirements for the project, review safety-related events in the previous week and discuss safety-related aspects of the Work coming up in the next week.
- B. Contractor: Record minutes and distribute to Architect and Owner.
- C. Meeting Time: Weekly.
- D. Meeting Location: Work site.
- E. Attendance: Owner, Contractor's project superintendent and project engineer, those asked to attend at discretion of Owner, Architect, and Contractor, and as specified by individual Sections. Other participants may include subcontractors, suppliers, manufacturer's representatives, testing laboratories, and inspecting consultants as designated by Owner or Architect.

1.7 COMMISSIONING MEETINGS

- A. The Owner will schedule commissioning meetings with Contractor / Subcontractors, Architect / Engineers, and Commissioning Agent as needed to meet the requirements of Commissioning Building Systems as specified by Section 019100.

1.8 CLOSEOUT MEETINGS

- A. The Owner will schedule closeout meetings with Contractor / Subcontractors, Architect / Engineers, and Commissioning Agent as needed to meet closeout requirements as specified by Section 017700.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 3119

SECTION 01 3200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Administrative and procedural requirements for scheduling, recording, and reporting construction progress.
 - 1. Submittal Schedule
 - 2. Construction Progress Reports
- B. Related Requirements:
 - 1. Section 012973 - Schedule of Values
 - 2. Section 013216 - Construction Progress Schedule
 - 3. Section 013300 - Submittal Procedures

1.2 SUBMITTAL SCHEDULE

- A. After development and acceptance of Contractor's Construction Schedule, prepare a complete schedule of submittals. Submit schedule Progress Construction Schedule, specified by Section 013216.
 - 1. Coordinate Submittal Schedule with list of subcontracts and Schedule of Values as well as Progress Construction Schedule.
- B. Prepare schedule in chronological order. Provide following information:
 - 1. Scheduled date for first submittal.
 - 2. Related Section numbers.
 - 3. Submittal categories.
 - 4. Name of subcontractors.
 - 5. Description of part of Work covered.
 - 6. Scheduled date for resubmittals.
 - 7. Scheduled date for final release or acceptance by Architect.
 - 8. Identify long lead-time items and items with long fabrication times.
 - 9. Indicate necessary order date for on-time delivery.
 - 10. Indicate dates for items to be delivered to project site.
 - 11. Indicate information required for Owner supplied items, including:
 - a. Information is required.
 - b. Type of information is required
 - c. Schedule for delivery on site
 - d. Schedule for installation.
- C. Distribution: Following Architect/ Engineer's response to initial submittal, print and distribute to Architect/ Engineer, subcontractors, and other parties required to comply with submittal dates indicated.
 - 1. Post copies in Project meeting room and temporary field office.

2. When revisions are made, distribute in same numbers to same parties and post in same locations. Delete parties from distribution when they have completed their assigned part of Work and are no longer involved in construction activities.
- D. Schedule Updating: Revise schedule after each meeting, event, or activity where revisions have been recognized or made and where mutually agreed upon by Owner and Contractor. Issue updated schedule within seven days of agreement for revisions.

1.3 CONSTRUCTION PROGRESS REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording following information concerning events at site. Submit to Architect/ Engineer and Owner, or Owner's Clerk of Works if Owner so designates, at weekly intervals:
 1. List of subcontractors at site.
 2. List of separate contractors at site.
 3. Count of personnel at site by trade and man-hours per day.
 4. Actual work accomplished broken down by trade.
 5. High and low temperatures, general weather conditions.
 6. Accidents and other safety-related incidents or concerns.
 7. Meetings and significant decisions.
 8. Unusual events (refer to special reports).
 9. Stoppages, delays, shortages, and losses.
 10. Inspections and tests performed and their results, if known.
 11. Emergency procedures.
 12. Orders and requests of governing authorities.
 13. Construction Change Directives and Change Orders received, implemented.
 14. Services connected, disconnected.
 15. Equipment or system tests and startups.
 16. Partial Completions, occupancies.
 17. Substantial Completions authorized.
- B. Field Correction Reports: When a need to take corrective action that requires a departure from Contract Documents arises, prepare a detailed report.
 1. Include a statement describing problem and recommended changes.
 2. Indicate reasons Contract Documents cannot be followed. Submit a copy to Architect/ Engineer immediately.
- C. Copy AHJ permits, test results and comments and submit weekly to Architect and Owner.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 3200

SECTION 01 3216 - CONSTRUCTION PROGRESS SCHEDULE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Administrative and procedural requirements for schedules and reports required for proper performance of the Work, including:
 - 1. Preliminary construction schedule.
 - 2. Progress construction schedule.
 - 3. Two week look ahead bar chart schedules.
- B. Related Requirements:
 - 1. Section 012976 - Application and Certification for Payment
 - 2. Section 012973 - Schedule of Values
 - 3. Section 013119 - Project Meetings.
 - 4. Section 013200 - Construction Progress Documentation
 - 5. Section 013300 - Submittal Procedures.
 - 6. Section 014500 - Quality Control for submittal of inspection and test reports
 - 7. Section 014523 - Testing and Inspection Services for submittal of inspection and test reports
 - 8. Section 016510 - Product Delivery, Storage, and Handling Requirements
 - 9. Section 019100 - Commissioning

1.2 REFERENCES

- A. Associated General Contractors of America (AGC): The Use of CPM in Construction - A Manual for General Contractors and the Construction Industry - most recent edition.
<http://www.agc.org/>

1.3 DEFINITIONS

- A. Critical Path Method (CPM): Construction schedule using Network Diagrams to analyze, plan, and organize construction activities and to determine critical work activities required to achieve Project completion within Contract Time.

1.4 QUALITY ASSURANCE

- A. Scheduler for Network Analysis Construction Progress System:
 - 1. Contractor or outside specialist hired by Contractor with minimum 5 years of experience in scheduling work of comparable size and scope.
 - 2. Employed at least one 1,000 hours per year for last two years, scheduling projects of equivalent size, scope, and complexity using same software to be used on this project.

3. Accessing normal work hour access to computer equipment and software capable of managing project scheduling.
 4. Maintaining or having access to computer facilities capable of delivering detailed graphic printout within 48 hours of request.
- B. Contractor's Administrative Personnel: Two years minimum experience in using and monitoring CPM Schedules on comparable projects.

1.5 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of schedules and reports with performance of other construction activities; all sub-contractors; suppliers and fabricators; the Owner and Architect/Engineer.

1.6 PRELIMINARY CONSTRUCTION SCHEDULE

- A. CPM Schedule: Submit one hard copy and one electronic copy to Owner and Architect of a preliminary schedule within 15 days of the Notice to Proceed to the Architect/Engineer. For ease of analysis, computer color coded and color printed schedules are preferred. Use the Critical Path Method (CPM) following the reference listed above.
1. Activities:
 - a. of 5 or more days duration should be indicated. Show shorter duration activities only when they effect the start date of other activities, where they are milestones or are otherwise critical to the schedule. Show an Activity Schedule Diagram on an arrow time scale.
 - b. shall indicate early and late start, early and late finish and float periods.
 - c. shall include developed activities in the complete schedule.
 - d. in excess of 20 days duration shall indicate estimated completion percentage in 10 percent increments marked within the activity bar.
 - e. shall include 21 days for commissioning of building systems after completion of systems and prior to Substantial Completion
- B. Submittal Tabulation: With each submittal of the Preliminary CPM Schedule, include a tabulation by date of submittals required during the first 90 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead-time for manufacture or fabrication.
1. Indicate the dates when the submittal must be transmitted to the Architect/Engineer; when the submittal needs to be returned to the Contractor; when submittal related material/product orders must be placed and when the subject material/product must be delivered to the site. Allow ample time for Architect/Engineer review, revisions, transmitting and any resubmittals that may be necessary. Delays and extra costs due to the need for resubmittals shall be the responsibility of the Contractor.
 - a. See Division 1 section "Shop Drawings, Product Data and Submittals" for time allowances for submittals.
 2. At the Contractor's option, submittals may also be shown on the schedule.

1.7 PROGRESS CONSTRUCTION SCHEDULE

- A. CPM Schedule: Prepare a comprehensive, fully developed, contractor's network analysis system using the Critical Path Method (CPM) following the reference listed above. Base the complete schedule on the Preliminary CPM Schedule and whatever updating and feedback was received since the start of the Project.
1. Submit the fully developed schedule at least seven days prior to the second Application for Payment.
 2. Provide a separate time bar for each significant construction activity. As a minimum, follow the Table of Contents of the Project Manual (this specification book) and further subdivide as necessary to properly track all significant work activity. Use the specification Section numbers and Titles as a standard.
 3. Provide a continuous vertical line to identify the first working day of each week.
 - a. Use the same breakdown of units of the Work on the CPM Schedule as indicated in the Schedule of Values.
 4. Within each time bar that requires more than 10 days or longer to complete, indicate estimated completion percentage in 10 percent increments. As Work progresses and the schedule updated, place a contrasting mark in each bar to indicate Actual Completion percentage.
 5. Indicate only one prime Critical Path and clearly delineate it. Other paths shall be shown to indicate the interrelationship of tasks and work paths in phases and other sub-schedules.
 6. Prepare the schedule on a sheet, or series of sheets, of stable transparency, or other reproducible media, of sufficient width to show data for the entire construction period. Minimum size shall be as necessary to produce an easily legible document.
 7. Secure time commitments for performing critical elements of the Work from parties involved. Coordinate each element on schedule with other construction activities. Include minor elements involved in the overall sequence of the Work. Show each activity in proper sequence. Indicate graphically the sequences necessary for completion of related portions of the Work.
 8. Coordinate the Contractor's CPM Schedule with the Schedule of Values, list of subcontracts, Submittal Schedule, progress reports, payment requests, and other required schedules and reports. Indicate long lead time items and related critical dates.
 9. Indicate completion in advance of the date established for Substantial Completion. Indicate Substantial Completion on the schedule to allow time for the Architect/ Engineer's administrative procedures necessary for certification of Substantial Completion.
 10. No Application for Payment will be reviewed, nor payment made, beyond the initial mobilization payment, if the complete CPM Schedule has not been submitted and approved or is not up to date. The complete schedule must be reviewed and approved in writing by the Owner and Architect/ Engineer before becoming part of the Contract. The approved CPM Schedule will be a tool for the Architect/ Engineer and Owner to evaluate project progress, allocate funds and assess the reasonableness of Application for Payment amounts and Owner's disbursements related thereto.
 11. The complete and approved CPM Schedule is the official schedule for determining cost and time changes to the Contract and as such is to be considered a part of the Construction Contract. No changes shall be instituted in the CPM schedule without the mutual agreement of the Owner and Contractor recorded in writing by letter or within the official meeting minutes of a Progress Meeting at which

authorized representatives of both parties were present.

- B. Phasing: Provide notations on the schedule to show how the sequence of the Work is affected by the following, where applicable:
 - 1. Requirements for phased completion.
 - 2. Work by separate contractors.
 - 3. Work by the Owner.
 - 4. Prepurchased materials.
 - 5. Coordination with existing construction.
 - 6. Limitations of continued Owner occupancies.
 - 7. Uninterruptible services.
 - 8. Partial occupancy prior to Substantial Completion.
 - 9. Site restrictions.
 - 10. Provisions for future construction.
 - 11. Seasonal variations.
 - 12. Environmental control.
- C. Work Stages: Use crosshatched bars or other acceptable highlighting to indicate important stages of construction for each major portion of the Work. Such stages include, but are not necessarily limited to, the following:
 - 1. Subcontract awards.
 - 2. Submittals.
 - 3. Purchases.
 - 4. Mockups.
 - 5. Fabrication.
 - 6. Sample testing.
 - 7. Deliveries.
 - 8. Installation.
 - 9. Testing.
 - 10. Adjusting.
 - 11. Curing.
 - 12. Building inspections and signoffs by AHJ
 - 13. Startup and placement into final use and operation.
 - 14. Commissioning of Building Systems
- D. Area Separations: Provide a separate time bar to identify each major area of construction for each major portion of the Work. For the purposes of this Article, a "major area" is a story of construction, a separate building, a separate phase of work, the site work, the off-site work or a similar significant construction element.
 - 1. 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 the electrical portion of the Work.
 - e. Substantial Completion of each phase and the overall project.
- E. Cost Correlation: At the head of the schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of Work performed as of the dates used for preparation of payment requests.
 - 1. Refer to Section 01 2900 - Payment Procedures for cost reporting and payment procedures.

- F. Distribution: Following response to the initial submittal, print and distribute one hard copy along with one electronic submittal to the Architect/ Engineer and Owner. Provide copies to subcontractors and other parties required to comply with scheduled dates. Post copies in the Project meeting room and temporary field office.
 - 1. When revisions are made, distribute in the same numbers 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 construction activities.
- G. Schedule Updating: Revise the schedule after each meeting, event, or activity where revisions have been recognized or made and where mutually agreed upon by the Owner and Architect/ Engineers. Issue the updated schedule within seven days of the agreement for the revisions.
 - 1. If the overall schedule or a critical path task falls more than two weeks behind schedule (one week on projects of four month duration or less), the Contractor shall immediately prepare a written explanation of the delay and proposed course of action, including specifics of manpower, scheduling, use of premium time, etc. to bring the project back onto the original schedule or a new schedule that reaches the same date of Substantial Completion.
 - 2. Revised schedules shall show actual start/stop/completion dates overlaid with original planned dates.

1.8 TWO-WEEK LOOK AHEAD SCHEDULE

- A. Each week the Contractor shall prepare and present a bar chart type schedule showing the planned activities for the next two weeks. The time bars shall be coordinated with the CPM's activities list. Unless otherwise directed by the Owner, this schedule shall be presented at the weekly meeting by the Contractor.
 - 1. Provide hard copies to all attendees at the weekly Progress Meeting.
 - 2. Format shall be 11" by 17" or larger as necessary to be easily legible. If hand drawn, all graphics and text shall be clear to all recipients.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 3216

SECTION 01 3233 - PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Administrative and procedural requirements for photographic documentation of the Work.
 - 1. Preconstruction photography.
 - 2. Construction photography of work-in-progress.

1.2 GENERAL

- A. Consult with Owner and Architect to confirm acceptable quality assurance provisions for construction photographs.
- B. Provide photographs at locations designated by Architect, including aerial views.
- C. Photographer: Specialist, experienced in taking construction photography
- D. Equipment:
 - 1. As necessary to photograph both interior and exterior exposures.
 - 2. Utilize full range of lenses, including wide angle and telephoto.

1.3 SUBMITTAL REQUIREMENTS

- A. Make Submittals with each monthly Application for Payment.
- B. Submit colored photos in JPG or PDF file format.
- C. Identify each photograph file with location, compass direction, and date of each photo using month/day/year format.
- D. Create key plan in PDF format showing locations photographs, and update and submit with each monthly Application for Payment.

1.4 PRECONSTRUCTION PHOTOGRAPHS

- A. Take photographs prior to beginning Work of this Contract.
- B. Provide 10 Project Site photographs, including one aerial view.

1.5 CONSTRUCTION PHOTOGRAPHS

- A. Take construction photographs, beginning one month after last preconstruction photograph, and continuing for duration of the Work.
- B. Take minimum of 10 photographs, including one aerial photograph, each month. Take additional photographs as needed to document Project.
- C. Locate photographs as necessary to document phases of construction, milestones, and general progress of the Work

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 3233

SECTION 01 3300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Administrative and procedural requirements for processing submittals during project construction stage.
 - 1. Submittal format
 - 2. Submittal procedures
 - 3. Processing and turn-around time
 - 4. Schedule of Submittals
 - 5. Proposed Product List
 - 6. Shop Drawings
 - 7. Product Data
 - 8. Samples
 - 9. Design Data and Test Results
 - 10. Certificates
 - 11. Manufacturer's Instructions
 - 12. Material Safety Data Sheets (MSDS)
 - 13. Manufacturer Field Reports.
 - 14. Field Submittals.
 - 15. Submittals to Authorities Having Jurisdiction.
 - 16. Other Submittals.
 - 17. Submittal Transmittal Form.
- B. Related Requirements:
 - 1. Section 012500 - Product Options and Substitution Procedures
 - 2. Section 013100 - Project Management and Coordination
 - 3. Section 013216 - Construction Progress Schedule
 - 4. Section 014000 - Quality Requirements
 - 5. Section 018100 - Sustainable Design Requirements - WSSP

1.2 ADMINISTRATIVE PROCEDURES

- A. Coordination, Sequencing, and Scheduling:
 - 1. Conform to provision of Section 013100 - Project Management and Coordination to coordinate each submittal with other submittals and related activities that require sequential activity including:
 - a. Testing.
 - b. Purchasing.
 - c. Fabrication.
 - d. Delivery.
- B. Conform to provisions of Section 013216 - Construction Progress Schedule to prepare, process, and transmit submittals to Architect sufficiently in advance to allow for review,

turn around, and resubmittals in time to avoid delay in beginning work for each construction activity.

1.3 SUBMITTAL FORMAT

A. Transmittal Form:

1. Accompany each submittal with AIA Form G810, Submittal Form or transmittal form acceptable by Architect that includes the following:
 - a. Exact project name and address.
 - b. Date.
 - c. To (name and address of Architectural Firm to attention of Architects construction administrator)
 - d. From: (Name and address of submitting entity (subcontractor, manufacturer, and supplier) and contact person.
 - e. Category, number, and type of submittal.
 - f. Purpose and description of submittal.
 - g. Copies To (submittal and transmittal distribution record).
 - h. Remarks or message.
 - i. Signature of transmitter and method of transmission.
2. Submit number to Architect as specified for each submittal.
3. Do not address more than one topic or portion of the Work on each transmittal.

B. Submittal Numbering:

1. Number transmittal forms by specification Section Number and sequential number (Example: IHS_092500.01).
2. Mark revised submittals with original number and sequential alphabetic suffix (Example: IHS_092500-01A).

C. Submittal Identification: Place a permanently title block or label on each submittal for identification.

1. Identify Project, Contractor, subcontractor, supplier, Drawing and detail number, and specification Section number, appropriate to submittal.
2. Show name, address, telephone number, email, fax number, and responsible contact person that prepared each submittal.
3. Provide a dedicated space approximately 4 by 5 inches (100 by 125 mm) on the label or beside the title block to record the review markings and the action taken by the Architect/ Engineer.
4. Include following information on the label for processing and recording action taken.
 - a. Exact project name and address.
 - b. Original date and dates of revisions, if any.
 - c. Name and address of the Architect/Engineer.
 - d. Name and address of the Contractor.
 - e. Name and address of the subcontractor.
 - f. Name, address and telephone number of the supplier.
 - g. Name and telephone number of the manufacturer.
 - h. Number and title of appropriate Specification Section.
 - i. Drawing number and detail references, as appropriate.
 - j. Similar definitive information as necessary.

- D. Contractor Certification: Apply Contractor stamp, signed or initialed, certifying that submittal has been reviewed for accepted products, field dimensions, interface with adjacent construction, and coordination as required to provide the Work in conformance to provisions of Contract Documents.
- E. Review Stamp Space: Allow minimum 4 inch by 5-inch blank space for Architect's stamp. Allow additional review stamp space for Engineer other consultant stamps on applicable submittals.
- F. Electronic Format: Utilize internet-based project management software suite as agreed at Pre-construction Meeting by Owner, Architect, and Contractor.
 - 1. Software Based Logging System: Accessible by Owner, Architect, Contractor and Subcontractors.
 - 2. Electronic Submittal Log and Submittal Transmittals: Maintain by and process by members of team.
 - 3. Non-Electronic Hard Copy and Originals: Submit product data, shop drawings, material samples, color samples and other reference submittals not applicable for electronic submittal as specified by this Section.

1.4 SUBMITTAL PROCEDURES

- A. Submit submittals requested by each Section for Architect and consultant review and verification that information contained in submittals conforms to design concept and specific provisions expressed by Contract Documents.
- B. Transmit submittals directly to Architect for review of design intent. Transmit copy to Owner's representative for information.
 - 1. Do not transmit submittals directly to Architect's consultants. Architect will review and transmit submittals to consultants for their review.
 - 2. Prior to submitting transmittals required by Building Code to building code officials and other authorities having jurisdiction (AHJ), transmit submittals to Architect for review and approval.
 - 3. Approval and direction by others including consultants and authorities having jurisdiction that conflict with Architect's design intent may require revision at no additional cost to Owner.
- C. Submittals received from other than Contractor will be rejected.
- D. Submittals not requested will be returned unprocessed.
- E. Schedule submittals as required to expedite the Work for critical path and long lead items.
- F. Sequence submittals in an orderly and manageable quantity for review of independent elements of the Work.
- G. Consolidate submittals for each complete system and assembly into a single package. Multiple, partial, and incomplete submittals will not be reviewed until complete submittal package is received.

- H. Submit work of interdependent Sections as one submittal package where possible.
- I. Identify product and system limitations and conditions that may be detrimental to successful performance or completion of the Work.
- J. Identify minor deviations from Contract Documents due to standard shop practice or industry standard. Draw cloud around or otherwise identify deviation and note change.
- K. Verify and coordinate dimensions on shop drawings conforming to actual field conditions. Do not request dimensions from Architect that can be calculated, or field verified.
- L. Substitutions made on submittals to Contract Document provisions are not accepted. Refer to Section 012500 for substitution request requirements during construction phase.
- M. Distribute reviewed submittals and revised resubmittals as necessary to expedite and complete the Work. Coordinate so that only most recent Architect reviewed, stamped, and accepted submittals are used in connection with the Work.
- N. For submittals revised and returned by Architect, make revisions and identify change on resubmittal from previous submittal.
- O. Maintain copy in project Field Office of each submittal, regardless of status, along with a current Submittal Log, and for project record document purposes, specified Section 017839.

1.5 PROCESSING AND TURN-AROUND TIME

- A. Allow minimum 14 calendar days from time of receipt by Architect for each submittal and for each resubmittal. Allow additional 7 calendar days for submittals requiring review by Architect's consultants.
- B. For complex or multiple submittals, assume longer turn-around time for Architect and consultant review.
 - 1. Sequence and package submittals to allow for sufficient review time.
 - 2. Submit priority list to Architect for review and return, allowing for resubmittal time.
 - 3. Notify Architect of submittals affected by critical path and long lead times.
 - 4. For critical submittals, request dates needed for return of reviewed submittals.
- C. Where review time is inadequate, Architect will notify Contractor.
- D. No extension of Contract Time will be authorized due to delays caused by the Contractor's failure to transmit submittals to the Architect/Engineer sufficiently in advance of the Work to permit timely processing.

1.6 SCHEDULE OF SUBMITTALS

- A. Prepare and submit Schedule of Submittals by time of second Application for Payment following Notice to Proceed.
- B. Identify critical paths and long lead items shown by Progress Schedule specified Section 013216. Update as requested by Architect.
- C. List Submittals sequentially by Project Manual Table of Contents Section Numbers.

1.7 SHOP DRAWINGS

- A. Submit in electronic format.
- B. Identification:
 - 1. Reference Shop Drawing details same as referenced on Contract Documents, including sheet and detail designations, schedules, and room numbers.
 - 2. Identify installer or supplier with contact information.
 - 3. Do not use expression "by others".
- C. Hand draft or computer generate and delineated to present information in a clear and thorough manner. Freehand drawings are not accepted. Include:
 - 1. Dimensions, configurations, and locations by grid lines or other identifier.
 - 2. Identification of products, materials, attachments, surface treatments, finish systems, and related adjacent construction.
 - 3. References to specific specification Sections and Drawings, including paragraph and detail numbers, as needed to show conformance to Contract Documents.
 - 4. Notation of coordination requirements.
 - 5. Notation of dimensions established by field measurement.
- D. Do not submit Contract Documents/Architect's Drawings as shop drawings.
- E. Mechanical and Electrical Equipment: Include applicable electrical characteristics, connection requirements, rough-ins, switches and receptacle locations, wiring, piping diagrams, controls, weight, and installation requirements.

1.8 PRODUCT DATA

- A. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
 - 1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 - 2. Name file with submittal number or other unique identifier, including revision identifier.
 - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., IHS-061000.01). Resubmittals shall include an alphabetic suffix (e.g., IHS-061000.01A).

3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect/Engineer.
4. Transmittal Form for Electronic Submittals: Use software-generated form from electronic project management software acceptable to Owner, containing the following information:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Name of firm or entity that prepared submittal.
 - g. Names of subcontractor, manufacturer, and supplier.
 - h. Category and type of submittal.
 - i. Submittal purpose and description.
 - j. Specification Section number and title.
 - k. Specification paragraph number or drawing designation and generic name for each of multiple items.
 - l. Drawing number and detail references, as appropriate.
 - m. Location(s) where product is to be installed, as appropriate.
 - n. Related physical samples submitted directly.
 - o. Indication of full or partial submittal.
 - p. Transmittal number.
 - q. Submittal and transmittal distribution record.
 - r. Other necessary identification.
 - s. Remarks.
 - t. Metadata: Include the following information as keywords in the electronic submittal file metadata: Project name.
 - u. Number and title of appropriate Specification Section.
 - v. Manufacturer name.
 - w. Product name.

1.9 SAMPLES

- A. Submit 2 samples of each to Architect, and one each to Owner's Representative, except as otherwise specified. Include hard copy of transmittal clearly identifying sample(s) being transmitted.
 1. Immediately follow up with electronic transmittal forwarded to Architect and Owner. Include color photograph of samples submitted.
- B. Submit samples of sufficient size and completeness to clearly illustrate Product and as specified by each Section.
- C. Label each sample with Project title, manufacturer, product, model number, description, and as applicable to sample identification. Label on back of sample where possible.
- D. When required for selection of colors, finishes, patterns, and textures, and finishes to finalize selection process, furnish full range of manufacturer's custom and standard selections, except as otherwise specified.

- E. Where selection is specified, submit to illustrate conformance to Contract Documents.

1.10 DESIGN DATA AND TEST REPORTS

- A. Submit to Architect and Owner's Representative.
- B. Submit information for assessing conformance with and design concept expressed by Contract Documents.

1.11 CERTIFICATES

- A. Submit to Architect and Owner's Representative.
- B. Submit written certification, signed by manufacturer's representative, supplier, Contractor, or others as specified.
- C. Indicate that material or product conforms to or exceeds specified requirements.
- D. Submit supporting reference data, affidavits, current test results, and other certification as appropriate.
- E. Include statements to certify compliance with provisions for certified specialists, product performance, Code compliance, and as specified.
- F. Meet or exceed specified requirements.

1.12 MANUFACTURER'S INSTRUCTIONS

- A. Submit to Architect and Owner's Representative.
- B. Include Manufacturer's printed instructions for delivery storage, preparation, assembly, installation, start-up, adjusting, balancing, and finishing as specified for individual specification Sections.
- C. Include special procedures, project conditions, and environmental criteria required for application or installation.

1.13 MATERIAL SAFETY DATA SHEETS (MSDS)

- A. Prior to use on Site, submit to Architect and Owner's Representative.
- B. Submit for each chemical containing product accepted for Work of this Contract.
- C. Submit OSHA Hazard Communication Standard (HCS Subpart Z, Toxic and Hazardous Substances, 29 CFR 1910.1200) and WAC 296-62-054-05427, Hazard Communication Standard (available <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1200>).
- D. Include procedures for handling or working with chemicals containing products. Include physical data (melting point, boiling point, flash point etc.), toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment, and spill/leak procedures.
- E. MSDS submitted to Architect and Owner are for information only and will not be reviewed for completeness or appropriateness.

1.14 MANUFACTURER FIELD REPORTS

- A. Submit each report within 10 days of observation to Architect and Representative.
- B. Content: Include information necessary for assessing conformance with and design concept expressed by Contract Documents.

1.15 FIELD SUBMITTALS

- A. Submit to Architect.
- B. Provide templates, inserts, and as applicable in timely fashion to other trades
- C. Submit Field Samples and Mock-ups under provisions of Section 014300.

1.16 SUBMITTALS TO AUTHORITIES HAVING JURISDICTION

- A. Submit bidder design packages, separate permits, and acceptance packages directly to Building Code Authorities Having Jurisdiction as required by those Regulatory Authorities.
- B. Conform to submittal procedures specified by this Section for transmittal and review of submittals by Architect prior to transmitting to Regulatory Authorities.

1.17 OTHER SUBMITTALS

- A. Conform to requirements of each Section for submittals required by that Section.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 3300

SECTION 01 3553 - SECURITY PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Procedures to maintain security including unauthorized entry, vandalism, and theft to buildings and grounds at Project site.
- B. Related Sections:
 - 1. Section 013119 - Project Meetings
 - 2. Section 015000 – Temporary Facilities and Controls

1.2 SECURITY PROGRAM

- A. Arrange with Owner, at Preconstruction Meeting specified Section 013119, to set up security program to prevent unauthorized entry and to protect against other security problems, including loss due to theft, vandalism, and fire.
- B. Arrange with Owner for access keys as necessary to perform Work of this Contract.
 - 1. Keys Issued by Owner: Do not duplicate. Return to Owner at Final Completion.
 - 2. Keys not Returned: Re-key locks at Contractor's expense and provide new keys conforming to keying types required by Owner.
- C. Establish adequate flood lighting to allow monitoring of Project site during evening hours.

1.3 STORAGE AND PROTECTION

- A. Provide for secure lockup of stored materials and take additional measures to protect against theft vandalism, and other loss of property belonging to Owner located on site and at off-site facilities.

1.4 ENTRY CONTROL

- A. Restrict entrance of unauthorized persons and vehicles into construction areas.
- B. Maintain log with names and dates of those who enter site.
- C. Maintain security of construction fencing and gates as approved by Owner in advance. Lock at end of each working day.
- D. Maintain security site lighting systems as approved by Owner in advance.

- E. Maintain public access to areas outside of project limits and coordinate with Owner at least 2 weeks in advance of planned disruptions to the public access to the adjacent areas outside of the project limits.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 3553

SECTION 01 4200 - REFERENCES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Requirements pertaining to Reference Standards.
 - 2. Reference Standards Schedule including construction industry associations, societies, and institutes, listed alphabetically by acronym and including full name and address.

1.2 REQUIREMENTS PERTAINING TO REFERENCES

- A. Conform to requirements of specified Reference Standards for products and workmanship by association, trade, industry or other consensus standards. Specified reference standards are made part of Contract Documents, except where requirements that are more stringent are specified or are required by code.
- B. Conform to current edition of Reference Standards at bid date of Contract Documents. When date specified differs from most current date, assume date specified and verify with Architect.
- C. Where specified Reference Standards conflict with each other or Contract Documents, assume more stringent and costly requirements, and request clarification from Architect before proceeding.
- D. Contractual relationships, duties, and responsibilities of parties to the Contract, including Owner, Architect, engineers, and other consultants are stated under provisions of this Contract. Reference Standard document provisions that alter these contractual relationships by mention or inference are void under work of this Contract.

1.3 SCHEDULE OF REFERENCES

- A. Listings may not be complete. Where not shown, request information from Architect during bidding. Specified acronyms are listed by CSI Publication TD-2-5, Sources of Construction Information, Tel. (703) 684-0300 (CSI Orders Desk).
- B. Reference Standards may be listed in Sweet's Architectural File Tel 1-800-442-2258), ARCAT (Tel. 1-800-473-2372), and Architect's First Source (Tel. 1-800-395-1988).
- C. Reference Standards can normally be downloaded or purchased at web sites located on the Internet. Search engines dedicated to construction industry data are also a means to locate web sites. These include the following:
 - 1. <http://www.4specs.com>
 - 2. <http://www.arcata.com>

3. <http://www.cmdfirstsource.com>
4. <http://www.google.com>
5. <http://www.sweets.com>

- D. Purchase Reference Standards from each issuing organization as necessary to maintain current copies at project site as needed to conduct the Work. Reference Standards may also be downloaded from Internet web sites at nominal cost.
- E. Acronyms, Association names, and addresses are for Contractor's convenience and are current to best of Architect's knowledge. Notify Architect where association name and address have changed.

Acronym	Name and Address	Telephone
AA	Aluminum Association 1400 Crystal Drive, Suite 430 Arlington, VA 22202 www.aluminum.org	(703) 358-2960
AABC	Associated Air Balance Council 2401 Pennsylvania Avenue NW, Suite 330 Washington, DC 20037 www.aabc.com	(202) 737-0202
AAMA	American Architectural Manufacturers Association 1900 E Golf Road, Suite 1250 Schaumburg, IL 60173-4268 www.aamanet.org	(847) 303-5664
AASHTO	American Association of State Highway and Transportation Officials 555 12 th Street NW, Suite 1000 Washington, DC 20004 www.aashto.org	(202) 624-5800
ABMA	American Bearing Manufacturers Association 1001 N. Fairfax Street, Suite 500 Alexandria, VA 22314 https://www.americanbearings.org	(703) 842-0030
ACGIH	American Conference of Governmental Industrial Hygienists 1330 Kemper Meadow Dr. Suite 600 Cincinnati, Ohio 45240 www.acgih.org	(513) 742-2020
ACI	American Concrete Institute 38800 Country Club Drive Farmington Hills, MI 48331 www.aci-int.org	(248) 848-3700
ADC	Air Diffusion Council 1901 N. Roselle Road Schaumburg, IL 60195 https://flexibleduct.org	(847) 706-6750

ADSC	The International Association of Foundation Drilling 8445 Freeport Parkway, Suite 325 Irving, TX 75063 www.adsc-iafd.com	(469) 359-6000
AF&PA	American Forest and Paper Association 1111 19th St., NW, Suite 800 Washington, DC 20036 www.afandpa.org	(202) 463-2700
AHA	American Hardboard Association 1210 W. Northwest Hwy Palatine, IL 60067 www.hardboard.org	(847) 934-8800
AI	Asphalt Institute Research Park Drive P.O. Box 14052 Lexington, KY 40512-4052 www.asphaltinstitute.org	(606) 288-4960
AISC	American Institute of Steel Construction One East Wacker Dr., Suite 3100 Chicago, IL 60601-2001 www.aisc.org	(312) 670-2400
AISI	American Iron and Steel Institute 1101 17th St., NW, Suite 1300 Washington, DC 20036 www.steel.org	(202) 452-7100 (800) 277-3850
AITC	American Institute of Timber Construction 7012 S. Revere Pkwy, Suite 140 Englewood, CO 80112 www.aitc-glulam.org	(303) 792-9559
AMCA	Air Movement and Control Association International, Inc. 30 W. University Dr. Arlington Heights, IL 60004-1893 www.amca.org	(847) 394-0150
ANSI	American National Standards Institute 1819 L. Street, N.W. Washington, DC 20036 www.ansi.org	(202) 293-8020
APA/EWA	APA-The Engineered Wood Association P.O. Box 11700 Tacoma, WA 98411-0700 www.apawood.org	(253) 565-6600

API	American Petroleum Institute 1220 L St., NW Washington, DC 20005-4070 www.api.org	(202) 682-8000
AREMA	American Railway Engineering and Maintenance-of-Way Association 8201 Corporate Drive, Suite 1125 Landover, MD 02785-2230 www.arema.org	(301) 459-3200
ARI	Air-Conditioning and Refrigeration Institute 4301 Fairfax Dr., Suite 425 Arlington, VA 22203 www.ari.org	(703) 524-8800
ARRA	Asphalt Recycling and Reclaiming Association #3 Church Circle, PMB 250 Annapolis, MD 21401 www.arra.org	(410) 267-0023
ASCE	American Society of Civil Engineers World Headquarters 1801 Alexander Graham Bell Dr. Reston, VA 20191-4400 www.asce.org	(800) 548-2723 (703) 295-6300
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers 1791 Tullie Circle, NE Atlanta, GA 30329 www.ashrae.org	(800) 527-4723 (404) 636-8400
ASME	American Society of Mechanical Engineers 3 Park Ave. New York, NY 10016-5990 www.asme.org	(800) 843-2763
ASSE	American Society of Sanitary Engineering 901 Canterbury, Suite A Westlake, OH 44145 www.asse-plumbing.org	(440) 835-3040
ASTM	ASTM International 100 Barr Harbor Dr. West Conshohocken, PA 19428-2959 www.astm.org	(601) 832-9585
AWI	Architectural Woodwork Institute 1952 Isaac Newton Sq. West Reston, VA 20190 www.awinet.org	(703) 733-0600

AWPA	American Wood-Preservers' Association P.O. Box 5690 Granbury, TX 76049 www.awpa.com	(817) 326-6300
AWS	American Welding Society 550 NW LeJeune Rd. Miami, FL 33126 www.amweld.org	(800) 443-9353 (305) 443-9353
AWWA	American Water Works Association 6666 W. Quincy Ave. Denver, CO 80235 www.awwa.org	(303) 794-7711
CDA	Copper Development Association Inc. 260 Madison Ave., 16th Floor New York, NY 10016 www.copper.org	(800) 232-3282 (212) 251-7200
CGA	Compressed Gas Association 1725 Jefferson Davis Hwy, Suite 1004 Arlington, VA 22202-4102 www.cganet.com	(703) 412-0900
CISCA	Ceilings and Interior Systems Construction Association 1500 Lincoln Hwy, Suite 202 St. Charles, IL 60174 www.cisca.org	(630) 584-1919
CISPI	Cast Iron Soil Pipe Institute 5959 Shallowford Rd., Suite 419 Chattanooga, TN 37421 www.cispi.org	(423) 892-0137
CLFMI	Chain Link Fence Manufacturers Institute 9891 Broken Land Pkwy, Suite 300 Columbia, MD 21046 www.chainlinkinfo.org	(301) 596-2583
CRI	Carpet and Rug Institute 310 S. Holiday Ave. Dalton, GA 30722-2048 www.carpet-rug.com	(800) 882-8846 (706) 278-3176
CRSI	Concrete Reinforcing Steel Institute 933 N. Plum Grove Rd. Schaumburg, IL 60173-4758 www.crsi.org	(847) 517-1200

CSSB	Cedar Shake and Shingle Bureau P.O. Box 1178 Sumas, WA 98295 www.cedarbureau.org	(604) 462-8961
CTI	Cooling Technology Institute 530 Wells Fargo Drive, Suite 218 Houston, TX 77090 www.cti.org	(281) 583-4087
DASMA	Door and Access Systems Manufacturers Association International 1300 Summer Avenue Cleveland, OH 44115-2851 www.dasma.com	(216) 241-7333
DHI	The Door and Hardware Institute 14150 Newbrook Dr., Suite 200 Chantilly, VA 20151 www.dhi.org	(703) 222-2010
EIMA	EIFS Industry Members Association 3000 Corporate Center Dr., Suite 270 Morrow, GA 30260 www.eifsfacts.com	(800) 294-3462 (770) 968-7945
EPA	Environmental Protection Agency US EPA/NSCEP P.O. Box 42419 Cincinnati, Ohio 45242 www.epa.gov	(800) 490-9198
FM	FM Global Corporate Headquarters. P.O. Box 7500 Johnston, RI 02919 www.factorymutual.com	(781) 762-4300
FS	Federal Specification Unit General Services Admin. Federal Supply Service FSS Acquisition Management Center Environmental Programs and Engineering Policy Division Washington, DC 20406 http://pub.fss.gsa.gov	(703) 305-5682
GA	Gypsum Association 810 First St., NE, Suite 510 Washington, DC 20002 www.usg.com www.gypsum.org	(202) 289-5440

GANA	Glass Association of North America 2945 Southwest Wanamaker Dr., Suite A Topeka, KS 66614 www.glasswebsite.com/gana	(785) 271-0208
HI	Hydronics Institute Division of Gas Appliance Manufacturers Association 2107 Wilson Blvd., Suite 600 Arlington, VA 22201 www.gamanet.org	(703) 525-7060
HMMA	Hollow Metal Manufacturers Association Division of NAAMM 8 South Michigan Ave., Suite 1000 Chicago, IL 60603 www.naamm.org	(312) 332-0405
HPVA	Hardwood Plywood and Veneer Association P.O. Box 2789 Reston, VA 20195-0789 www.hpva.org	(703) 435-2900
IAS	International Approval Services U.S. Operations 8501 E. Pleasant Valley Rd. Cleveland, Ohio 44131-5575 www.approvals.org	(216) 524-4990
ICC	International Code Council 5203 Leesburg Pike #708 Falls Church, VA 22041 www.intlcode.org	(703) 931-4533
IEEE	Institute of Electrical and Electronics Engineers 3 Park Ave., 17th Floor New York, NY 10016-5997 www.ieee.org	(212) 419-7900
IES	Illuminating Engineering Society of North America 120 Wall Street, 17 th Floor New York, NY 10005 www.iesna.org	(212) 248-5000
ILI	Indiana Limestone Institute of America 400 Stone City Bank Building Bedford, IN 47421 www.iliai.com	(812) 275-4426
KCMA	Kitchen Cabinet Manufacturers Association 1899 Preston White Dr. Reston, VA 20191-5435 www.kcma.org	(703) 264-1690

LPI	Lightning Protection Institute 3335 N. Arlington Heights Rd., Suite E Arlington Heights, IL 60004 www.lightning.org	(800) 488-6864 (847) 577-7200
MBMA	Metal Building Manufacturers Association 1300 Sumner Ave. Cleveland, OH 44115-2851 www.mbma.com	(216) 241-7333
MFMA	Maple Flooring Manufacturers Association 60 Revere Dr., Suite 500 Northbrook, IL 60062 www.maplefloor.org	(847) 480-9138
MIA	Marble Institute of America 30 Eden Alley, Suite 301 Columbus, OH 43215 www.marble-institute.com	(614) 228-6194
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry 127 Park St., NE Vienna, VA 22180-4602 www.mss-hq.com	(703) 281-6613
NAA	National Arborist Association Route 101, P.O. Box 1094 Amherst, NH 03031-1094 www.natlarb.com	(800) 733-2622 (603) 673-3311
NAAMM	National Association of Architectural Metal Manufacturers 8 South Michigan Ave., Suite 1000 Chicago, IL 60603 www.naamm.org	(312) 332-0405
NAAMM	North American Association of Mirror Manufacturers (Division of GANA) 2945 Southwest Wanamaker Dr., Suite A Topeka, KS 66614 www.glasswebsite.com	(913) 266-7013
NACE	NACE International 1440 South Creek Drive Houston, TX 77084 www.nace.org	(281) 228-6200
NAIMA	North American Insulation Manufacturers Association 44 Canal Center Plaza, Suite 310 Alexandria, VA 22314 www.naima.org	(703) 684-0084

NBGQA	National Building Granite Quarries Association, Inc. 1220 L. St., NW, Suite 100-167 Washington, DC 20005 www.nbgqa.com	(800) 557-2848
NCMA	National Concrete Masonry Association 2302 Horse Pen Rd. Herndon, VA 20171-3499 www.ncma.org	(703) 713-1900
NCRP	National Council on Radiation Protection and Measurement 7910 Woodmont Ave., Suite 800 Bethesda, MD 20814-3095 www.ncrp.com	(301) 657-2652
NEBB	National Environmental Balancing Bureau 8575 Grovemont Circle Gaithersburg, MD 20877 www.nebb.org	(301) 977-3698
NECA	National Electrical Contractors Association 3 Bethesda Metro Center, Suite 1100 Bethesda, MD 20814 www.necanet.org	(301) 657-3110
NELMA	Northeastern Lumber Manufacturers Association 272 Tuttle Rd. P.O. Box 87A Cumberland Center, ME 04021 www.nelma.org	(207) 829-6901
NEMA	National Electrical Manufacturers Association 1300 N 17th St., Suite 1847 Rosslyn, VA 22209 www.nema.org	(703) 841-3200
NETA	International Electrical Testing Association P.O. Box 687 106 Stone St. Morrison, CO 80465 www.netaworld.org	(303) 697-8441
NFPA	National Fire Protection Association One Batterymarch Park P.O. Box 9101 Quincy, MA 02269-9101 www.nfpa.org	(800) 344-3555 (617) 770-3000
NFRC	National Fenestration Rating Council 1300 Spring St., Suite 500 Silver Spring, MD 20910 www.nfrc.org	(301) 589-6372

NIBS	National Institute of Building Sciences 1090 Vermont Ave., NW, Suite 700 Washington, DC 20005-4905 www.nibs.org	(202) 289-7800
NIST	National Institute of Standards and Technology 100 Bureau Dr., MS 2150 Gaithersburg, MD 20899-2150 www.nist.gov	(301) 975-4025
NLA	National Lime Association 200 North Glebe Rd., Suite 800 Arlington, VA 22203 www.lime.org	(703) 243-5463
NLGA	National Lumber Grades Authority #406-First Capital Pl. 960 Quayside Dr. New Westminster, BC V3M 6G2 CANADA www.nlga.org	(604) 524-2393
NOFMA	National Oak Flooring Manufacturers Association P.O. Box 3009 Memphis, TN 38173-0009 www.nofma.org	(901) 526-5016
NPCA	National Paint and Coatings Association 1500 Rhode Island Ave., NW Washington, DC 20005 www.paint.org	(202) 462-6272
NPCA	National Precast Concrete Association 10333 N Meridian St. Ste. 272 Indianapolis IN 46290-1081 www.precast.org	(317) 571-9500
NRCA	National Roofing Contractors Association O'Hare International Center 10255 W. Higgins Rd., Suite 600 Rosemont, IL 60018 www.roofonline.org	(847) 299-9070
NSF	NSF International P.O. Box 130140 Ann Arbor, MI 48113-0140 www.nsf.org	(734) 769-8010 (800) 673-6275
NSPI	National Spa and Pool Institute 2111 Eisenhower Ave. Alexandria, VA 22314 www.nspi.org	(703) 838-0083

NTMA	National Terrazzo and Mosaic Association 110 E. Market St., Suite 200-A Leesburg, VA 20176 www.ntma.com	(800) 323-9736 (703) 779-1022
NUCA	National Utility Contractors Association 4301 North Fairfax Dr., Suite 360 Arlington, VA 22203-1627 www.nuca.com	(703) 358-9300
PCA	Portland Cement Association 5420 Old Orchard Rd. Skokie, IL 60077 www.portcement.org	(847) 966-6200
PCI	Precast/Prestressed Concrete Institute 209 W. Jackson Blvd. Chicago, IL 60606-6938 www.pci.org	(312) 786-0300
PDCA	Painting and Decorating Contractors of America 3913 Old Lee Hwy, Suite 33-B Fairfax, VA 22030 www.pdca.com	(703) 359-0826
PDI	Plumbing and Drainage Institute 45 Bristol Dr. South Easton, MA 02375 http://PDionline.org	(800) 589-8956
PTI	Post Tensioning Institute 1717 W. Northern Ave., Suite 114 Phoenix, AZ 85021 www.post-tensioning.org	(602) 870-7540
RCSC	Research Council on Structural Connections www.boltcouncil.org	
RIS	The Redwood Inspection Service 630 J Street Eureka, CA 95501	(707) 444-3024
SCMA	Southern Cypress Manufacturers Association 400 Penn Center Blvd., #530 Pittsburgh, PA 15235 www.cypressinfo.org	(877) 607-7262
SDI	Steel Deck Institute P.O. Box 25 Fox River Grove, IL 60021 www.sdi.org	(847) 462-1930

SDI	Steel Door Institute 30200 Detroit Rd. Cleveland, OH 44145-1967 www.steeldoor.org	(440) 899-0010
SIGMA	Sealed Insulating Glass Manufacturers Association 401 N. Michigan Ave. Chicago, IL 60611 www.sigmaonline.org/sigma	(312) 644-6610
SJI	Steel Joist Institute 3127 10th Ave., North Ext. Myrtle Beach, SC 29577-6760 www.steeljoist.org	(843) 626-1995
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association 4201 Lafayette Center Dr. Chantilly, VA 20151-1209 www.smacna.org	(703) 803-2980
SPIB	Southern Pine Inspection Bureau 4709 Scenic Hwy Pensacola, FL 32504-9094 www.spib.org	(850) 434-2611
SPRI	Single Ply Roofing Institute 200 Reservoir St., 309 A Needham, MA 02494 www.spri.org	(781) 444-0242
SSPC	SSPC: The Society for Protective Coatings 40 24th St., 6th Floor Pittsburgh, PA 15222-4656 www.sspc.org	(800) 837-8303 (412) 281-2331
STI	Steel Tank Institute 570 Oakwood Rd. Lake Zurich, IL 60047 www.steeltank.com	(847) 438-8265
SWI	Steel Window Institute 1300 Sumner Ave. Cleveland, OH 44115-2851 www.steelwindows.com	(216) 241-7333
SWRI	Sealant, Waterproofing and Restoration Institute 2841 Main St. Kansas City, MO 64108 www.swrionline.org	(816) 472-7974

TCA	Tile Council of America, Inc. 100 Clemson Research Blvd. Anderson, S.C. 29625 www.tileusa.com	(864) 646-8453
TIA/EIA	Telecommunications Industry Association Electronic Industries Alliance 2500 Wilson Blvd., Suite 300 Arlington, VA 22201 www.tiaonline.org	(703) 907-7700
TMS	The Masonry Society 3970 Broadway, Suite 201-D Boulder, CO 80304-1135 www.masonrysociety.org	(303) 939-9700
TPI	Truss Plate Institute 583 D'Onofrio Dr., Suite 200 Madison, WI 53719	(608) 833-5900
TPI	Turfgrass Producers International 1855-A Hicks Rd. Rolling Meadows, IL 60008 www.turfgrassod.org	(800) 405-8873 (847) 705-9898
UL	Underwriters Laboratories Inc. 333 Pfingsten Rd. Northbrook, IL 60062-2096 www.ul.com	(847) 272-8800
WCLIB	West Coast Lumber Inspection Bureau 6980 S.W. Varns Tigard, OR 97223 www.wclib.org	(503) 639-0651
WDMA	Window and Door Manufacturers Association 330 N Wabach Avenue, Suite 2000 Chicago, IL 60611 https://www.wdma.com	(312) 321.6802
WH	Intertek Testing Services Warnock Hersey Listing Services 801 West Orchard Drive, Suite 5 Bellingham, WA 98225 https://www.intertek.com/marks/wh/	(218) 971-5600 (800) 967-5352
WIC	Woodwork Institute of California 3188 Industrial Blvd. West Sacramento, CA 95691 https://woodworkinstitute.com	(916) 372-9943

WSSP	Washington Sustainable School Protocol Office of Superintendent of Public Instruction (OSPI) High-Performance School Building Coordinator www.k12.wa.us/SchFacilities/Programs/HighPerformanceSchoolBuildings.aspx	(360) 725-4973
WWPA	Western Wood Products Association 1500 SW First Avenue, Suite 870 Portland, OR 97201 www.wwpa.org	(503) 224-3930

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 4200

SECTION 01 4216 - DEFINITIONS

PART 1 - GENERAL

1.1 SECTION INCLUDES:

- A. Definitions of words used by Project Manual.
- B. Format and language used by Project Manual.

1.2 ADDITIONAL DEFINITIONS

- A. As defined by Conditions of the Contract.
- B. Definitions specified by individual Sections of Project Manual.

1.3 DEFINITIONS OF WORDS USED BY PROJECT MANUAL

- A. **Approved and Accepted:** Means, "consented to by Architect or Owner in so far as item or action meets or exceeds provisions of Contract Documents". In no case will "approved" or "accepted" be interpreted as assurance to Contractor that requirements of the Contract Documents have been fulfilled. Where used, Architect and Owner are sole judge of quality and suitability. Acceptance shall only be given in writing.
- B. **As Selected:** Means, "as selected by Architect". It is not necessarily limited to manufacturer's standard line of colors, finishes, and details, except as otherwise stated.
- C. **As Directed:** Means, "as directed by Architect".
- D. **As Required, As Needed, As Necessary:** Means, "as required to suitably complete the Work" and "at the direction of Architect".
- E. **Furnish and Supply:** Means, "arrange, purchase, and deliver to site ready for intended inclusion into the Work". "Furnish" and "Supply" may be used interchangeably.
- F. **Install:** Means, "to receive at site and to complete work required to incorporate it in place, ready for intended operation and use".
- G. **Provide:** Means, "furnish, and install complete, in place, ready for intended operation and use."
- H. **Verify:** Means, "to determine the condition of existing elements at the project prior to beginning work".
- I. **Shown:** Means, "as reasonably implied by Drawings of the Contract Documents."

- J. **Specified:** Means, “as reasonably implied by Project Manual”.
- K. **Indicated:** Means, “as reasonably implied and necessary in conformance with work specified, drawn, or required for completion, including written information and drawings of Contract Documents”.
- L. **Coordinate:** Means, “coordinate scheduling, submittals, work of Project Manual, Drawings, work of subcontractors, suppliers, and other means and methods as necessary for efficient, sequential, and orderly construction progress.”
- M. **Product:** Means, “materials, equipment, and other items provided by Contractor, covered under Part 2 of each Section”.
- N. **Project Manual:** Written portions of Contract Documents, as listed in the Table of Contents, including but not limited to Bidding Requirements, Contracting Requirements, Divisions 01 - General Requirements, and specification Sections under Division 02 through Division 33 as defined by the General Conditions.
- O. **Drawings:** As defined by General Conditions and as listed in Index to Drawings and other drafted, sketched, or pictorial illustrations included in the Contract Documents.
- P. **Work:** As defined by General Conditions. In addition, refers to work (not capitalized) of individual Sections for complete and finished systems, and the Work (capitalized) to complete requirements of the Contract Documents for Project completion as a whole.
- Q. **Installer, Erector, and Applicator:** Means, “person or entity engaged by Contractor, subcontractor, or sub-subcontractor for performance of work indicated by Contract Documents, such as installation, erection, or application of specified products and systems”.
- R. **Specialist:** Means, “person, firm, or entity of established reputation (or if newly organized, whose personnel have previously established a reputation in the same field), regularly engaged in and maintaining an experienced force of skilled workers qualified to perform items of work required by Construction Documents, such as in manufacturing, fabricating, installing, and applying specified products and systems.”
- S. **Manufacturer's Instructions:** Means, “manufacturer's written or verbal directions or recommendations, specifications, product literature, and product data as required to complete work in accordance to manufacturer's system”.
 - 1. Unless otherwise noted or directed, install work in accordance with manufacturer's instructions for best results. Do not omit preparatory steps or installation procedure unless specifically modified or exempted by Contract Documents or approved by Architect.
 - 2. Where more than one manufacturer is involved in the work or its component parts, follow requirements that are more stringent by each manufacturer as required to properly complete work. Submit discrepancies or conflicts to Architect for resolution.
 - 3. Conform to manufacturer's instructions even where not specifically stated by Contract Documents.
 - 4. Where Contract Documents conflict with manufacturer's instructions, notify Architect for resolution. Do not proceed until written authorization is received.

- T. **Project Site:** Means, “the site location made available to Contractor for performing construction activities in performing Work of this Project”. The extent of the Project Site is shown on the Drawings.
- U. **Regulatory Requirements and Authorities Having Jurisdiction (AHJ):** Means, “codes, laws, statutes, and lawful orders established by building code authorities, State and Federal statute, local jurisdictions, and other governing and regulatory authorities having jurisdiction over the work.”

1.4 FORMAT USED BY PROJECT MANUAL

- A. **Project Manual Organization:** Organization is according to Construction Specification Institute (CSI), Project Resource Manual and MasterFormat.
 - 1. This includes Divisions of related construction information and Sections defining portions of each Division.
 - 2. Divisions and Sections do not define limits of work for each trade.
 - 3. Sections are not intended to define contractual relationships, such as between Contractor, subcontractors, suppliers, and manufacturers.
 - 4. Therefore, one or more trades may perform work of a single Section and a particular trade may perform work of more than one Section.
- B. **Document and Section Format:** Based upon CSI Master Format, Section Format, and Page Format, organization, titles, and numbering system.

1.5 LANGUAGE USED BY PROJECT MANUAL

- A. **Singular and Plural:** Items referenced, whether as singular or as plural in number, are to be taken to mean as many such items as required to complete the Work. Singular means plural and plural means singular.
- B. **Tense:** Present tense words include future tense.
- C. **Gender:** Words are to be taken as gender neutral. Words in masculine and feminine gender are to be taken as interchangeable and are not to be interpreted as masculine or feminine, except where specifically stated. Words in masculine gender include feminine and neuter genders.
- D. **All, Each, Any, Every, (etc):** These and similar words are generally omitted, and their meaning is implied. Read implications of these words into requirements of phrases such as, “Balance and adjust (all) dampers”.
- E. **Specifying by Reference:** Conform to provisions of Section 014200 for products specified by Reference Standards. Conform to most current revised requirements at time of Bid.
- F. **Streamlined Language:** Language is abbreviated or streamlined and includes short imperative phrases in place of complete sentences.
- G. Information is directed to Contractor, except where specifically stated otherwise.

- H. **Contractor:** Means, "Contractor" as defined by the General Conditions as party to the Contract with the Owner.
- I. **Semicolons following Articles:** Mean, "shall be", and "shall conform to", and "Contractor shall".
 - 1. Examples:
 - a. Flamespread: ASTM E 84, less than 20 means "Flame spread shall conform to ASTM E84 and shall be less than 20".
 - b. Base: Pack solid with non-shrink grout, means "General Contractor shall pack base solid with non-shrink grout".
- J. Words and phrases such as "**shall**", "**the Contractor shall**", and "**shall be**", are generally omitted and are to be inferred.

1.6 DIMENSIONS AND MEASUREMENTS ON DRAWINGS:

- A. Dimensions govern. Do not scale.
- B. Check dimensions and field verify with respect to adjacent or incorporated work. Bring conflicts to Architect's attention for interpretation and resolution.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 4216

SECTION 01 4300 - QUALITY ASSURANCE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Administrative and procedural requirements for proactive activities to assure quality of construction before and during of the Work.
 - 1. Quality Assurance - Control of Installation.
 - 2. Contractor's Project Engineer.
 - 3. Tolerances.
 - 4. Field Samples and Mock-Ups.
 - 5. Manufacturer's Instructions.
 - 6. Field Quality Control Inspections and Testing.
 - 7. Manufacturer's Field Service and Reports.
 - 8. Certifications.
 - 9. Test Data
- B. Related Sections:
 - 1. Section 013113 – Project Coordination
 - 2. Section 013300 – Submittal Procedures
 - 3. Section 014523 - Special Inspections and Geotechnical Services
 - 4. Section 012500 – Product Substitutions

1.2 QUALITY ASSURANCE - CONTROL OF INSTALLATION

- A. Schedule, sequence, coordinate, and oversee, as necessary to maintain quality control for the Work and as necessary to make parts of the Work fit together within critical path as defined by Project Schedule.
- B. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- C. Conform to manufacturer's instructions, Reference Standards, Regulatory Authorities, and provisions of Contract Documents to establish minimum level of quality for work of each Section.
 - 1. Where in conflict, assume that provisions of Contract Documents prevail.
 - 2. Verify with Architect before beginning work where other requirements are more stringent than Contract Documents.
- D. Perform work by company specializing in and qualified to produce workmanship of specified quality for size and complexity of Project.
- E. Maintain project superintendent continually on Project site for duration of Work of this Contract. Do not engage project superintendent in work other than Work of this Contract.

- F. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.
- G. Give persons representing or engaged by Owner free, safe, and unencumbered access to the Work, and portions of the Work.
- H. Give persons representing or engaged by Owner access to off-site facilities where components of the Work are stored, work takes place that that will be included into or otherwise affect the Work.
- I. Owner reserves right to photograph, videotape, or otherwise to record through visual, audio, electronic, and written means, work, and work-related events in order to track progress and quality of the Work.

1.3 CONTRACTOR'S PROJECT ENGINEER

- A. Refer to Conditions of the Contract for related requirements.
- B. Remain continuously on Project site during working hours until Final completion Work of this Contract. Do not engage in work other than Work of this Contract.
- C. Prepare measure and payment documents including Application for Payment, modifications to the Contract, Unit Prices, and Allowances. Prepare and verify coordination with Schedule of Values specified by the General Conditions of the Contract for Construction.
- D. Prepare Submittal Schedule as specified Section 013300 and include Submittals with lead times within Critical Path of Progress Schedule.
- E. Review Submittals for clarity, accuracy, completeness, coordination with other work, and conformance to specified requirements.
- F. Verify that format, number, and other provisions conform to Section 013300.
- G. Do not accept or forward for Architect's review Submittals that contain product substitutions not accepted by Substitution Request procedures specified Section 012500.
- H. Stamp and certify Contractor's review of Submittals before submitting to Architect.
- I. Coordinate and facilitate testing and inspections including special inspections specified Section 014523, and as specified by other Sections to meet Quality Assurance and Code provisions.
- J. Conduct Project Closeout administrative procedures including preparation and Submittals of Operating and Maintenance Manuals, Project Record Documents, Warranties, and other closeout documents.

1.4 TOLERANCES

- A. Monitor fabrication and installation tolerance to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Conform to specified tolerances. When manufacturers' tolerances conflict with provisions of Contract Documents, request clarification from Architect before proceeding.
- C. Make adjustments to conform to specified tolerances before securing products in place.

1.5 FIELD SAMPLES AND MOCK-UPS

- A. Field Samples: Provide physical illustrations of finishes such as painting, coatings, sealers, and anti-graffiti coatings.
- B. Mock Ups: Provide full-size construction assemblies to understand and coordinate assembly components, perform testing and inspections, verify function and operation, establish general quality assurance, and confirm visual appearance.
 - 1. Include attachments, anchorage devices, flashings, sealants, finishes, and colors for complete and finished systems.
- C. Provide specified field samples and mock-ups prior to beginning associated work for each Section.
- D. Accepted field samples and mock-ups establish a minimum standard of quality by which workmanship will be judged.
- E. Locate at designated project locations, and as directed by Architect.
- F. Provide in dimensions or square foot area as specified. When not specified, verify with Architect, and provide in sufficient size and completeness for evaluation.
- G. Do not install as part of permanent work, except as specified or directed by Architect.
- H. Maintain ease of access to accepted in-place field samples and Mock-Ups.
- I. Where covered, lost, or damaged, arrange with Architect to provide new field samples and Mock-Ups for acceptance.
- J. Remove field samples and mock-ups when directed to do so, or if not directed, at Project completion.

1.6 MANUFACTURERS INSTRUCTIONS

- A. Conform to manufacturer's instructions in full detail, including each step in sequence.

- B. Where manufacturer's instructions conflict with provisions of Contract Documents, including Regulatory Requirements and Reference Standards, request written clarification from Architect before proceeding with work.

1.7 FIELD QUALITY CONTROL INSPECTIONS AND TESTING

- A. Conduct specified field quality control testing of in-place work as required to verify conformance to specified air, water, thermal, structural, tolerances, and other performance and design requirements.
- B. Conduct inspections and testing that conform to testing procedures and criteria published by specified reference standards, testing and laboratory agencies, and building codes.
- C. Where initial tests fail to pass specified testing requirements, provide work needed to meet or exceed inspection and testing criteria and conduct additional testing to verify conformance.
- D. Independent inspection, testing, and laboratory services may be retained by Owner to conduct field quality control inspection testing services.
 - 1. Make provisions as needed to aid testing agency in scheduling, accessing, and performing services requested by Owner.
 - 2. Cost of initial inspections and tests at Owner request will be born by Owner.
 - 3. Costs of subsequent inspections and tests, needed to rectify failed initial inspection and test results, will be paid by the Owner and deducted from Contract Sum.
- E. Independent inspection and testing services are to be certified, accredited, approved, or recognized by qualifying agencies, organizations, or institutions as specialists in conducting these services, or accepted by Architect.

1.8 MANUFACTURERS FIELD SERVICES

- A. Require manufacturers to supply field services as specified and as necessary to verify conformance to manufacturer's instructions, to achieve manufacturer's warranty, and to conform to other provisions of Contract Documents and Regulatory Authorities.
- B. Require manufacturer's trained and qualified personnel to inspect site conditions, surfaces, installation, quality of workmanship, start up of equipment, testing adjusting and balancing of equipment, and other field services as necessary to maintain quality assurance of Work.
- C. Require manufacturers and suppliers to provide and assist in initiating instructions when necessary.
- D. For non-conforming work, submit manufacturer's written report to Architect within [10] days of observation. List observations and recommendations.

- E. When site decisions and instructions are received, that are contrary to published instructions by manufacturers, promptly report to Architect and verify acceptance before continuing with work.
- F. Manufacturer's Reports: Submit under provisions of 013300.

1.9 CERTIFICATIONS

- A. Submit certifications signed by authorized representative, officer, or other person legally entitled to represent business, firm, or organization submitting certification.
- B. Provide backup data, testing procedures by independent testing agency, and other information as necessary to confirm that content of written certification meets or exceeds that required by Contract Documents.
- C. Indicate conformance to, meeting or exceeding, that specified by individual Sections.

1.10 TEST DATA

- A. Submit test data including calculations from independent inspection agencies, testing laboratories, professional engineers, and as specified for each Section.
- B. Conform to requirements of Regulatory Requirements for code related certifications.
- C. Indicate acceptance or results of testing.
- D. Certify test data in letter signed by authorized representative.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 4300

SECTION 01 4500 - QUALITY CONTROL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Administrative and procedural requirements for quality-control services.
 - 1. Quality-control services include inspections, tests, and related actions, including reports performed by Contractor, by independent agencies, and by governing authorities. They do not include contract enforcement activities performed by Architect/ Engineer.
 - 2. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with Contract Document requirements.
- B. Requirements of this Section relate to customized fabrication and installation procedures, not production of standard products.
 - 1. Specific quality-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 inspections, tests, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-control services required by Architect/ Engineer, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Requirements: The following Sections contain requirements that relate to this Section:
 - 1. Section 011100 - Summary of Work
 - 2. Section 017229 - Cutting and Patching specifies requirements for repair and restoration of construction disturbed by inspection and testing activities.

1.2 RESPONSIBILITIES

- A. Contractor Responsibilities: Unless otherwise indicated as the responsibility of another identified entity, Contractor shall provide inspections, tests, and other quality-control services specified elsewhere in the Contract Documents and required by authorities having jurisdiction. See General Conditions, Section 2.2.3 regarding costs for these services.
 - 1. Where individual Sections specifically indicate that certain inspections, tests, and other quality-control services are the Owner's responsibility, the Owner will employ and pay a qualified independent testing agency to perform those services.
 - 2. The Owner reserves the right to employ independent inspectors and observers for any and all aspects of the Work. These inspectors and observers may be

assigned or reassigned at any time during the Project. Items of the Work frequently subject to Owner's special inspection include, but are not limited to:

- a. Earthwork
- b. Asphaltic Concrete Paving
- c. Concrete and Reinforcing Steel (Site & pre-cast shop, if any)
- d. Concrete moisture tests
- e. Masonry (Site & panel assembly shop, if any)
- f. Rough Carpentry/ Fastening & Moisture Content
- g. Building envelope
- h. Structural Steel and Welding (Site & shop where applicable)
- i. Roofing/ Sheet Metal
- j. Painting (Site & shop, if off-site pre-painting)
- k. Low voltage wiring
- l. Lighting controls
- m. Fire alarm
- n. Security system
- o. Video surveillance
- p. Hazardous Material Abatement.

- B. Retesting: The Contractor is responsible for retesting where results of inspections, tests, or other quality-control services prove unsatisfactory and indicate noncompliance with Contract Document requirements, regardless of whether the original test was Contractor's responsibility.
1. The cost and time of retesting construction, revised or replaced by the Contractor, is the Contractor's responsibility where required tests performed on original construction indicated noncompliance with Contract Document requirements.
- C. Associated Services: Cooperate with agencies performing required inspections, tests, and similar services, and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include, but are not limited to, the following:
1. Provide access to the Work.
 2. Furnish incidental labor and facilities necessary to facilitate inspections and tests.
 3. Take adequate quantities of representative samples of materials that require testing or assist the agency in taking samples.
 4. Provide facilities for protective storage and curing of test samples.
 5. Deliver samples to testing laboratories.
 6. Provide the agency with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
 7. Provide security and protection of samples and test equipment at the Project Site.
- D. Duties of the Testing Agency: The independent agency engaged to perform inspections, sampling, and testing of materials and construction specified in individual Sections shall cooperate with the Architect/ Engineer and the Contractor in performance of the agency's duties. The testing agency shall provide qualified personnel to perform required inspections and tests.
1. The agency shall perform whatever inspections, tests and sampling is necessary to reasonably ensure that the Work is in conformance with the Contract Documents, industry standards and requirements of the authority having

jurisdiction, whichever is the most stringent. Inspection and testing methods shall be of the highest quality in conformance with appropriate recognized standards such as those published by ACI, ASTM, ANSI, ICBO, etc.; as specified in the technical Sections of this manual and as required by the authority having jurisdiction.

2. The agency shall notify the Architect/ Engineer and the Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services. Where the Owner maintains a Clerk of the Works or other special observer for the Project, that person shall also be promptly notified.
 - a. Notification shall consist of direct verbal conversation in person or by telephone within one hour of detection of the deficiency. Copies of draft field notes shall be left at the site with the Contractor and the Clerk of the Works, if any. Copies of the same shall be emailed to the Architect/ Engineer within two hours. A more formal typewritten and neatly printed report shall be delivered or emailed to all parties noted above within 24 hours. A final fully reviewed and edited report shall be delivered to all parties within five working days.
 3. The agency is not authorized to release, revoke, alter, or enlarge requirements of the Contract Documents or approve or accept any portion of the Work.
 4. The agency shall not perform any duties of the Contractor.
- E. Coordination: Coordinate the sequence of activities to accommodate required services with a minimum of delay. Coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.
1. The Contractor is responsible for scheduling times for inspections, tests, taking samples, and similar activities.

1.3 SUBMITTALS

- A. Unless the Contractor is responsible for this service, the independent testing agency shall submit a certified written report of each inspection, test, or similar service to the Architect/Engineer with copies to the Owner and Contractor. If the Contractor is responsible for the service, submit a certified written report, in duplicate, of each inspection, test, or similar service through the Contractor.
1. Submit additional copies of each written report directly to the governing authority, when the authority so directs.
 2. Report Data: Written reports of each inspection, test, or similar service include, but are not limited to, the following:
 - a. Date of issue.
 - b. Project title, address and number.
 - c. Name, address, and telephone number of testing agency.
 - d. Dates and locations of samples and tests or inspections.
 - e. Names of individuals making the inspection or test.
 - f. Designation of the Work and test method.
 - g. Identification of product and Specification Section.
 - h. Complete inspection or test data.
 - i. Test results and an interpretation of test results.
 - j. Ambient conditions at the time of sample taking and testing.
 - k. Comments or professional opinion on whether inspected or tested Work complies with Contract Document requirements.

- l. Name and signature of laboratory inspector.
- m. Recommendations on retesting.

1.4 QUALITY ASSURANCE

- A. Qualifications for Service Agencies: Engage inspection and testing service agencies, including independent testing laboratories, that are prequalified as complying with the American Council of Independent Laboratories' "Recommended Requirements for Independent Laboratory Qualification" and that specialize in the types of inspections and tests to be performed.
 - 1. Each independent inspection and testing agency engaged on the Project shall be authorized by authorities having jurisdiction to operate in the jurisdiction where the Project is located.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: Upon completion of inspection, testing, sample taking and similar services, repair damaged construction and restore substrates and finishes. Comply with Contract Document requirements for Division 1 Section "Cutting and Patching."
- B. Protect construction exposed by or for quality-control service activities and protect repaired construction.
- C. Repair and protection is Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing, or similar services.

END OF SECTION 01 4500

SECTION 01 4523 - TESTING AND INSPECTION SERVICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Special structural inspections required by Code.
 - 2. Geotechnical evaluation and inspection services.
 - 3. Field quality control testing and inspections, including, but not limited to Water penetration resistance and air leakage field testing.
- B. Related Sections:
 - 1. Section 312000 - Earthwork
 - 2. Section 033000 - Cast-in-Place Concrete
 - 3. Section 051200 - Structural Steel
 - 4. Section 053100 - Steel Deck
 - 5. Division 22 - Plumbing
 - 6. Division 23 - Heating, Ventilating, and Air Conditioning
 - 7. Division 26 - Electrical

1.2 REFERENCES

- A. Reference Standards: Current edition at date of Bid.
- B. American Concrete Institute (ACI):
 - 1. ACI 214 - Recommended Practice for Evaluation of Strength Test Results of Concrete.
 - 2. ACI 318 - Code Interpretation of Building Code Requirements for Reinforced Concrete.
- C. ASTM International:
 - 1. ASTM C31 - Practices for Making and Curing Concrete Test Specimens in the Field.
 - 2. ASTM C33 - Standard Specifications for Concrete Aggregates.
 - 3. ASTM C39 - Test Method for Compressive Strength of Cylindrical Concrete Specimens.
 - 4. ASTM C42 - Method of Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.
 - 5. ASTM C143 - Test Method for Slump of Hydraulic Cement Concrete.
 - 6. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
 - 7. ASTM C1314 - Standard Test for Compressive Strength of Masonry Prisms.

8. ASTM D1557 - Test Method for Moisture-Density Relations of Soils, and Soil-Aggregate Mixtures Using 10-lb. (4.54 kg) Rammer and 18-in. (457 mm) Drop.
 9. ASTM C1077 - Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation
 10. ASTM E329 - Practice for Use in the Evaluation of Testing and Inspection Agencies as Used on Construction.
 11. ASTM E605 - Standard Test Methods for Thickness and Density of Sprayed Fire-Resistive Material (SFRM) Applied to Structural Materials.
 12. ASTM E2174 - Standard Practice for On-Site Inspection of Installed Fire Stops
- D. Association of the Wall and Ceiling Industries International (AWCI): AWCI Technical Manual 12-B - Standard Practice for the Testing and Inspection of Field Applied Thin-Film Intumescent Fire-Resistive Materials; an Annotated Guide. Web Site <http://www.awci.org>.

1.3 REGULATORY REQUIREMENTS

- A. Conform to IBC Chapter 17 and building code authority having jurisdiction for requirements pertaining to structural tests and special inspections.
- B. Statement of Special Inspections: Prepared by Structural Engineer of Record, as shown on Structural Drawings, conforming to provisions of IBC Section 1705.
- C. Contactor's Statement of Responsibility: Conform to IBC Section 1706 for written statement of responsibility for construction of a main wind-force-resisting system or component and seismic-resisting system or component listed in Statement of Special Inspections.
 1. Submit to building code official and Owner.
 2. Submit to Architect for review, conforming to Section 013300, and prior to submitting to building code official.

1.4 TESTING AND INSPECTION SERVICES

- A. Special Inspector Required by Code:
 1. Employed by Owner.
 2. Registered and approved by regulatory authority having local jurisdiction to conduct Special Inspections, testing, and laboratory services, required by IBC Chapter 17.
 3. Qualified as ACI Concrete Inspector Level II or equivalent for concrete inspections.
- B. Geotechnical (Soils) Engineer: Employed by Owner to conduct Special Inspections, including construction observation and soils engineering services, for work pertaining to soils, drainage, shoring, and related earthwork excavations, grading, and filling to satisfy conformance to provisions of IBC Chapter 18 Soils and Foundations and Building Code Official.

- C. Field Quality Control Testing, Inspection, and Laboratory Services: Independent inspection and testing services not required by Authorities Having Jurisdiction will be employed at Owner discretion.
 - 1. Independent testing laboratory certified or accredited by qualifying agency or organization to perform testing, inspections, and provide laboratory services to verify conformance to reference standards and other specified provisions.
 - 2. Inspection services may include but are not limited to following:
 - a. Concrete moisture vapor emissions and relative humidity testing at concrete slabs.
 - b. Painting and coating systems, including site and shop applications.
 - c. Building enclosure including roofing, waterproofing, and air and vapor barrier systems at perimeter wall systems.
 - d. Window, storefront, curtain wall, and skylight testing and inspection services to verify in place systems as conformance to specified performance and design criteria.
 - e. Electrical low voltage wiring systems.
 - f. Electrical illumination lighting controls.
 - g. Biological hazards including pest, mold, and microbial testing and inspection services.
 - h. Asbestos, PCBs, lead, and chemically hazardous testing, evaluation, and abatement services.

1.5 DUTIES OF TESTING AND INSPECTION SERVICES

- A. Special Inspector: Perform specified inspecting, sampling, and testing conforming to specified Reference Standards, provisions of Contract Documents, and requirements of IBC Section 1704 for Special Inspections.
- B. Geotechnical Engineer:
 - 1. Perform inspection, testing, and verification of substrate conditions for foundations, slabs-on-grade, and other site construction.
 - 2. Determine conditions requiring special procedures and make report to Owner and Architect detailing observed topographical conditions.
- C. Field Quality Control Testing, Inspection, and Laboratory Services: Perform specified field quality control testing of samples, mock-ups, and in-place work to verify conformance of manufactured products to that specified.
- D. Attend preconstruction and progress meetings and pre-installation conferences when requested.
- E. Promptly notify Architect, Owner, Contractor, and Building Code Official of observed irregularities and non-conformance to provisions of Contract Documents and requirements of IBC.

1.6 REPORTS BY TESTING AND INSPECTION SERVICES

- A. After each inspection and test, copies of field reports will be submitted to Owner, Architect, Contractor, and Building Department (where applicable) for filing with Contractor's Project Record Documents File.
- B. Notification of Noncompliance: Reports will be submitted to Owner, Architect, and Building Code Official (where applicable) of work not in compliance with Contract Documents or with IBC provisions.
- C. Include for Each Report:
 - 1. Date issued
 - 2. Project title and number.
 - 3. Name of inspector.
 - 4. Testing laboratory address, and telephone number.
 - 5. Identification of product and specification Section and number.
 - 6. Location of Project.
 - 7. Record of weather conditions.
 - 8. Date and time of sampling or inspection.
 - 9. Date and type of test.
 - 10. Location of sample or test in the Project.
 - 11. Results of tests.
 - 12. Compliance with Contract Documents.
- D. Perform additional tests, requested by Building Code Official, Owner, or Architect. Owner will deduct from Contract Sum, cost of additional testing showing work in non-conformance with Contract Documents.

1.7 LIMITS ON AUTHORITY

- A. Special Inspector, Testing Agencies, Laboratory Services, and Quality Control Inspectors are not authorized to:
 - 1. Release, revoke, alter, or enlarge on requirements of Contract Documents.
 - 2. Approve or accept work.
 - 3. Assume or perform duties of Contractor.
 - 4. Stop work or authorize additional work.
- B. Geotechnical Engineer may approve or reject some portions of the work and may recommend to Architect that the Contractor do work which may enlarge on or diminish Work.

1.8 CONTRACTOR'S RESPONSIBILITIES

- A. Employment of Special Inspector, Geotechnical Engineer, and other special testing and inspection agencies does not relieve Contractor of responsibility to perform Work in conformance to provisions of Contract Documents
- B. Cooperate with Special Inspector, Geotechnical Engineer, and other special testing and inspection agencies employed by Owner. Provide access to work at Project site and sources off site in order to expedite provisions of this Section.

- C. Coordinate, sequence, and schedule inspections and testing and show on Progress Schedule.
 - 1. Give minimum 48 hours notice to allow time for assignment of personnel and scheduling of tests by testing and inspection agencies
 - 2. Reimburse Owner for costs of travel, time and expenses incurred when inspections or tests cannot be performed after notice and arrival of testing and inspection personnel.
- D. Maintain copies of inspections, testing, and laboratory reports at Project Site as Project Record Documents.

1.9 SCHEDULE OF SOILS AND FOUNDATIONS INSPECTIONS

- A. Site work foundation and soils investigations conforming to IBC Chapter 18 and as specified by individual specification Sections will be conducted by Geotechnical Engineer. Additional testing will be performed as requested by Architect or building code official.
- B. Site Work including Earthwork:
 - 1. Excavation of unsuitable material.
 - 2. Testing and acceptance or rejection of on-site and imported material for use as structural fill.
 - 3. Preparation of subgrade surfaces to receive additional fill, concrete footings, or concrete slabs.
 - 4. Placement and compaction testing of structural fill.
- C. Soils Compaction Tests: Conform to ASTM D1557.
 - 1. Compacted Fills, Subgrades, Sub-Bases, and Base Courses (Other Than Interior Concrete Slabs-On-Grade): Minimum one test per 1000 square feet for each lift.
 - 2. Fills Under Interior Concrete Slabs-On-Grade: Minimum one test per 500 square feet for each lift.
 - 3. Fills under Foundation Walls and Footings, and Backfill of Foundation Walls and Footings: Not less than one test per 100 linear feet of wall footing for each lift.
- D. Special Grading, Excavations, and Filling: As specified by Section 312000 and as required by IBC Chapter 18.
- E. Utility Trench Bottoms, Backfill of Utility Trenches Under Concrete Slabs-on-Grade, Foundation Walls, and Asphalt Paving: Minimum one test per 100 linear feet of trench for each lift.
- F. Drilled Piers: Inspections and testing of drilling and placing concrete and as specified by Section 316329 and as required by IBC Section 1704.9.

1.10 SCHEDULE OF STRUCTURAL TESTS AND SPECIAL INSPECTIONS

- A. Structural tests and special investigations, including special inspections and testing for seismic resistance required by IBC Chapter 17, and as specified by individual

specification Sections, will be performed by Special Inspector. Additional testing will be performed as requested by Architect or building code official.

1.11 STEEL CONSTRUCTION TESTS AND INSPECTIONS

- A. Structural Observations: As specified by Division 04 Sections and as required for inspection of steel elements of building and structure erections as defined by IBC Section 1704.3 and Table 1704.3.

1.12 CONCRETE CONSTRUCTION TESTS AND INSPECTIONS

- A. Concrete, General: As specified by Division 03, Division 31, and Division 32 Sections and as required by IBC Section 1704.4 and Table 1704.4.
- B. Reinforcing Steel:
 - 1. Prior to placing of reinforcing steel, verify that reinforcing complies with requirements of Structural Notes and Drawings.
 - 2. Verify grade, size, and placement of reinforcing steel, fabric, and embedded items prior to closing off by formwork and concrete or grout placement.
 - 3. Check condition of reinforcing and embedded items for bond integrity with concrete.
- C. Concrete Delivery and Placement:
 - 1. Check and keep record of batch tickets for compliance with required mix design.
 - 2. Remain on project site during placement of structural reinforced concrete.
 - 3. Prior to placement of concrete, Inspect:
 - a. Accuracy, configuration, and cleanliness of formwork.
 - b. Cleanliness, quantity, and placement of reinforcing steel.
- D. Aggregates for Normal Weight Concrete: Sample and perform Gradation Test to ASTM C33 on first day and every other day thereafter during course of construction.
- E. Testing and Sampling of Concrete Mix Water:
 - 1. Submit 1 test with the mix design.
 - 2. Submit 1 test each week during course of concrete placement.
 - 3. Test six cubes each test. 3 cubes with wash water and 3 cubes with potable water.
 - 4. Conduct chemical tests, 1 per week during course of concrete placement.
- F. Sampling for Concrete Compression Tests:
 - 1. Take representative samples of fresh concrete conforming to ASTM C172 for each concrete mix delivered to project.
 - a. No samples are required for less than 5 cubic yards of concrete.
 - b. Take one sample for placement of 5 to 25 cubic yards.
 - c. Take one additional sample for each additional 150 cubic yards.
 - d. Minimum of one sample each day mix is delivered
 - 2. Make and cure test 4 inch by 8 inch test cylinder specimens conforming to ASTM C31.

G. Concrete Compression Tests of Test Cylinders:

1. Test to ASTM C39 for each concrete mix conforming to following:

Age at Test (Days)	Number of Cylinders to be Tested and Broken	
	Acceptance Age: 56 Days	Acceptance Age: 28 Days
7	1	1
28	2	2
56	2	-
Hold	1	1

2. Basis for Compliance:

- Meet or exceed specified compressive strength for average of 3 consecutive strength tests for each concrete mix.
- Individual strength test average of 2 cylinders does not fall more than 500 psi below specified compressive strength.

3. Test Report: Indicate exact mix tested, minimum aggregate size, location and type of concrete placement, cylinder identification, date of receiving test cylinder in laboratory, cement brand and type, and admixtures used.

H. In-Place Concrete Core Tests: Conduct further testing, at Contractor's expense, of concrete where cylinder test cylinders fall 500 psi below specified compressive strength or where tests of field-cured cylinders indicate deficiencies in protection or curing.

- Testing Procedure: Test to ASTM C42. Take at least three 2 inch diameter core samples from concrete placement locations considered questionable as directed by Architect.
- Damaged Core Samples: Replace samples damaged during removal or subsequent testing with new core sample.
- Basis for Acceptance: Average compressive strength of core samples at least 85 percent of that specified and no single core sample less than 75 percent of that specified. Where not accepted, Structural Engineer analysis and correction of work will be made at Contractor's expense.
- Core Holes: Repair at Contractor's expense using accepted dry pack or specified non-shrink grout.

I. Concrete Slump Tests: Make slump test for each batch delivered and at least 1 test each hour during continuous placements. Verify that batches are consistent. Test each batch to ASTM C143.

J. Air Content: Test each set of concrete compression test cylinders to ASTM C231 at minimum one test each day.

K. Concrete Curing Procedures: Conduct inspections and verify compliance with specified requirements.

L. Anchors: Inspect epoxy anchors and expansion bolts installed in concrete as defined by IBC Chapter 17.

1.13 BUILDING ENVELOPE TESTING AND INSPECTION

A. Water Penetration Resistance Field Testing:

1. At least one (1) window of each operational type will be tested to the Specified Field Test Pressure, that is specified below in accordance with the current version of ASTM E 1105. For storefront and curtain wall assemblies, Procedure A (Uniform) test will be used for a single cycle not less than 20 minutes in duration. The initial test will be inclusive of both installation interface and window product. In the case of failure (defined in ASTM 1105), the representative sample will be expanded to five (5) specimens in order to obtain statistical confidence in remedial repairs if needed. In the case of failure, the responsible party will be held financially liable for the cost of retesting, and any related wall assembly or cladding deconstruction needed to obtain passing results. This test specification supersedes AAMA Voluntary Specification for Field Testing. The test reports will be reviewed and approved by a registered Professional Building Envelope Engineer.
 2. Regardless of AAMA deductions for field installed product, the minimum Water Resistance Field Test Pressure (during field test), as determined by the consultant, shall be:
 - a. 6.0 psf for windows
 - b. 6.0 psf for swing doors
 - c. 6.0 psf for sliding doors
 - d. 6.0 psf for skylights
 3. The above referenced test pressures should be placed on the purchase order prior to ordering the windows or doors.
 4. Doors are to be installed and tested in a similar fashion as windows.
- B. Air Leakage Testing:
1. Whole Building Air Barrier Leakage Testing
 2. Testing to be in accordance with ASTM E779 or approved equivalent test method. Criteria for maximum allowed leakage to be in accordance with the Current Energy Code. This test should be conducted on a completed air barrier assembly. Testing may take place later in the construction sequence, but the contractor will be liable for costs of removal of finishes and/or cladding required to provide corrections to the air barrier system in the event of failure, in addition diagnostic assessment costs. Maximum allowed leakage is .4 CFM/Ft²@75Pa (1.57psf).
 3. All penetrations through the air barrier pressure boundaries shall be sealed to an air tight condition per ASTM 2357.
 4. Contractor is responsible for sealing all vents and other openings to the exterior prior to testing in accordance with checklist to be provided by Air leakage Testing Agency.
 5. In the case of excessive air leakage as defined by 2012 Washington State Energy Code, air barrier diagnostic assessment would include Infrared Thermography and/or theatrical smoke application to determine air leakage paths and deficiencies for in-situ contractor repair. Diagnostics will be performed under pressurization or depressurization in general conformance with ASTM E 1186. Contractor shall repair deficiencies located in an effort to achieve prescribed maximum leakage rate.
 6. Upon passing of the test, a Whole Building Air Barrier Test report will be issued to the project team for the purpose of Certificate of Occupancy procurement.
 7. Any questions or concerns regarding air barrier testing should be addressed to BEE Consulting, LLC.

1.14 OTHER MISCELLANEOUS TESTS AND INSPECTIONS

- A. Special Cases: As required by IBC, as determined by Building Code Official, and as requested by Architect

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 4523

SECTION 01 5000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Procedures and requirements for construction facilities and temporary controls, including temporary utilities, support facilities, and security and protection.
 - 1. Temporary utilities include:
 - a. Water service and distribution.
 - b. Temporary electric power and light.
 - c. Temporary heat and humidity control.
 - d. Ventilation.
 - e. Telephone and facsimile service.
 - f. Photocopier service.
 - g. Sanitary facilities and services, including drinking water.
 - h. Storm and sanitary sewer.
 - 2. Support facilities include:
 - a. Field offices and storage sheds.
 - b. Temporary roads and paving.
 - c. Dewatering facilities and drains.
 - d. Temporary enclosures.
 - e. Hoists and temporary elevator use.
 - f. Project Site sign, temporary project identification signs and bulletin boards.
 - g. Waste disposal services.
 - h. Construction aids and miscellaneous services and facilities.
 - 3. Security and protection facilities include:
 - a. Temporary fire protection and fire watch.
 - b. Barricades, warning signs, directional signs and lights.
 - c. Secure enclosure fence for site or work areas.
 - d. Landscape protection.
 - e. Environmental protection.
- B. Related Requirements:
 - 1. Section 00 2410 - General Scope of Work

1.2 REFERENCES

- A. Reference Standards: Conform to following for temporary construction and electrical services:
- B. National Fire Protection Association (NFPA):
 - 1. NFPA 241 - Standard for Safeguarding Construction, Alterations, and Demolition –Operations
 - 2. NFPA 70 - National Electric Code

- C. American National Standards Institute (ANSI):
 - 1. ANSI A10 - Safety Requirements for Construction and Demolition
 - 2. National Electrical Contractors Association (NECA):
- D. NECA Electrical Design Library - Temporary Electrical Facilities
- E. National Electrical Manufacturers Association (NEMA):
- F. Underwriters Laboratory Services (UL): UL standards and regulations

1.3 QUALITY ASSURANCE

- A. Regulations: Conform to industry standards and applicable laws and regulations of authorities having jurisdiction including, but not limited to, following:
 - 1. Building code requirements.
 - 2. Health and safety regulations.
 - 3. Utility company regulations.
 - 4. Police, fire department, and rescue squad rules.
 - 5. Environmental protection regulations including, but not limited to, control of storm water runoff, dust and noise.
 - 6. State Department of Labor and Industries, WISHA and OSHA requirements.
- B. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.4 PROJECT CONDITIONS

- A. Temporary Utilities:
 - 1. Prepare a schedule indicating dates for implementation and termination of each temporary utility.
 - 2. At earliest feasible time, when acceptable to Owner, change over from use of temporary service to use of permanent service.
- B. Conditions of Use:
 - 1. Keep temporary services and facilities clean and neat in appearance.
 - 2. Operate in a safe and efficient manner.
 - 3. Relocate temporary services and facilities as Work progresses.
 - 4. Do not overload facilities or permit them to interfere with progress.
 - 5. Take necessary fire-prevention measures.
 - 6. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.
- C. Access:
 - 1. Provide free, safe and unencumbered access on or across site for personnel, vehicles and equipment authorized to use site by Owner and contractors under separate contracts with Owner other than Work of this Contract.
 - 2. Maintain free, safe, and direct access to neighboring properties, where access is by means of public streets and easement across Owner's property, for owners, their guests, and emergency, service, and delivery vehicles.

- D. Monitoring and Maintenance Program:
 - 1. Set up to maintain streets and sidewalks affected by project.
 - 2. Minimize accumulation of dirt, dust, and other pollutants by sweeping, hosing, and means as necessary to maintain in a safe and clean condition.
 - 3. Maintain streets in good repair and traversable condition.
- E. Public Safety and Property Protection: Conform to prudent construction practice, local building codes, ordinances, other authorities having jurisdiction, and provisions of Contract Documents.
 - 1. Protect adjoining private and municipal properties.
 - 2. Provide barricades, temporary fences, and covered walkways.
 - 3. Promptly repair damage and disturbance to walls, fences, utilities, sidewalks, curbs, landscaping and other adjacent properties (including municipalities).
 - 4. Maintain new and existing work, materials, and equipment to remain under Work of this Contract free from damage from construction damage and from weather exposure including rain, wind, storms, dust, cold, and heat.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Provide new materials, except where undamaged, previously used materials in serviceable condition are accepted by Architect.
- B. Lumber and Plywood: Conform to provisions of Building Improvement Section 061000 Rough Carpentry.
 - 1. Signs and Directory Boards: Exterior-type, Grade B-B high-density concrete form overlay plywood, 5/8-inch thick, and conforming to provisions of Section 015813.
 - 2. Safety Barriers, Sidewalk Bridges, and Similar Uses: Minimum 3/4-inch thick exterior plywood, except provide thicker and stronger material, as suitable applicable to hazardous conditions.
- C. Tarpaulins: Heavy duty, waterproof, fire-resistant, UL-labeled with flame-spread rating of 15 or less.
 - 1. Tarpaulins at Temporary Enclosures: Translucent, nylon-reinforced, laminated polyethylene or polyvinyl chloride, fire-retardant.
 - 2. Tarpaulins with Noticeable Cuts, Leaks, and Soiling: Promptly replace.
 - 3. Wind Protection: Include tie downs, weighting, and other methods sufficient to keep units in place without flapping or tearing loose.
- D. Water: Potable, as approved by local health authorities.
- E. Construction Fencing: Minimum 6 feet high.
 - 1. Fabric: 11 gage, galvanized 2-inch open mesh chain-link.
 - 2. Pipe Posts: Galvanized steel.
 - a. Ground Installations:
 - 1) Line Posts: 1-1/2 inch I.D.
 - 2) Corner Posts: 2-1/2 inches I.D.

3. Portable Fencing: Same gage, mesh and height, except standard posts for system.
4. Seat tightly in concrete blocks or other solid foundation blocks designed for use.
5. Securely bolt or chain and lock at intermediate and corner posts to discourage unauthorized entry.
6. Barbed, razor, and electrified wire fencing is not permitted.

2.2 EQUIPMENT

- A. General: Provide new equipment, except where undamaged, previously used equipment in serviceable condition is accepted by Architect.
- B. Temporary Water Service: Make arrangements with local utility companies and provide water for drinking and construction use, including piping, trenching, backfilling, valves, pressure reducing stations, taps, hose bibs, and meters.
 1. Drinking water: Single serving containers and sanitary drinking fountains, not used for other construction purposes.
 2. Hoses: 3/4-inch (19-mm), heavy-duty, abrasion-resistant, flexible rubber hoses, 100 feet (30 m) long with pressure rating greater than maximum pressure of water distribution system.
 - a. Provide adjustable shutoff nozzles at hose discharge.
 - b. Promptly repair or replace hoses with active leaks.
 3. Take measures to protect service lines from freezing.
- C. Temporary Electricity: Obtain temporary service and transformers from local utility to provide adequate power for lighting, heating/cooling, ventilation, humidity control, and equipment, power-tools, and other construction activities.
 1. Electrical Distribution: Install panels boxes, circuits, breakers, and distribution boxes with protection against surges and excess voltage as needed for adequate and convenient electrical service for Work.
 2. Electrical Outlets:
 - a. Outlets: NEMA-polarized, configured to prevent insertion of 110 through 120 volt plugs into higher voltage outlets.
 - b. Receptacle Outlets: Equip with ground-fault circuit interrupters, reset button, and pilot light for connection of power tools and equipment.
 3. Electrical Power Cords:
 - a. Extension Cords: Grounded.
 - b. Hard-Service Cords: Where exposed to abrasion and traffic.
 - c. Waterproof Connectors: Locate at separate power cords where single lengths will not reach construction activity areas
 - d. Safe Length-Voltage Ratio: Do not exceed.
- D. Temporary Lighting: General service lamps of wattage adequate for illumination of Work, and for illumination of access and egress routes, and for security purposes.
 1. Guard Cages and Tempered-Glass Enclosures: Provide where exposed to breakage.
 2. Waterproof Fixtures: Provide at exterior and conditions exposed to moisture.
- E. Temporary Heating Units: Tested and labeled by UL, FM, or another recognized trade association related to type of fuel being consumed.

1. Not Accepted: Propane and gasoline fueled heaters, open flame heaters (Salamanders), and other temporary heating systems that generate moisture and fumes.
 2. Where heating is needed for curing, drying, and heating work areas, assign personnel to monitor and ensure:
 - a. Fire safety.
 - b. Proper equipment operating procedures.
 - c. Applicable refueling procedures and electrical connections.
 - d. Continuous operation during heating period, including non-working hours and weekends.
 3. Use of existing and new units provided under Work of this Contract is not accepted.
- F. Temporary Humidity and Air Conditioning Control Units: Tested and labeled by UL, FM, or another recognized trade association.
1. Where dehumidification and air conditioning procedures are needed for curing, drying, regulating relative humidity, and air conditioning construction areas assign personnel to monitor and ensure:
 - a. Fire safety.
 - b. Proper equipment operating procedures.
 - c. Applicable refueling procedures, replacement of desiccants, and connections to electrical power.
 - d. Continuous operation during dehumidification period, including non-working hours and weekends.
 2. Use of existing and new units provided under Work of this Contract is not accepted.
- G. Temporary Ventilation Control Units: Tested and labeled by UL, FM, or another recognized trade association.
1. Where ventilation is needed for curing, drying, personnel safety and comfort, and maintaining fresh air in work areas, assign personnel to monitor and ensure:
 - a. Fire safety.
 - b. Proper equipment operating procedures.
 - c. Applicable refueling procedures, replacement of desiccants, and connections to electrical power.
 - d. Continuous operation during ventilation period, including non-working hours and weekends.
 2. Use of permanent existing and new units provided under Work of this Contract is not accepted.
- H. Temporary Offices: Prefabricated, mobile units, or similar job-built construction with lockable entrances, operable windows, and serviceable finishes. Provide heated and air-conditioned units on foundations adequate for normal loading.
- I. Temporary Toilet Units: Standard self-contained, single-occupant chemical or aerated recirculation type.
1. Vented and enclosed with glass-fiber-reinforced polyester shell or similar nonabsorbent material.
 2. Privacy locks that indicate when occupied.
 3. Do not include other types of locks that might allow personnel to be locked inside units.

- J. Fire Extinguishers: Hand-carried, portable, UL-rated, Class A fire extinguishers for temporary offices and similar spaces. In other locations, provide hand-carried, portable, UL-rated, Class ABC, dry-chemical extinguishers or combination of extinguishers of NFPA-recommended classes for applicable exposures.
 - 1. Conform to NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.
 - 2. Consult with and conform to directions of local Fire Marshall and appropriate insurance carriers for adequacy of protection.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Use qualified personnel for installation of temporary facilities.
- B. Locate temporary facilities at staging area as shown on Drawings where they will serve Project adequately, result in minimum interference with performance of Work, and as directed by Architect.
- C. Provide each facility ready for use as necessary to avoid delays in Work.
- D. Maintain, modify, and relocate, as necessary to accommodate construction activities and use of site.
- E. Remove temporary facilities when no longer needed following completion of permanent construction or when authorized use of permanent facilities is agreed to by Owner.

3.2 TEMPORARY UTILITIES INSTALLATION

- A. General: Arrange for local utility companies to install temporary services or connect to existing services where acceptable to Owner. For temporary utility connections, extensions, and connections to permanent utility lines, use compatible products and equipment, as recommend by applicable utility companies.
 - 1. Interruptions of Existing Site Utility Services: Where required to make connections of temporary utilities to in-place utility lines, arrange with utility companies to perform work at days and hours that cause minimal impact to utility users.
 - 2. Adequate Utility Services: Take measures to provide throughout construction site. Provide trucked-in utility services prior to and where temporary utility services are inadequate or not in place.
 - 3. Easements: Where Owner easements are impractical or do not exist, take measures to obtain new easements as necessary to bring temporary utilities to site locations.
 - 4. Use Charges: Pay for and include utility costs in stipulated Contract Sum. Owner and Architect will not pay temporary utility costs nor accept these cost or as basis for a Change Order.
- B. Temporary Water Service: Install potable, fresh water supply to construction locations.

1. Temporary Water Piping:
 - a. Sterilize prior to use.
 - b. Distribute piping in sizes and in pressure capacity adequate for construction supply needs.
 2. Water Safety: Maintain. Do not permit:
 - a. Leaks, overflows, and accumulation of water in open containers
 - b. Ponding of water that could become brackish, foul smelling, stagnant, favor insect breeding, pose possible health or pollution hazard, adversely affect site users and neighboring properties, or become a nuisance.
- C. Temporary Electric Power Service and Distribution: Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics as needed to service construction activities.
1. Provide temporary underground services where existing services are also underground. Temporary overhead services are accepted where existing services are overhead.
 2. At overhead wiring, rise vertically at locations least likely to pose a hazard and to be exposed to damage.
 3. Nonmetallic sheathed cable is accepted at distribution wiring and lighting circuits where AC power lines, not exceeding 125 Volts / 20 Amps, are overhead, exposed for surveillance, and permitted by code.
 4. Include meters, transformers, overload-protected disconnects, automatic ground-fault interrupters, and main distribution switch gear.
- D. Temporary Lighting: Provide temporary lighting with local switching, following installation of overhead floors and roof decks.
1. Install and operate temporary lighting that will fulfill security and protection requirements without operating entire system.
 2. Provide temporary lighting that will provide adequate illumination for construction operations and traffic conditions.
 3. Do not allow lighting to cause glare and nuisance illumination into Owner occupied portions of site, neighboring properties, and public right-of-ways.
 4. Provide temporary safety lighting at existing site parking areas, walkways, exit pathways, exit signs, as needed for emergency lighting, and where safety lighting is prudent.
 - a. Where existing safety lighting has been removed during construction, replace with temporary lighting of same or a greater level of illumination and performance.
- E. Temporary Heating and Ventilating: Provide as required by construction activities:
1. Provide ambient air and surface temperatures, relative humidity, and as suitable for conditioning, curing, and drying construction materials, including products, and finishes.
 2. Prevent exposure of installed construction materials from adverse effects resulting from low temperatures, dampness, water vapor, and high relative humidity.
 3. Ventilate to move fresh air into and circulate excess moisture and fumes from interior building spaces.
 4. Optimize to meet requirements while reducing unnecessary energy consumption.

- F. Temporary Communications Devices: Provide photo copier, email, and high speed internet services at construction offices through construction period for use by personnel engaged in construction activities.
 - 1. Telephone List: Provide on field office wall near entry door. Include important telephone numbers including emergency numbers.
 - 2. Cellular Telephone: Provide project superintendent and other lead personnel with operational mobile telephone to make person available during work hours. Furnish Owner, Architect, and on-site school principal with each mobile phone number.
 - 3. Photocopier: Provide an operational photocopy machine in Field Office or other convenient on-site location for use by construction personnel.
 - a. Make accessible for use by Owner and Architect.
 - b. Regularly service and maintain machine and provide on-site extra stock of paper, toner and other expendables for Project use.
 - c. Furnish with capacity to be stocked and able to feed multiple sheets of 11 by 17 inch paper.
 - 4. Provide continuous internet connection at Field office with broadband, network, or wireless high speed connection.
 - 5. Maintain email address at field office with 24 hour automatic message downloading and notification.
- G. Temporary Sanitary facilities: Provide temporary toilets and drinking-water fixtures. Conform to governing regulations and health codes for types, number, location, operation, and maintenance of fixtures and facilities. Do not use Owner's facilities, except as explicitly indicated in writing by Owner or included under provisions of Contract Documents.
 - 1. Provide toilet tissue, paper cups, and similar disposable materials for each facility.
 - 2. Provide covered waste containers for used material.
 - 3. Provide safety showers, eyewash fountains, and similar facilities for convenience, safety, and sanitation of personnel, conforming to requirements of governing regulations and health codes.
- H. Temporary Drinking-Water Facilities: Provide containerized tap-dispensers or bottled drinking water units, including supply of cups for use by construction personnel and visitors.
 - 1. Electric Water Coolers: Maintain dispensed water temperature at 45 to 55 deg F (7 to 13 deg C).
- I. Temporary Sanitary Sewers:

1. Where public sanitary sewers are available and connections are allowed under law, provide temporary connections to remove effluent in conformance to and with written permission by authority having jurisdiction.
 2. Where public sanitary sewers are not available or cannot be used for discharge of effluent, provide closed containers to remove and dispose of effluent off-site in a lawful manner.
 - a. Take measures as required to prevent effluent from discharging and contaminating project site, neighboring properties, and public right-of-ways.
- J. Temporary Storm Sewers:
1. Where public storm sewers are available and making connections are allowed under the law, provide temporary to remove run-off in conformance to and with written permission of authority having jurisdiction.
 2. Where public storm sewers are not available or cannot be used, provide drainage ditches, dry wells, stabilization ponds, erosion control and similar facilities as required by authority having jurisdiction.
 - a. Take measures as needed to control and to prevent run-off from reaching neighboring properties, drainage ways, streams, rivers, ponds, lakes, wetlands, Owner occupied portions of site, and public right of ways.
 - b. Trap sediment and filter out soil, construction debris, chemicals, oils, and all contaminants that might clog sewers, drainage ways or pollute waterways or soils, before discharge.
 - c. Construct earthen embankments, berms, swales, solid covers, and means to control and prevent rain and storm water runoff from flooding excavations and subgrade construction.
 - d. Provide flashing marker lights, barricades, solid covers, warning signs, and other devices as necessary to warn personnel and passersby of excavations and to reduce tripping and falling hazards.
 3. Maintain temporary storm sewers and drainage facilities in a clean, sanitary, and functional condition.
 4. Assign responsible personnel to monitor storm sewer facilities around the clock and over weekends during storms and similar events, as conditions warrant, to ensure that function and capacity of storm sewer systems are uncompromised and undamaged.
 5. Promptly repair to original or better condition and pay charges and restitution based upon monetary loss, penalties, and replacement for damages to neighboring properties, waterways, wetlands, public right of ways, Owner's property, and to Work of this Contract. Payments are not accepted as bases for compensation from Owner and Architect.
 6. Remove temporary sewer systems following use and restore areas affected to original or better conditions, leaving no visible evidence.

3.3 CONSTRUCTION CLEANING

- A. Initiate and maintain cleaning program to clean trash and debris on daily basis and periodically remove waste and debris from site.
1. Maintain and leave project construction areas broom clean at end of each work day.
 2. Do not stockpile or accumulate construction waste and debris at construction site.

3. Dispose of flammable, hazardous, and toxic waste materials on daily basis. Do not permit storage inside building areas or near vegetation.
 4. Supply on-site containers for collection of debris, and rubbish. Coordinate dumpster location with Architect.
 5. Provide for additional collection and disposal of debris whenever scheduled program is inadequate to prevent accumulation.
 6. Keep construction site, adjacent properties, storm sewers, access roads, and haul routes free from accumulation of waste materials, rubbish, debris, and extraneous materials.
 7. Prohibit overloading of trucks to prevent spillages on access and haul routes.
 8. Provide periodic inspection of traffic areas to enforce requirements.
- B. Owner Occupied Areas (where applicable): Provide janitorial services on daily basis equivalent to that maintained by Owner's own janitorial staff, ready for next period of usage by occupants.
1. Clean, dust, and vacuum Owner occupant areas as applicable, including floors, cabinetry, equipment, furnishings, and work surfaces including countertops, tackboards, and markerboards.
 2. Provide services after hours or on weekends in active areas.
 3. Remove construction debris, tools, materials, and equipment to safe and secure locations that are not accessible by occupants.

3.4 SUPPORT FACILITIES INSTALLATION

- A. Locate field offices, storage sheds, and other temporary construction and support facilities for easy access.
1. Maintain support facilities until near Substantial Completion. Remove prior to Substantial Completion, if possible. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, where conditions acceptable to Owner can be met.
- B. Provide incombustible construction for offices, shops, and sheds located within construction area or within 30 feet (9 m) of building or property lines. Conform to requirements of NFPA 241.
- C. Field Offices: Provide insulated, weathertight temporary offices of sufficient size to accommodate required office personnel at Project Site. Keep office clean and orderly.
- D. Storage and Fabrication Sheds: Install storage and fabrication sheds sized, furnished, and equipped to accommodate materials and equipment involved, including temporary utility service. Sheds may be open shelters or fully enclosed spaces.
- E. Dewatering Facilities and Drains: For temporary drainage and dewatering facilities and operations not directly associated with construction activities included under individual Sections, conform to dewatering requirements of applicable Division 2 Sections. Where feasible, utilize same facilities. Maintain site, excavations, and construction free of water.

- F. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, theft, vandalism, other construction operations, and similar activities.
 - 1. Where heat is needed and permanent building enclosure is not complete, provide temporary enclosures where there is no other provision for containment of heat. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
 - 2. Install tarpaulins securely, with incombustible wood framing and other materials. Close openings of 25 sq. ft. (2.3 sq. m) or less with plywood or similar materials.
 - 3. Close openings through floor or roof decks and horizontal surfaces with load-bearing, wood-framed or steel construction.
- G. Temporary Lifts and Hoists: Provide facilities for hoisting materials and employees. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
- H. Temporary Elevator Use: Where elevators exist or are to be installed as part of work, they are not permitted for Contractor's use unless specifically noted otherwise.
- I. Temporary Exterior Lighting: Install exterior yard and sign lights so signs and pathways are visible when Work is being performed or site is occupied.

- J. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Conform to requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when temperature is expected to rise above 80 deg F (27 deg C). Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material lawfully.
- K. Vertical and Horizontal Access Systems: Where height or reach distances of work requires, provide scaffolds, staging, ladders, ramps, runways, platforms, railings, fall/drop prevention, hoists, cranes, chutes and other temporary access or protection systems as necessary to accomplish Work. Provide and use in accordance with all applicable regulations and manufacturer's instructions. Check regularly and maintain in first-class condition.
 - 1. Where work has option of being accessed by scaffold or swing staging and work requires special inspection, use scaffolding. Where use of swing staging cannot be avoided, train, provide all safety equipment and escort special inspectors, Architect/ Engineer and Owner when they are involved with swing staging use.

3.5 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Except for use of permanent fire protection as soon as available, do not change over from use of temporary security and protection facilities to permanent facilities until Substantial Completion, or longer, as requested by Architect/ Engineer.
- B. Temporary Fire Protection: Until fire-protection needs are supplied by permanent facilities, install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Conform to NFPA 10 "Standard for Portable Fire Extinguishers" and NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations."
 - 1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.
 - 2. Store combustible materials in containers in fire-safe locations.
 - 3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes for fighting fires. Prohibit smoking in all areas. Smoking is not allowed on school district properties by State law.
 - 4. Provide supervision of welding operations, combustion-type temporary heating units, and similar sources of fire ignition. Maintain fire watch personnel on-site during use of such devices and for adequate lengths of time after their use has been terminated to ensure sparks or embers are not smoldering in cavities or other previously undetected location.
- C. Permanent Fire Protection: At earliest feasible date in each area of Project, complete installation of permanent fire-protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities. Protect from damage and false alarms.

- D. Barricades, Warning Signs, and Lights: Conform to standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of hazard being protected against. Where appropriate and needed, provide lighting, including flashing red or amberlights.
- E. Enclosure Fence: Before starting Work, install an enclosure fence with lockable entrance gates. Locate where indicated, or enclose entire site or portion determined sufficient to accommodate construction operations. Install in a manner that will prevent people, dogs, and other animals from easily entering site, except by entrance gates. Maintain strict accounting and control of keys and locks. If keys are lost or unaccounted for, locks shall be immediately changed.
 - 1. Where projects are phased or otherwise have multiple stages, steps or where Owner occupancy will change over course of a project, presume that fencing will have to be reconfigured accordingly as many times as necessary to safely and securely accommodate such phases, stages and changes.
 - 2. At no time shall fencing be allowed to become a safety hazard to anyone or be unsecured/ unmaintained so that it does not afford reasonable security protection.
- F. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
 - 1. Storage: Where materials and equipment must be stored and are of value or attractive for theft or usable for vandalism, provide a secure lockup. Enforce discipline in connection with installation and release of material to minimize opportunity for theft and vandalism. Maintain strict accounting and control of keys and locks. If keys are lost or unaccounted for, locks shall be immediately changed.
- G. Landscape Protection: Protect existing trees, shrubs and lawns within and adjacent to area of Work where not scheduled for demolition or replacement. Where minor limb or root pruning is necessary to avoid interference with construction, employ a certified tree surgeon recognized by International Society of Arboriculture or National Arborist Association. Any pruning shall be approved by Architect/ Engineer and Owner's grounds maintenance staff prior to executing Work.
 - 1. If necessary and feasible, trees and shrubs may be removed, protected and maintained during Work and reinstalled just prior to Substantial Completion. Trees and shrubs shall be moved by, or moving supervised by, a member of Washington State Nursery and Landscape Association. Where type or size of trees and shrubs will not allow such handling, protect by means of substantial barriers that will allow organism to live but will keep people, construction operations, equipment and storage at a safe distance, especially off of root structure - outside drip line. Barriers shall be erected well outside drip line. Consult with Architect/ Engineer and Owner's grounds maintenance staff prior to executing Work. Similar barriers shall be erected around all moved plant material. Provision shall be made for proper care and maintenance of all plant material during construction.
- H. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that conform to environmental regulations, and minimize possibility that air, waterways, and subsoil might be contaminated or polluted

or that other undesirable effects might result. Avoid use of tools and equipment that produce harmful noise. Restrict use of noise-making tools and equipment to hours that will minimize complaints from persons or firms near site.

1. All jurisdictions within which District works have Noise Control Ordinances. These ordinances shall be obeyed or where violation may be necessary for specific and justifiable reasons, appropriate official within jurisdiction shall be duly notified in writing well in advance of planned occurrence. Generally, anytime during Project where noise producing work is anticipated outside of hours of 8:00 AM to 6:00 PM weekdays, Contractor shall coordinate his operations with agency responsible for enforcement of local Noise Control Ordinance. Reschedule work where possible. If rescheduling is not possible, provide mitigation by employing noise barriers or other acoustical control where feasible.
2. All jurisdictions within which District works have Nuisance Ordinances or similar. These ordinances shall be obeyed. These ordinances cover such concerns as dust, foul smells and other nuisances to general population. Contractor shall coordinate his operations with agency responsible for enforcement of such local ordinances. Provide water, water trucks, sprinklers, hoses, piping and related materials and equipment and all other requirements as needed to control dust.
3. The District places great value on relationship between itself and citizens it serves. Good neighbor relations are critically important to schools as they foster a strong sense of community and encourage citizen participation in schools which in turn yields a better educational environment for students. Contractor shall do everything within its power to avoid in anyway jeopardizing District's relationship with community in general and Project neighbors specifically. It is suggested Contractor select a point of contact within its organization to deal with neighborhood public relations for duration of Project.

3.6 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures, winds, snow loads, rain, storm water run-off, theft, vandalism, earthquake and similar elements.
 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.
 2. Protection: Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.
- C. Termination and Removal: Unless Architect/ Engineer requests that it be maintained longer, remove each temporary facility when need has ended, when 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 Contractor's property. Owner reserves right to take possession of project identification signs.

2. Remove temporary paving not intended for or acceptable for integration into permanent paving. Where area is intended for landscape development, remove soil and aggregate fill that do not conform to requirements for fill or subsoil in area. Remove materials contaminated with road oil, asphalt and other chemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, landscaping and sidewalks at temporary entrances, as required by governing authority.
3. At Substantial Completion, clean and renovate permanent facilities used during construction period including, but not limited to, following:
 - a. Replace air filters and clean inside of ductwork and housings where permanent HVAC equipment was within construction area whether or not it was routinely operating during Work.
 - b. Replace significantly worn parts and parts subject to unusual operating conditions.
 - c. Replace permanent lamps burned out or noticeably dimmed by hours of use.

END OF SECTION 01 5000

SECTION 01 5600 - TEMPORARY BARRIERS AND ENCLOSURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Construction fencing and gates.
 - 2. Site barriers and barricades.
 - 3. Temporary building enclosures.
 - 4. Removal.

1.2 REGULATORY REQUIREMENTS

- A. Regulatory Requirements: Conform to provisions of Section 015000.
- B. Conform to Washington State Department of Labor and Industries (L&I), IBC, and building code authority having jurisdiction (AHJ) for regulations related to work of this Section.

1.3 MATERIALS AND MAINTENANCE

- A. Materials: New or used, suitable for intended purposes, reasonably clean, and uniform in appearance.
- B. Install, relocate, and maintain facilities for duration of Project in structurally adequate condition as necessary for intended purpose.
- C. Avoid unauthorized interference with Owner's use of site and with public thoroughfares.

1.4 CONSTRUCTION FENCING AND GATES

- A. Prior to beginning Work, install perimeter construction fencing at approximate limit of construction and make repairs and adjustments to existing fencing as necessary to exclude public and to control access of vehicles and personnel. Supply Owner with keys for additional padlocks.
- B. Fence Type: Temporary enclosure fencing, galvanized chain link fabric and galvanized steel posts set in concrete blocks, 1-1/2 inch line posts, and 2 inch corner posts, minimum height 8 foot high.
- C. Locate vehicular entrance gates at designated access road as suitable site access. Where not designated, coordinate with Architect.
- D. Locate pedestrian entrance gates to provide controlled personnel entry.

- E. Include padlocks for entrance gates and supply Owner with key for each padlock.
- F. Where emergency access may be required such as for fire prevention or utilities, provide labeled knockout panels at point of most direct access.

1.5 BARRIERS AND BARRICADES

- A. Provide additional temporary barriers and barricades as necessary to direct traffic from unauthorized areas and to protect person and property from construction operations.
- B. Fall Protection Barriers: 42 inch high guardrail, maximum 6 inch wide openings. Construct to withstand 200 pound point load applied in horizontal direction at top of railing and in conformance to Authorities Having Jurisdiction, and to withstand 20 pound per lineal foot load applied at right angles to top of railing.
- C. Use appropriate products and materials, suitable for required purposes.
- D. Provide warning and directional signage where appropriate at barricades.

1.6 TEMPORARY BUILDING ENCLOSURES

- A. Erect temporary protection enclosures at interior and exterior portions of Building as work progresses, and remove when no longer needed.
- B. Provide weathertight enclosures, such as temporary roofing, partitions, and other means as necessary to protect finished portions of Work from construction and environmental conditions.
- C. Erect temporary enclosures to prevent entry by unauthorized persons. Provide temporary doors with padlocks.
- D. Erect temporary enclosures to prevent dirt, dust, fumes, and hazardous substances from spreading to other Building portions.
- E. Erect temporary enclosures to maintain fire resistive construction and protect building from possible flame and smoke spread.
- F. Erect in manner to be removable, using methods and attachments that are not harmful to finished construction.

1.7 REMOVAL OF FENCING, BARRIERS, AND ENCLOSURES

- A. Construction Fencing, Gates, Barriers, and Enclosures: Remove as work proceeds and no longer necessary. Completely remove remaining as part of site demobilization at completion of Work
- B. Construction Fencing and Barriers: Remove from site, except as otherwise directed by Owner. Verify with Owner and make arrangements to assume rental payments for other temporary fencing that Owner may want left in place after completion of Work.

- C. Perform filling and grading and work as necessary to conform to finish grade elevations and slopes.
- D. Clean and restore areas to eliminate evidence of temporary fencing, barriers, and enclosures.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 5600

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including general supplementary conditions and Division 01 Specification Sections, apply to work of this Section.
- B. Related Sections:
 - 1. 311000, Site Preparation.

1.2 DESCRIPTION OF WORK

- A. Protection of existing trees and root structures on site and in the adjacent right of way.

1.3 QUALITY ASSURANCE

- A. Maintain tree protection fencing in specified locations and in good condition until completion of project. Immediately replace or repair damaged, removed, or unsecure fencing.
- B. Do not store vehicles, equipment, or materials within protective enclosure. Do not store potentially harmful materials adjacent to protected areas. Potentially harmful materials include, but are not limited to: petroleum products, cement and concrete additives, lime, paints and thinners, waterproofing agents, form coatings, detergents, acids, cleaning agents.
- C. Control soil moisture within protected areas. Prevent excessive runoff from adjacent areas and provide water as needed to the trees to remain.

1.4 DAMAGED TREES

- A. Any tree not shown or ordered to be removed that is destroyed or damaged to the extent that, in the opinion of the Architect, the continued life of the tree is questionable, or which is disfigured because of carelessness, negligence, or for any other reason, shall be removed and replaced in accordance with the governing jurisdiction's codes by the Contractor at his own expense. In addition, liquidated damages will be assessed against the Contractor according to rates set by International Society of Arboriculture.

PART 2 - PRODUCTS

2.1 TREE PROTECTION FENCING

- A. Chain Link Fence: 11-gauge, galvanized chain link, 5'-0" height, 2" diameter galvanized steel posts; 11 gauge galvanized top tension wire.

2.2 GRAVEL AND ORGANIC MATERIALS

- A. Arborist Mulch: Mulch shall have shredded wood chips, or another acceptable alternative. Mulch shall be free of pathogens detrimental to plant growth, noxious weeds, deleterious materials and debris, and shall pass through a 1" screen. Submit a 1/2 - gallon sample and source to Architect for approval prior to installation.

PART 3 - EXECUTION

3.1 TREE AND PLANT MATERIAL PROTECTION

- A. Identify trees and plants to be removed on the site before commencing work under this Agreement. Review discrepancies between site conditions and Contract Drawings with the Architect and District's Representative.
- B. Plan and execute all site operations to avoid damage to trees. Perform any heavy equipment work from angles and directions that avoids compaction to tree roots in the site area.
- C. Protect existing trees and other vegetation indicated to remain in place against unnecessary cutting, breaking or skinning of roots, skinning and bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip line, foot or vehicular traffic, or parking or vehicles within drip line. Tie back all flexible limbs and overhead branches which may, in the opinion of the Architect, be damaged by the passage or activity of the equipment. No tree limbs may be removed without the approval of the Architect or District's Representative.
- D. Root Protection:
 - 1. When working within driplines of all trees and in areas with extensive roots, hand-dig trenches and avoid the use of machinery when performing construction activities. Leave intact any undamaged roots larger than two inches (2") in diameter.
 - a. Place utility conduit either under roots by tunneling or over roots with 2" bedding.
 - b. If reviewed by the Architect or District's Representative, cut off roots 2" or greater cleanly with appropriate tool when roots are exposed due to grading and excavating activities. Eliminate tears and breaks in root surfaces.
 - c. During the time of exposure, keep roots moist with wet mulch and burlap or equivalent.

2. Roots exposed due to approved grading operations shall be kept covered and moist until final grades are established.

3.2 LOCATION OF TREE PROTECTION FENCING

- A. Erect and maintain protective fencing around existing trees and vegetation identified by Architect prior to commencing site work.
- B. In urban settings where horticultural conditions have been shaped by tree pits and adjacent sidewalks over roots, fencing must be placed outside of the former limits of the tree pit and a minimum of 6' clear from trunk, whichever is greater. Adjacent roots under the former sidewalk area shall be protected from new compaction impacts by temporary structures such as steel plates or approved alternate tree protection as identified by the governing jurisdiction.
- C. Construction activity within the area of the drip line of the trees shall be reviewed by the Architect prior to the beginning of work and in accordance with the governing jurisdiction's codes and regulations. Trunk protection and bridge plating and/or 14" minimum of mulching over root zones may be required.

3.3 INSTALLATION OF TREE AND SITE PROTECTION FENCING

- A. Secure posts to remain rigid through duration of the project. Do not use heavy equipment for this work.
- B. Provide diagonal bracing at corner posts and wherever needed to ensure fence rigidity.
- C. Install fabric tight to grade at bottom edge and uniformly stretched between posts with top of fabric at the height shown in the details.
- D. Attach fabric to posts at 1'-0" on center.

3.4 AREAS DESIGNATED FOR CONSTRUCTION ACTIVITY IN TREE PROTECTION ZONES

- A. In the event that construction activity is to occur within a root zone of an existing tree, receive approval by the Architect or District's Representative prior to construction.
- B. Protect tree trunks and exposed roots. Wrap trunks with wood planking and wire. Gaps shall be no greater than 4". Exposed tree roots shall be protected with sandbags.
- C. Alter no grades within the required protective fence line except as directed during the fine grading operations at the conclusion of site development.
- D. Control soil moisture within the protected area. Prevent flooding of the soil, and protect root areas from leachate, from cement, from oil, fuel and lubricating oil, and all contaminants.

- E. Do not store materials potentially harmful to tree roots adjacent to or with protected areas. Potentially harmful materials include, but are not limited to: petroleum products, cement and concrete additives, lime, paints coating, waterproofing agents, form coatings, detergents, acids, cleaning agents.
- F. To protect roots from approved traffic, apply Roadbed fabric throughout root zone to existing grade conditions and apply 14" layer of hog fuel. Bridge root zones with continuous steel plates.

3.5 MAINTENANCE

- A. Maintain fence in specified location and good condition until completion of site operations and of delivery of equipment and material, except where directed otherwise in writing by the Architect. Immediately repair fence when damaged.

3.6 RESPONSIBILITY FOR TREE PROTECTION FENCING

- A. It is the intent for all construction fencing and other temporary facilities installed for tree protection to remain in place until the conclusion of this project.

3.7 PRUNING OF EXISTING TREES

- A. Allow tree trimming only after consultation with Architect who will exercise reasonable judgment in approval of tree trimming requests.
- B. Cleanly cut limbs and branches that have been broken at a point above the nearest crotch in accordance with good horticultural practice. Sterilize cutting equipment with alcohol prior to and during trimming and pruning operations.

3.8 PRUNING ROOTS

- A. Where necessary, cut roots cleanly prior to removal. Provide protection for roots over 1-1/2" diameter cut during construction operations. Temporarily cover exposed roots of existing trees to remain with wet burlap to prevent roots from drying out; cover with earth as soon as possible.

END OF SECTION 015639

SECTION 01 5700 - TEMPORARY CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Procedures and requirements for environmental controls during construction, including:
 - 1. Emergency procedures
 - 2. Temporary egress and signage.
 - 3. Fire safety.
 - 4. Noise control.
 - 5. Construction cleaning.
 - 6. Dust control.
 - 7. Water control.
 - 8. Erosion and sediment control.
 - 9. Pollution control.
 - 10. Pest control.

1.2 REGULATORY REQUIREMENTS

- A. Conform to Regulatory Requirements of Section 015000 for temporary controls at Project Site.
- B. Conform to Washington State Department of Ecology (WSDOE) Storm Water Management Manual for the Puget Sound Basin.
- C. Conform to Puget Sound Clean Air Agency (PSCAA).
- D. Safety Procedures: Implement safety procedures in conformance to requirements of Authorities Having Jurisdiction.

1.3 EMERGENCY PROCEDURES

- A. Promptly coordinate emergencies with Owner and notify Architect of emergency condition.
- B. Post emergency telephone numbers on telephones under Contractor's control.

1.4 EGRESS AND SIGNAGE

- A. Provide temporary exit signs in conformance to Section 015813.
- B. Define and direct emergency travel to exits, and warn of hazards to route of travel.

1.5 FIRE SAFETY

- A. Conduct operations conforming to Fire Department and other Authorities Having Jurisdiction to maintain fire-safe environment within Project site.
- B. Remove rubbish, debris, and other materials constituting a potential fire hazard.
- C. Maintain fire separations and fire barriers as necessary to prevent possible spread of fire. Provide fire separation between buildings and construction trailers.
- D. Maintain circulation areas and egress areas free of construction materials, equipment, and rubbish. Do not impede egress and Fire Department access with outdoor storage and staging operations.
- E. Fire Extinguishers: Maintain portable fire extinguishers located throughout Project as required by Regulatory Requirements. Include temporary standby fire extinguishers during fire watch procedures and where potential fire hazard may exist.
- F. Hot Work: Maintain fire watch for minimum 30 minutes following cutting, welding, and other work where open flame is used for heating materials used in Work.
- G. Supply protection to prevent damage to combustible materials and injury from molten metal, falling sparks, and welding arcs.
 - 1. Where practical, perform hot work off-site.
 - 2. Where persistent non-conformance to fire safety procedures is noted, Owner reserves right to stop Work at no increase in Contract Sum or Contract Time until remedial action is complete.
 - 3. Reimburse Owner for fines or penalties levied by Fire Department due to actions by Contractor.

1.6 NOISE CONTROL

- A. Conduct the Work, using appropriate construction methods, equipment, acoustical barriers, and as necessary to ensure that noise levels, emanating from the Work conform to Regulatory Requirements of governing authorities.
- B. Limit noise levels during early morning hours before 7:00 am and evenings after 7:00 pm, except as permitted by jurisdiction having authority to prevent disturbance to surrounding neighborhoods.
- C. Arrange for and obtain necessary permits from applicable Agencies prior to commencing work outside of normal working hours and weekends.
- D. Remove equipment from site that does not conform to noise control provisions or reschedule time of use, as directed by Architect.

1.7 CONSTRUCTION CLEANING

- A. Initiate and maintain cleaning program to clean trash and debris on daily basis. Do not stockpile or accumulate construction waste and debris at construction site. Keep construction site, adjacent properties, access roads, and haul routes free from accumulation of waste materials, rubbish, and windblown debris.
- B. Supply on-site containers for collection of debris, and rubbish. Coordinate dumpster location with Architect.
- C. Periodically remove waste and debris from site. Prohibit overloading of trucks to prevent spillages on access and haul routes. Provide periodic inspection of traffic areas to enforce requirements.
- D. Dispose of flammable, hazardous, and toxic waste materials on daily basis. Do not permit storage inside building areas or near vegetation.
- E. Provide for additional collection and disposal of debris whenever scheduled program is inadequate to prevent accumulation.
- F. Keep storm sewers free of debris or extraneous materials.

1.8 DUST CONTROL

- A. Execute Work by methods to minimize raising dust from construction operations in conformance to Clean Air Authority and other Authorities Having Jurisdiction for project.
- B. Provide positive means to prevent air borne dust from dispersing into atmosphere and surrounding environment.
- C. Cover stockpiled material with tarps, wet down, and take other measures as appropriate.
- D. Prevent air borne and tracking dust from entering occupied Building.

1.9 WATER CONTROL

- A. Control excavation, grading, and ditching to direct and contain water flow to detention basins or other temporary containment as required by Owner and Authorities Having Jurisdiction.
- B. Provide temporary measures such as berms, dikes, and drains to direct surface drainage runoff.
- C. Protect site and adjoining properties from puddling or running water. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- D. Take measures to prevent water and excess moisture from infiltrating into building enclosure.

1. Take immediate measure to mitigate roof leaks and other sources of water infiltration.
2. Promptly notify Architect in event that gypsum board and other finish materials become wet or damp.

1.10 EROSION AND SEDIMENT CONTROL

- A. Conduct the Work to prevent soil erosion and runoff. Control surface drainage from cuts and fills, borrow, and waste disposal areas.
- B. Take measures to protect erodible soils, such as by covering with geotextile fabric or tarps, to prevent erosion and sedimentation. Minimize quantity of bare soil subject to erosion.
- C. Locate fill and waste stockpiles where silts and clays are less subject to erosion and runoff.
- D. Periodically inspect earthwork to detect evidence of erosion and sedimentation, and promptly apply corrective measures.
- E. Trap sediment in temporary detention basins. Institute effluent quality monitoring programs as required by State and local environmental agencies.

1.11 POLLUTION CONTROL

- A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious or toxic substances, and pollutants produced by construction operations.
- B. Obtain permission from Owner prior to use of solvents and materials emitting noxious fumes. Submit written procedure for control of emissions prior to use.
- C. Isolate and vent solvent fumes to outside, away from air intakes and human contact.

1.12 PEST CONTROL

- A. Take measures to control breeding areas, reduce shelter, and deny food sources for rodents, insects, and wildlife.
- B. Control ponds and standing water as sources for mosquito larvae.

1.13 REMOVAL

- A. When no longer needed, as work progresses, remove temporary materials, equipment, services, and construction.
- B. Restore site as necessary to remove evidence of temporary controls.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 5700

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Work of this Section includes, but is not limited to, the following:

1. Contractor shall conform to all requirements of the Construction Stormwater General Permit and the Construction Stormwater Pollution Prevention Plan (SWPPP).
2. Contractor shall coordinate work with the Project's Certified Erosion and Sediment Control Lead "CESCL", who will be assigned by the Owner. The Owner's CESCL shall provide guidance to the Contractor to ensure compliance with permit requirements, perform all erosion control inspections, testing, reporting, and maintaining the SWPPP.
3. Contractor shall provide and maintain temporary erosion control measures as indicated in the Contract Documents and as required by the Washington State Department of Ecology.
4. Contractor shall provide and maintain additional temporary erosion control measures at no additional cost to the Owner as may become necessary due to weather, environmental, or site conditions. Comply with Washington State Department of Ecology requirements.
5. Contractor shall prevent pollution or excess turbidity in downstream and/or State waters.
6. Contractor shall be responsible for the removal of temporary erosion control measures after completion of project.
7. Contractor shall submit "Notice of Termination Form" for Construction Stormwater General Permit to Department of Ecology to request termination of permit coverage.

- B. Related sections include the following:

1. Section 012900, "Applications for Payment" for values associated with ESC measures, ESC maintenance, monitoring and documentation of stormwater discharges and compliance with Construction Stormwater General Permit and SWPPP.
2. Section 015000, "Temporary Facilities and Controls" for temporary utilities, temporary construction and support facilities, temporary security and protection facilities, and environmental protection measures during site operations.
3. Section 311000, "Site Clearing and Demolition."
4. Section 312000, "Earth Moving" for soil materials, excavating, backfilling, and site grading.

1.3 REFERENCE STANDARDS

- A. WSDOT Standard Specifications for Road, Bridge and Municipal Construction, latest edition.
- B. WSDOT Standard Plans for Road, Bridge and Municipal Construction, latest edition.
- C. Conform to OSHA (Occupational Safety and Health Act) requirements.
- D. Conform to WISHA (Washington State Industrial Safety and Health Act) for trench safety.
- E. Construction Stormwater Pollution Prevention Plan - "SWPPP."

- F. National Pollution Discharge Elimination System "Construction Stormwater General Permit" for stormwater discharges from construction activities by Washington State Department of Ecology.

1.4 DEFINITIONS

- A. DOE: Washington State Department of Ecology.
- B. Construction Stormwater General Permit: National Pollution Discharge Elimination System general permit for stormwater discharges from construction activities.
- C. SWPPP: Construction Stormwater Pollution Prevention Plan.
- D. CESCL: Certified Erosion and Sedimentation Control Lead.
- E. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- F. Utilities: On-site and off-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.
- G. Wet Weather: Between dates of October 1 and April 30.
- H. Significant Rainfall Event: One-half-inch of rain within a 24-hour period.
- I. WSDOT: Washington State Department of Transportation

1.5 MATERIALS OWNERSHIP

- A. Erosion and sediment control measures, and cleared materials shall become Contractor's property and shall be removed from the site.

1.6 SUBMITTALS

- A. Submit under provisions of Section 013300, "Submittal Procedures" and as further provided.
- B. Submittals that have been submitted and approved shall be available onsite for reference by the Owner and Engineer.
- C. The Contractor shall coordinate with the Project's CESCL to maintain the Stormwater Pollution Prevention Plan (SWPPP), ensure its proper execution, and adherence to the Department of Ecology standards and Construction Stormwater General Permit requirements.
- D. Certifications
 - 1. Provide a letter, signed by the supplier and reviewed and also signed by an officer of the General Contractor's company, certifying that the following products to be incorporated into the work meet the requirements specified.
 - 2. All product submittals shall be submitted to the Engineer for review and approval. Erosion Control construction shall not commence until all submittals have been approved by the Engineer.

3. Products:
 - a. Erosion Control Blanket
 - b. Hydroseed Mix
 - c. Bonded Fiber Matrix
 - d. Plastic Sheeting
 - e. Silt Fence
 - f. Straw Mulch
 - g. Storm Inlet Protection
 - h. Quarry Spalls

E. Additional Measures:

1. As site and weather conditions require, provide submittals in compliance with Section 013300, "Submittal Procedures" for additional measures that are necessary to prevent turbid stormwater discharge from the site in compliance with the Contract Documents, City of Kenmore and Construction Stormwater General Permit requirements. These measures may include but are not limited to the following:
 - a. Electro-Coagulation
 - b. Filtration Systems
 - c. Chitosan Stormwater Treatment System

F. Schedule of Values provided in compliance with Contract Documents shall include line item categories that indicate the cost value for the following work activities:

1. Labor, equipment, and materials for initial installation of erosion and sediment control plan.
2. Labor, equipment, and material for maintenance and enhancements of erosion control measures.
3. Labor, equipment, and materials for removal of erosion and sediment control measures.

1.7 PROJECT CONDITIONS

- A. Project site contains wetland areas that shall be protected from disturbance. Contractor shall take special precautions to fence off the wetland areas and associated buffers.
- B. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site clearing operations.
 1. Do not close or obstruct streets, walks or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
- C. The Contractor shall utilize a utility locate service and shall notify affected utility companies before starting work and comply with all their requirements. The Contractor shall conform to applicable regulatory procedures when discovering hazardous or contaminated materials.
- D. The locations of existing underground utilities are only approximate and have not been independently verified by the Owner or its representative. The Contractor shall determine the exact location of all existing utilities before commencing work and shall be fully responsible for any and all damages that happen due to the Contractor's failure to locate exactly and preserve all underground utilities that are designated to remain.

- E. Geotechnical reports of subsurface condition investigations made during the Project design are available for informational purposes only; data in these reports are not intended as representations or warranties of accuracy or continuity of conditions between field investigation points (i.e. soil borings, test pits, etc.). Owner assumes no responsibility for interpretations or conclusions drawn from this information. Where recommendations in the Geotechnical report conflicts with the Project plans and specifications, the Project plans and specifications take precedence.

1.8 QUALITY ASSURANCE

- A. Maintain at least one copy of the WSDOT Standard Specifications for Road, Bridge and Municipal Construction, latest edition, and project plans and specifications on-site.
- B. Field inspection and testing will be performed under provisions of Section 014000, "Quality Requirements."
- C. Tests and analysis of aggregate material will be performed in accordance with ANSI/ASTM D1557, ASTM D2922, ASTM D3017, ASTM D4318, and ASTM C136, as applicable.
- D. If tests indicate materials do not meet specified requirements, change material and retest or obtain written approval from the Engineer. Costs associated with the retesting of materials will be the responsibility of the Contractor.

1.9 REGULATORY REQUIREMENTS

- A. Conform to all requirements of the Construction Stormwater General Permit under the Department of Ecology's General Permit for Stormwater Discharges from Construction Activities and the SWPPP. The Contractor and the Owner assigned CESCL shall be responsible for maintaining all required records as follows:
 - 1. Construction activities.
 - 2. Inspections.
 - 3. Stabilization measures.
 - 4. Maintenance.
 - 5. Stormwater discharges.
 - 6. Sampling for turbidity and pH.

Contractor shall bear all costs associated with maintaining the SWPPP documentation, monitoring, testing, and any penalties associated with non-compliance with the Construction Stormwater General Permit.

- B. Conform to applicable agency code for dust control and runoff control.
- C. Provide and maintain additional temporary erosion control measures at no additional cost to the Owner as may become necessary due to weather or environmental conditions and to comply with Washington State Department of Ecology requirements.
- D. Obtain, post, and pay for required permits from City of Kenmore according to provisions of the Contract, including General and Supplemental Conditions and Division 01 Specification Sections.

1.10 COORDINATION

- A. Transfer Construction Stormwater General Permit from the Owner to the Contractor in accordance with DOE requirements. The Owner will initiate the transfer and the Contractor shall accept and sign the transfer documents as necessary.
- B. Maintain and modify SWPPP documents as required by the Construction Stormwater General Permit.
- C. Coordinate work under provisions of Section 013100, "Project Management and Coordination."
- D. Erosion control measures shall be maintained, coordinated, adjusted and added to address changes in weather, site conditions, and construction phasing at no additional cost to the Owner.

PART 2 - PRODUCTS

2.1 EROSION AND SEDIMENT CONTROL MATERIALS

- A. Silt Fence: Silt fence shall conform to detail shown on the plans with wire backing and steel posts. Wood posts shall not be allowed. The geotextile fabric shall consist of Mirafi 100X or approved equivalent. Geotextile fabric shall meet the following standards:

Polymeric Mesh AOS (ASTM D4751)	0.60 mm
Water Permittivity (ASTM D4491)	0.10 sec ⁻¹
Grab Tensile Strength (ASTM D4632)	124 lbs
Grab Tensile Elongation (ASTM D4632)	15%
Mullen Burst Strength (ASTM 3786)	300 psi
Ultraviolet Stability (ASTM D4355)	70%

- B. Construction Entrance: Conform to detail shown on the plans.
- C. Storm Inlet Protection: Conform to detail shown on the plans.
- D. Quarry Spalls: Conform to WSDOT 9-13.6 for 4-inch to 8-inch quarry spall.
- E. Erosion Control Blanket: Conform to WSDOT 9-14.5(2).
- F. Bonded Fiber Matrix
 - 1. The Bonded Fiber Matrix (BFM) shall be manufactured to be hydraulically applied, and upon drying, adheres to the soil in the form of a continuous, 100% coverage, biodegradable, erosion control blanket. BFM shall meet the following requirements or approved equal.
 - 2. The Bonded Fiber Matrix shall be comprised of a long strand, thermally produced wood fibers passing a freeness test at a 760 cc (MLS) level or below (>88% of total volume by

weight) held together by organic tackifiers (10%) and mineral bonding agents (>2%) which upon drying, become insoluble and non-dispersible. The matrix which forms shall be designed, tested and proven to perform in a manner equal or superior to biodegradable erosion control blankets (ECB's). The formed matrix shall meet the following requirements:

- a. The material, when mixed into a liquid slurry, shall pass a free liquid quality control test (liquids separate from fibrous solids no greater than one inch in one minute's time as measured on a standard test board).
- b. The binder shall not dissolve or disperse upon rewetting.
- c. The matrix shall have no holes > 1mm in size.
- d. The matrix shall have no gaps between product and the soil.
- e. The matrix shall have minimum water holding capacity of 1000g/100g (1.2 gal/lb matrix).
- f. The matrix shall have no germination or growth inhibiting factors and shall not form a water insensitive crust.
- g. The matrix shall be comprised of materials which are 100% biodegradable and 100% beneficial to plant growth.

G. Plastic Sheetting: Conform to WSDOT 9-14.5(3).

H. Straw Mulch: Air dried hay or straw; free from noxious weed and coarse material, applied at minimum thickness of 2-inches. No exposed soil is allowed.

I. Hydroseed Mix: Native E/C Mix as supplied by Sunmark Seeds International (1-888-214-7333) or approved equal that matches in quality, color, growth characteristics, density, resistance to diseases and insects, tolerance to heat, cold, drought and traffic per the National Turfgrass Evaluation Program. The rate of application shall be 1 pound per 1000 square feet. Seed mix for temporary erosion control purposes shall meet the following standards:

(<http://sunmarkseeds.co/wp-content/uploads/2012/12/Native-EC-Mix-2012.pdf>)

Mixture Composition	Percent of Mix by Weight
Meadow Barley	40
California Brome	35
Native Red Fescue	20
Tufted Hairgrass	3
Spike Bentgrass	2

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Contractor shall verify that site conditions are satisfactory to receive the work of this Section. Do not begin the work of this Section until unsatisfactory conditions have been corrected. Beginning the work of this Section constitutes the Contractor's acceptance of site conditions as satisfactory.

3.2 INSTALLATION AND CONDUCT OF WORK

- A. Provide wheel cleaning stations to clean wheels and undercarriage of trucks before leaving project area, as necessary to prevent dirt from being carried onto campus and public streets. If streets are fouled, clean immediately in conformance with City of Kenmore and all governing requirements and regulations.
- B. Provide temporary erosion control measures as indicated on the Drawings, or as directed by the Owner, or City Inspector prior to beginning any work that will disturb the existing vegetation on the site.
- C. Provide erosion control measures to minimize impacts to the existing site conditions and to allow proper performance of other systems.

3.3 SEDIMENTATION TANKS

- A. Provide temporary sedimentation tanks as shown on the plans to control drainage and sedimentation during construction.
- B. Provide conveyance system both upstream and downstream of tanks consisting of pipes, flex hose, pumps and necessary fittings to adequately collect and transport drainage to and from the tanks.
- C. Relocate temporary tanks and supporting conveyance systems as necessary to allow phased construction of proposed improvements.
- D. Contractor shall provide and maintain additional sedimentation tanks beyond those shown on the plans and/or other temporary erosion control measures at no additional cost to the Owner as may become necessary due to weather, site, or environmental conditions and to comply with Washington State Department of Ecology requirements.

3.4 BONDED FIBER MATRIX

- A. The Bonded Fiber Matrix (BFM) shall be installed by a certified Contractor to be trained in the proper procedures for mixing and application of the product. The BFM shall be mixed according to manufacturer's recommendations and Contractor shall demonstrate "free liquid" test to inspector upon request. Bonded Fiber Matrix shall be spray-applied at a rate of 3,000 lb/acre for slopes 3(H):1(V) or flatter and 4,000 lb/acre for slopes steeper than 3(H):1(V), utilizing standard hydraulically seeding equipment in successive layers as to achieve 100% coverage of all exposed soil. The BFM shall not be applied immediately before, during or after rainfall, such that the matrix will have opportunity to dry for up to 24 hours after installation. BFM shall be used as site and weather conditions dictate based on consultation between the Engineer and the Contractor.

3.5 TEMPORARY SEEDING

- A. Seeding shall be used throughout the project site for disturbed soils that have reached finish grade or will remain unworked for greater than 30 days.
- B. Hydroseeding should not be applied between June 30 and September 1 or between October 15 and May 30.

- C. Provide tackifier according to manufacturer's recommendations.
- D. Apply hydroseed at a minimum rate of 1 pound per 1000 square feet.
- E. Control surface water to minimize dislodging of seed.
- F. Provide mulch for hydroseeding of slopes greater than 3H:1V.

3.6 MAINTENANCE AND INSPECTION

- A. Contractor shall provide and maintain additional temporary erosion control measures at no additional cost to the Owner as may become necessary due to weather, site, or environmental conditions and to comply with Washington State Department of Ecology requirements.
- B. Temporary erosion control measures shall be maintained by the Contractor as required to achieve proper performance, as required by the Owner's Representative or permit agency, and as indicated on the drawings.
- C. Use care during maintenance of erosion control facilities so as not to discharge collected sediment into downstream storm systems.
- D. The Contractor shall coordinate with the Certified Erosion and Sedimentation Control Lead (CESCL) to monitor the installation, performance, maintenance, and review of ESC measures, and for compliance with all permit conditions.
- E. The Owner's CESCL shall conduct turbidity and pH sampling of storm water as required by Department of Ecology General Permit for Stormwater Discharges from Construction Activity.
- F. The Contractor shall designate a Project Lead with their contact phone number, fax number, and address for coordination with the CESCL.
 - 1. Contractor's Project Lead and CESCL responsibilities include:
 - a. Be on-site or available on-call during the project duration.
 - b. Implement the TESC and the SWPPP.
 - c. Oversee maintenance practices identified on the plans for the erosion control measures.
 - d. Conduct or provide for inspection and monitoring activities.
 - e. Identify other potential pollution sources and make sure they are mitigated.
 - f. Identify deficiencies in the TESC measures and make sure they are corrected.
 - g. The responsibilities listed at BMP C160.
 - 2. Contractor shall, prior to any work being performed on the site, post a weather proof sign at the site perimeter that provides the Project Lead and CESCL name, phone and fax numbers, and address information. Sign and text must be of sufficient size that the information can be easily read from a distance of 10 feet, as determined by the Architect. Sign placement location shall be approved by the Architect.

Contractor shall conform to requirements of the Construction Stormwater General Permit, and the site specific SWPPP. The Construction Stormwater General Permit is to be considered part of these Specifications and can be obtained at:
<http://www.ecy.wa.gov/programs/wq/stormwater/construction/index.html>

3.7 REMOVAL

- A. When approved by the City Inspector and the Owner, remove temporary facilities when the need for the facilities no longer exists.
- B. Clean sediment and/or pollutants from facilities that are to remain.
- C. Do not allow sediment or debris to be discharged to the onsite water quality systems and/or to downstream offsite properties.

3.8 CLEAN-UP

- A. Upon completion of the work of this Section, remove all rubbish, trash, and debris resulting from operations.
- B. Remove materials, equipment and tools; leave the site in a neat and orderly condition acceptable to the Owner's Representative.

END OF SECTION 015713

SECTION 01 5721 - TEMPORARY INDOOR AIR QUALITY CONTROL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Procedures and requirements for environmental controls during construction.
- B. Related Requirements:
 - 1. Section 018000 - Sustainable Design Requirements for sustainable and environmental design requirements pertaining to permanent construction.

1.2 REFERENCES

- A. Reference Standards: Editions current as of date of Project Manual.
- B. US Environmental Protection Agency (US EPA): <http://www.epa.gov>
- C. Sheet Metal and Air Conditioning National Contractors Association (SMACNA):
 - 1. IAQ Guideline for Occupied Buildings under Construction.
- D. US Department of Energy (DOE):
 - 1. DOE-STD-3020-97 – Specification for HEPA Filters used by DOE Contractors, Web Site: <http://tis.eh.doe.gov/hepa/> .
- E. Washington Sustainable Schools Protocol (WSSP): Refer to Section 018100 - Sustainable Design Requirements.

1.3 SUBMITTALS

- A. Submit the following in accordance with Section 013300 – Submittal Procedures.
- B. Contractor's Indoor Air Quality (IAQ) Management Plan:
 - 1. Develop and submit within 14 days after receipt of Notice to Proceed and prior to beginning Work.
 - 2. Conform SMACNA - IAQ Guideline for Occupied Buildings under Construction, Chapter 3:
 - a. HVAC protection.
 - b. Source control.
 - c. Pathway interruption.
 - d. Housekeeping.
 - e. Scheduling, as applicable to new buildings.
 - 3. Include:
 - a. List of IAQ protective measures to be instituted on the site:
 - b. HVAC system protection during construction.

- c. Source control through specification and installation of low-toxic or non-toxic materials.
- d. Pathway interruption to isolate work areas where emitting materials are being installed.
- e. Housekeeping to protect materials that are stored before installation and to avoid spreading contamination through the Project.
- f. Sequencing installation of materials to avoid contaminating absorptive materials during construction.
- g. Schedule for inspection and maintenance of IAQ measures.

1.4 QUALITY ASSURANCE

- A. Set up safety meetings, signage, and subcontractor agreements to communicate goals of Construction Indoor Air Quality Management Construction Plan.
- B. Conduct regular inspection and maintenance of Indoor Air Quality (IAQ) measures including ventilation system protection, and ventilation rate.

1.5 CONSTRUCTION HEATING, VENTILATING, AND AIR CONDITIONING

- A. Do not run HVAC system during course of construction, except with prior written acceptance by Architect.
- B. Seal ductwork intake and exhaust vents to prevent contamination from dust, moisture, and chemical contamination.
- C. Heat, dehumidify, and ventilate building during course of Work.
- D. Maintain environmental conditions suitable for drying and curing materials and for prevention of conditions suitable for mold and mildew growth.
 - 1. Ventilate building to remove moisture, dust, fumes, and odors.
 - 2. Temper and dehumidify air to remove excess moisture.
 - 3. Do not use propane heaters and other moisture generating heating systems.
- E. Prior to Substantial Completion and Commissioning:
 - 1. Install temporary filtration media with minimum Efficiency Reporting Value (MERV) of 8, as determined by ASHRAE 52.5-1999 at each return air grille where air handlers are accepted by Architect for use during construction.
 - a. At computer rooms and other dust-sensitive spaces, provide MERV rating of 17 or as highest rating that HVAC system can accommodate whichever is less
 - 2. Flush-out building and HVAC ductwork using 100 percent outside air for 2 week period, 24 hours per day, or until 5 complete air exchanges of building or until a total air volume of 14,000 cubic foot of outdoor air per square foot of floor area has been achieved.
 - 3. Maintain indoor temperatures at minimum 60 degrees and relative humidity no higher than 60 percent during this period.

4. Install new permanent filtration media following flush out period with Efficiency Reporting Value (MERV) of 13 as determined by ASHRAE 52.5 1999 at each return air grille.
- F. Where occupancy is desired prior to completion of flush-out, spaces may be occupied following delivery of a minimum of 3,500 cfm of outdoor air per square foot of floor area to the space.
 1. Ventilate at a minimum rate of 0.30 cfm/sf. of outside air or the design minimum outside air rate determined in EQ Prerequisite 1, whichever is greater.
 2. Ventilate minimum three hours prior to occupancy and continue during occupancy during each day of flush-out period.
 3. Maintain until a total of 14,000 cubic foot per square foot of outside air has been delivered to the space.
- G. Inspect ductwork for refuse, contaminants, moisture, and other foreign contamination prior to Commissioning. Inspect filters regularly.
- H. Notify Commissioning Agent of satisfactory inspection prior to beginning of Commissioning.

1.6 MICROBIAL AND FUNGAL CONTAMINATION

- A. Perform, schedule, and sequence Work as required to limit conditions supporting formations of microbes, molds, and fungi.
 1. Control water penetration, dampness, and humidity to protect products not treated for exterior use and to prevent moisture intrusion into building enclosure.
 2. Enclose building, control humidity, ventilate, and make watertight prior to installing interior materials and finishes.
 3. Allow sufficient time for work generating significant moisture to dry and cure before installing absorbent materials such as carpet, acoustical material, textiles, and other material of type that may attract and retain moisture.
 4. Protect absorptive materials, including insulation, drywall, and wood, from moisture damage and from contamination by construction dust, debris, and fumes during construction.
 5. Do not install moisture-damaged materials.
- B. When visible microbial, mold and fungal formations are observed, promptly contact Owner and Architect for determination by industrial hygienist employed by Owner.
 1. Clean non-absorbent materials using low hazard cleaners.
 2. Remove and replace affected materials that cannot be completely cleaned by non-abrasive surface treatments.
 3. Remove and replace with new where affected materials are identified as being food sources for microbes, molds, and fungi.
- C. Remove interior products and finishes, identified as food sources, that have absorbed sufficient moisture to become damp, and are not immediately made dry, whether or not microbial, mold, or fungal growth is observed. Include:
 1. Gypsum board.
 2. Organic materials composed of cellulose fiber or paper.

3. Materials containing sucrose or other binders and glues identified as supporting microbial growth.
 4. Fibrous insulation materials including duct liner, fiberglass insulation, and mineral fiber.
 5. Mechanical ductwork.
- D. Wood Lumber and Engineered Products:
1. Take remedial action to reduce moisture content of wood products measured by a moisture meter as exceeding 15 percent moisture content.
 2. Oriented strand board (OSB), is not accepted roof sheathing, floor sheathing, exterior wall sheathing, and other locations subject to water exposure during or after construction. Cross-strand veneer plywood is accepted, as specified by Section 061000.
 3. Remove wood and cellulose based products showing signs of mildew from construction site, including in-place construction not accepted by Owner's industrial hygienist.
- E. Promptly correct conditions supporting or subject to become an environment microbial, mold, and fungal growth.
1. Repair conditions leading to moisture condensation and water penetration.
 2. Do not permit conditions leading to standing water.

1.7 CHEMICAL AND PARTICULATE POLLUTION

- A. Primary and Secondary Regulated Pollutants: Conform to US EPA, Code of Federal Regulations, Title 40, Part 50 National Air Ambient Air Quality Standard. Refer to: <https://www3.epa.gov/ttnamti1/files/ambient/pm25/pt5006.pdf>
- B. Other Unlisted Pollutants: Not greater than 1/10 of Threshold Limit Value - Time Weighted Average (TLV-TWA) industrial workplace standard.
1. Do not use products in combination with or in contact with other products that can be identified as combining to form toxic fumes or sustained odors.
 2. Do not use solvents capable of penetrating and being retained in absorptive materials such as concrete, gypsum board, wood, cellulose products, fibrous material, and textiles within interior areas.
- C. Cleaning Products and Methods: Furnish low and non-toxic products for surfaces, equipment, and worker's personal use.
- D. Protect construction materials from contamination and pollution due to contact with construction dust, debris, fumes, solvents, and other environmentally polluting materials.
- E. Allow furnishings and materials such as carpet, floor tile, acoustical tile, textiles, office furniture, and casework, to air out in clean environment prior to installation.

1.8 PARTICULATES, DUST, AND CONSTRUCTION RESIDUE

- A. Confine dust-generating activities and promptly clean up dust and other potential airborne contaminants as they are generated.
- B. Use wet sanding for gypsum board assemblies. Exception: Dry sanding allowed subject to owner approval of the following measures:
 - 1. Provide full isolation of space under finishing
 - 2. Install plastic protection sheeting to provide air sealing during sanding operations
 - 3. Close/seal all air system devices and ductwork
 - 4. Sequence construction work to prevent contamination of other spaces with gypsum dust
 - 5. Provide worker protection
- C. Keep work area dry and promptly clean up all spills.
- D. Keep containers of volatile liquids covered when not in use.
- E. Do not allow accumulations of sawdust, dust, rags, debris, and carbon-based materials and materials emitting fumes and odors to accumulate within concealed construction, including within stud spaces and wall cavities. Remove and clean prior to enclosing behind permanent construction.
- F. Vacuum carpet, upholstery, and other porous materials throughout building using a high-efficiency particulate arrestor HEPA filter vacuum cleaner just prior to Substantial Completion. Replace and dispose of vacuum bags when bag is half full.

1.9 REMEDIAL ACTION

- A. Promptly take action as necessary to inspect and remediate conditions suspected of supporting biological, particulate, and chemical indoor air pollution. Identify, stop, and repair causes of uncontrolled water penetration into building.
- B. Promptly notify and consult with Owner and Architect, prior to beginning removal material, where contamination by hazardous chemicals, microbes, and fungi is suspected.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 5721

SECTION 01 5813 - TEMPORARY PROJECT SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Project identification signs.
 - 2. Project informational signs.

1.2 GENERAL REQUIREMENTS

- A. Provide and maintain temporary on-site project identification signs, informational signs, and other signs required by governing authorities or union contracts to identify project and direct traffic
- B. Do not permit installation of unauthorized signs and advertisements, including:
 - 1. Separate contractor's, subcontractor's, supplier's signs, or advertisements
 - 2. Signs which flash, blink, rotate or otherwise draw unusual attention, except where required by safety regulations
 - 3. Company or agency logos.
 - 4. Site sign or graphics on equipment that is objectionable to Owner
- C. Maintain and replace damaged or deteriorated signs.

1.3 SUBMITTALS

- A. Submit to Architect for acceptance prior to beginning Work, scaled signage layout drawing in color.
- B. Design Data: Layout, lettering text, fonts, color, and size. Where exact text may not be known, show layout indicating margins, borders, and spacing.
- C. Construction: Materials, foundation, structure, and height above grade.

PART 2 - PRODUCTS

2.1 SIGN MATERIALS

- A. Structure and Framing: New wood, structurally adequate. Support on posts or framing of preservative-treated wood or steel. Two posts for each sign.
- B. Sign Surfaces: Exterior grade medium density overlay (MDO) plywood, minimum 3/4 inch thick, in largest standard dimensions to minimize joints.

- C. Rough Hardware: Galvanized, or aluminum.
- D. Paint and Primers: Exterior quality, exterior gloss enamel, two coats.
- E. Lettering: Exterior quality paint, contrasting colors as selected.

2.2 PROJECT IDENTIFICATION SIGN

- A. General: Engage an experienced sign manufacturer to apply graphics. Use painting or vinyl application as appropriate to use and with sufficient field life to be clean, neat and readily legible over life of project. Provide replacement sign when original has been damaged or has deteriorated.
- B. Size: 8 feet wide by 4 feet high, minimum.
- C. Quantity: One.
- D. Orientation: As directed by Architect.
- E. Location: As directed by Architect
- F. Sign Content:
 - 1. Prominently identify Owner information, School Name, Project Title; Northshore School District Logo; and scheduled completion date.
 - 2. Secondly sign shall state, ² equals, Architect and Contractor team names only..
 - 3. Emergency Information: Indicated in highly visible red color, reading: "24-Hour Emergency Phone Number: IN CASE OF EMERGENCY, CALL ____" Obtain phone number from Owner.
- G. Graphic Design and Lettering Style: As accepted by Architect.
- H. Colors:
 - 1. School District Name and Logo: Northshore Blue Color.
 - 2. Use school colors to greatest degree possible. If not, use black letters on white background.

2.3 PROJECT INFORMATIONAL SIGNS

- A. Prepare signs to provide directional and safety information to construction personnel, site occupants, and visitors.
- B. Color and Lettering: Same as Project Identification sign, or standard products, as applicable.
- C. Letter Size: Sized to provide legibility at 100-foot distance.
- D. Provide informational signs at field office, storage shed, and field structures.
- E. Provide informational signs to direct auto and pedestrian traffic within site.
- F. Provide informational signs warning of hazards and life safety issues.

2.4 Relocate as Work progress requires.FINISH

- A. Paint exposed surfaces of supports, framing, and surface materials.
- B. Apply one coat primer and one coat exterior grade enamel paint.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Erect Project Signs prior to making first Application for Payment.
- B. Erect Project Identification Signs at designated locations and as necessary for maximum visibility; location of high public visibility adjacent to main entrance to site.
- C. Erect supports and framing on secure foundation, rigidly braced and framed to resist wind loadings.
- D. Install sign surface plumb and level, with butt joints. Anchor securely.
- E. Paint exposed surfaces of sign, supports, and framing.

3.2 MAINTENANCE

- A. Maintain signs and supports in neat, clean condition. Repair damages.
- B. Relocate information signs as required by work progress.

3.3 REMOVAL

- A. Remove temporary signs, framing, supports, and foundations at Project completion and restore site.

END OF SECTION 01 5813

SECTION 01 6000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements governing the Contractor's selection of products for use in the Project.
- B. Related Requirements: The following Sections contain requirements that relate to this Section:
 - 1. Section 014200 - Reference Standards for applicability of industry standards to products specified.
 - 2. Section 013216 - Construction Progress Schedule for requirements for submittal of the Contractor's Construction Schedule and the Submittal Schedule.
 - 3. Section 012500 - Substitution Procedures for administrative procedures for handling requests for substitutions made after award of the Contract.
 - 4. Section 018100 - Sustainable Design Requirements for WSSP specifies administrative procedures for documenting materials used in compliance with WSSP.

1.2 DEFINITIONS

- A. Definitions used in this Article are not intended to change the meaning of other terms used in the Contract Documents, such as "specialties," "systems," "structure," "finishes," "accessories," and similar terms. Such terms are self-explanatory and have well-recognized meanings in the construction industry.
 - 1. "Products" are items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 2. "Named Products" are items identified by the manufacturer's product name, including make or model number or other designation, shown or listed in the manufacturer's published product literature, that is current as of the date of the Contract Documents.
 - 3. "Foreign Products," as distinguished from "domestic products," are items substantially manufactured (50 percent or more of value) outside the United States and its possessions. Products produced or supplied by entities substantially owned (more than 50 percent) by persons who are not citizens of, nor living within, the United States and its possessions are also considered to be foreign products.
- B. "Materials" are products substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.

- C. "Equipment" is a product with operational parts, whether motorized or manually operated, that requires service connections, such as wiring or piping.

1.3 QUALITY ASSURANCE

- A. Source Limitations: To the fullest extent possible, provide products of the same kind from a single source.
 - 1. When specified products are available only from sources that do not, or cannot, produce a quantity adequate to complete project requirements in a timely manner submit a substitution request as outline in SECTION 01 2500 - SUBSTITUTION PROCEDURE.
- B. Compatibility of Options: When the Contractor is given the option of selecting between 2 or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.
- C. Nameplates: Except for required labels and operating data, do not attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products that will be exposed to view in occupied spaces or on the exterior.
 - 1. Labels: Locate required product labels and stamps on concealed surfaces or, where required for observation after installation, on accessible surfaces that are not conspicuous.
 - 2. Labels for glazing: Etch product labels for glazing in a visually accessible location.
 - 3. Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on an easily accessible surface that is inconspicuous in occupied spaces. The nameplate shall contain the following information and other essential operating data:
 - a. Name of product and manufacturer.
 - b. Model, serial number and date of manufacture.
 - c. Capacity.
 - d. Speed.
 - e. Ratings.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, new at the time of installation.

1. Provide products complete with accessories, trim, finish, safety guards, and other devices and details needed for a complete installation and the intended use and effect.
 2. Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.
- B. Product Selection Procedures: The Contract Documents and governing regulations govern product selection. Procedures governing product selection include the following:
1. Proprietary Specification Requirements: Where Specifications name only a single product or manufacturer, provide the product indicated. No substitutions will be permitted.
 2. Semiproprietary Specification Requirements: Where Specifications name 2 or more products or manufacturers, provide 1 of the products indicated. No substitutions will be permitted.
 - a. Where Specifications specify products or manufacturers by name, accompanied by the term "or approved" or "or approved equal," comply with the Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.
 3. Nonproprietary Specifications: When Specifications list products or manufacturers that are available and may be incorporated in the Work, but do not restrict the Contractor to use of these products only, the Contractor may propose any available product that complies with Contract requirements. Comply with Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.
 4. Descriptive Specification Requirements: Where Specifications describe a product or assembly, listing exact characteristics required, with or without use of a brand or trade name, provide a product or assembly that provides the characteristics and otherwise complies with Contract requirements.
 5. Compliance with Standards, Codes, and Regulations: Where Specifications only require compliance with an imposed code, standard, or regulation, select a product that complies with the standards, codes, or regulations specified.
 6. Visual Matching: Where Specifications require matching an established Sample, the Architect/Engineer's decision will be final on whether a proposed product matches satisfactorily.
 - a. Where no product available within the specified category matches satisfactorily and complies with other specified requirements, comply with provisions of the Contract Documents concerning "substitutions" for selection of a matching product in another product category.
 7. Visual Selection: Where specified product requirements include the phrase "... as selected from manufacturer's standard colors, patterns, textures ..." or a similar phrase, select a product and manufacturer that complies with other specified requirements. The Architect/Engineer will select the color, pattern, and texture from the product line selected.

PART 3 - EXECUTION (Not Used)

3.1 INSTALLATION OF PRODUCTS

- A. Comply with manufacturer's instructions and recommendations for installation of products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other Work.
 - 1. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

3.2 LIST OF PRODUCTS

- A. Submit information required by Submittals article specified by this Section on the following products, if included in the Work:
 - 1. Storm and Sewer Pipe and Structures
 - 2. Irrigation System
 - 3. Concrete
 - 4. Reinforcing Steel
 - 5. Masonry
 - 6. Structural Steel
 - 7. Glue Laminated Members
 - 8. Roofing
 - 9. Doors and Frames
 - 10. Door Hardware
 - 11. Windows
 - 12. Carpet
 - 13. Anti-Graffiti Coatings
 - 14. Metal Lockers
 - 15. Folding Panel Partitions
 - 16. Casework
 - 17. Bleachers
 - 18. Kitchen equipment
 - 19. Piping Valves
 - 20. Packaged HVAC Equipment
 - 21. Air Handling Equipment
 - 22. HVAC Control System
 - 23. Electrical Panels/Switchgear
 - 24. Fire Alarm System
 - 25. Security System
 - 26. Intercom System
 - 27. Emergency Generator
 - 28. Lighting
 - 29. Cafeteria Sound System
 - 30. Music Room Sound System
 - 31. Data Cabling System and Devices

END OF SECTION 01 6000

SECTION 01 6400 - OWNER FURNISHED PRODUCTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Products furnished by Owner and installed by Contractor.
 - 2. Products furnished and installed by Owner.
 - 3. Products not in Contract.
 - 4. Alternate Bids not accepted under Work of this Contract.

1.2 PRODUCTS- FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR (FOIC)

- A. Owner Responsibilities:
 - 1. Arrange for and deliver Owner revised Shop Drawings, Product Data, manufacturer's instructions, and samples to Contractor.
 - 2. Arrange and pay for product delivery to site.
 - 3. Upon delivery, inspect products jointly with Contractor. Submit claims for transportation damage and replace damaged, defective, or deficient items.
 - 4. Arrange for manufacturer's warranties, inspections, and services.
- B. Contractor Responsibilities:
 - 1. Review Owner supplied Shop Drawings and other Submittals.
 - 2. Receive and unload products at site. Inspect for completeness and damage with Owner present.
 - 3. Handle, store, install, and finish as necessary for complete and ready installations ready for use.
 - 4. Repair or replace items damaged after receipt.
- C. Installation of FOIC Products: Includes locating, setting in place, building-in, leveling, making mechanical or electrical connections and leaving items completely installed and in operable condition ready for use.
- D. FOIC Products:
 - 1. See notes on drawing sheets for all FOIC items.

1.3 PRODUCTS - FURNISHED AND INSTALLED BY OWNER (FIO)

- A. "FIO" Designation on Drawings: Indicates items to be "furnished and installed by Owner", requiring backing support in walls, cut-outs, or other work by Contractor to facilitate installation. Verify, confirm, and coordinate FIO items with Owner before beginning work.
- B. FIO Elements:

1. Owner to move some furnishings into the building prior to substantial completion and will coordinate with the contractor to minimize any disruptions to completion of the work.

1.4 PRODUCTS - NOT IN CONTRACT (NIC)

- A. NIC Designation on Drawings: Indicates work "Not in Contract" which is indicated for clarification of Contract Work.
 1. Note tolerances or other performance criteria relating to Contract Work.
 2. Bring to Owner's attention where NIC items may be compromised by Contract Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 6400

SECTION 01 6510 - DELIVERY, STORAGE, AND HANDLING REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Product delivery.
 - 2. Product storage.
 - 3. Product handling.
 - 4. Protection of installed Products.
 - 5. Damaged Products.

1.2 DEFINITIONS

- A. Product: Materials, systems, and equipment provided by Contractor.

1.3 QUALITY ASSURANCE

- A. Deliver, store, and handle Products in accordance with manufacturer's instructions, using means and methods that will limit damage, deterioration, loss, and theft.
- B. Supply new Products, except where salvaged Products are specifically indicated for reuse by Contract Documents.
- C. Source Limitations: Wherever possible, select related Products and Products of same kind from single source suppliers and manufacturers.
- D. Compatibility: Where Product choice is an option, furnish Product based upon compatibility with other Product options, specified Products, and approved Products.
- E. Where possible, provide interchangeable components by same manufacture for each Product.
- F. Labels and Nameplates: Do not permanently attach or imprint labels or trademarks on surfaces of Products exposed to view and at building exterior.
 - 1. This does not apply to operating instructions on equipment and life safety warning labels.
 - 2. Where labels are required to indicate code compliance, locate on inconspicuous surfaces.

1.4 PRODUCT DELIVERY

- A. Schedule Product deliveries to meet construction Progress Schedule and in time to facilitate inspection prior to installation.

- B. Schedule delivery of products affecting Progress Schedule critical path to complete project within time of completion stated in the Agreement. Associated cost increases due to failure to meet accelerated delivery schedules and deliveries of long lead-time products are responsibility of Contractor.
- C. Coordinate to avoid conflict with work and site conditions.
 - 1. Limit long term site storage, overcrowding of limited storage space, and conflict with available equipment and personnel for handling Products.
 - 2. Move site storage that interferes with work of separate contracts.
- D. Coordinate delivery to limit storage time for Products that are flammable, hazardous, easily damaged, subject to deterioration, or liable for theft or loss.
- E. Deliver Products in manufacturer's original protective containers or packaging, complete with intact and legible identifying labels and instructions for handling, storing, unpacking, protecting, and installing.
- F. Clearly mark component parts of partial deliveries of Products to permit ease of identification, consolidation, and assembly.
- G. Promptly inspect shipment for compliance with Contract Documents. Verify that quantities are correct and that Products are protected and undamaged.

1.5 PRODUCT STORAGE

- A. Store Products immediately upon delivery, and protect until installed in the work. Store in accordance with manufacturer's instructions, with seals and labels intact and legible.
- B. Store sensitive Products in weather tight, climate controlled environment, maintaining temperatures and humidity, favorable to Product.
- C. Store unpacked Products on shelves, in bins, or neatly stacked, accessible for inspection.
- D. For exterior storage of fabricated Products, place on sloped platforms, blocking, or skids to support minimum 4 inches above ground.
- E. Cover Products subject to discoloration or deterioration with impervious sheet covering.
 - 1. Provide ventilation to avoid moisture condensation or potential degradation of Product.
 - 2. Avoid use of non-vented plastic or canvas shelters that could create humidity chambers.
- F. Store loose granular materials on solid surfaces such as paved areas, plywood, or sheet materials in a well-drained area. Prevent mixing with foreign matter.
- G. Provide bonded off-site storage and protection when site does not permit on site storage or protection.

- H. Arrange storage of Products to permit access for inspection. Periodically inspect to verify Products are undamaged and are maintained in acceptable condition.

1.6 PRODUCT HANDLING

- A. Provide equipment and personnel necessary to handle Products, including those furnished by Owner, by methods to prevent soiling, damage, or loss of Products and protective packaging.
- B. Provide additional protection during handling as necessary to prevent scraping, marring, and other damage to Products and surrounding surfaces.
- C. Handle Products by methods to prevent bending or overstressing.
- D. Lift heavy components only at designated lifting points.

1.7 PROTECTION OF INSTALLED PRODUCTS

- A. Protect installed Products to prevent damage from subsequent operations. Remove protective devices when no longer needed, prior to completion of work.
- B. Provide protective coverings and control traffic to prevent surface damage to finished installations. Make allowance to protect from subsequent work.

1.8 DAMAGED PRODUCTS

- A. Promptly remove damaged and deteriorated Products from premises. Replace with new undamaged materials conforming to Contract Documents.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 6510

SECTION 01 7123 - FIELD ENGINEERING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Procedures and general requirements for construction surveying, including construction layout and other surveying and engineering services required for the Work.
- B. Related Sections: following Sections contain requirements that relate to this Section:
 - 1. Section 012200 - Unit Prices for quantity and measure surveying
 - 2. Section 013100 - Project Coordination for coordinating field engineering with other construction activities
 - 3. Section 017839 - Project Record Documents for submitting Project record surveys.
 - 4. Section 017700 - Closeout Procedures for submitting final property survey with Project Record Documents and recording of Owner-accepted deviations from indicated lines and levels

1.2 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Surveyor: Submit prior to beginning survey work.
 - 1. Name, address, email, and telephone number of surveyor.
 - 2. Key personnel assigned to Work.
 - 3. Copy of surveyor's Washington State Registration.
 - 4. Affidavit or insurance certificate affirming that Surveyor's Errors and Omissions Insurance is in force and will remain so for duration of project.
 - 5. Upon request, submit client references attesting to accuracy of previous survey work.

1.3 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Submit record of work performed and record survey data, under provisions of Section 017839 and Section 017700.
 - 1. Submit complete, accurate, neatly organized, and legible log of control and survey work in chronological or project progress order.
 - 2. Record deviations that are accepted and not corrected.
 - 3. Stamp, and signed survey verifying installation of foundations and other major site improvements.
- B. Certified Site Survey: Submit prior to Substantial Completion.

1. Stamp and sign by land surveyor, attesting that elevations and locations of the Work are in conformance with Contract Documents. Where not in conformance, promptly notify Architect.
 2. Deliver one original signed certificate to Owner and copy to Architect/ Engineer.
 3. Place on public record with local authorities having jurisdiction as Official Property Survey.
- C. Certified Final Property Survey: Submit prior to Final Completion:
1. Submit 6 copies, one mylar reproducible and one DWG file format computer disk of final property survey to Architect/ Engineer.
 2. Stamp and sign certification by surveyor stating that principal metes, bounds, lines, and topographical levels of project are accurately located and positioned.

1.4 QUALITY ASSURANCE

- A. Surveyor Qualifications: Land surveyor registered in State of Washington, acceptable to Architect/ Engineer and Owner, to perform required land-surveying services.
- B. Survey Work: Conform to recognized engineering survey practices.
- C. Surveyor's Log: Maintain a legible surveyor's log of control and other survey work, available for reference.
1. Record deviations from required lines and levels.
 2. On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations and all other pertinent survey data of construction and site work.
 3. Promptly notify Architect of deviations that exceed indicated or recognized tolerances.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXECUTION

- A. Verify locations of survey control points prior to starting work.
- B. Verify Owner furnished topographical survey documents identifying existing control points and property line corner stakes.
- C. Verify layout information shown on Drawings, in relation to property survey and existing benchmarks.
- D. Verify locations of existing underground utilities lines including locations and invert elevations at points of connection for sanitary sewers, storm sewers, and water line piping.

- E. Promptly notify Architect of discrepancies discovered prior to beginning construction lay-out for the Work.
- F. Periodically verify established field surveying layouts as Work continues.

3.2 CONSTRUCTION SURVEYING

- A. Provide field-engineering services, utilizing recognized engineering survey practices.
- B. Survey control and reference points.
 - 1. Control datum for survey is that established by Owner-provided property survey. Work from lines and levels established by property survey.
 - 2. Protect survey control points prior to starting site work. Preserve permanent reference points during construction.
 - 3. Replace dislocated survey control points based on original survey control.
 - 4. Promptly report to Architect loss or destruction of reference point or relocation required because of changes in grades or other reasons.
- C. Benchmarks:
 - 1. Establish a minimum of two permanent benchmarks on site, referenced to established control points. Show locations, with horizontal and vertical data, on Project Record Documents - Section 017839.
 - 2. Establish benchmarks and markers for building construction and other site elements.
 - a. Calculate and establish dimensions and clearances within specified and required tolerances.
 - b. Do not scale Drawings.
 - c. Advise work of each trade of marked lines and levels established for their use.
 - d. Check to verify that locations are plumb, level, and true to line as construction proceeds.
- D. Site Improvements: Locate and lay out site improvements, including pavements, stakes for grading, fill and topsoil placement, utility slopes, and invert elevations.
- E. Building Lines and Levels: Locate and lay out batter boards for structures, building foundations, columns, grid line locations, floor levels, and control lines and levels as required for mechanical and electrical work.
- F. Existing Utilities: Furnish information necessary to adjust, move, protect, and relocate existing utility structures, poles, lines, services, and other utility services affected by construction. Coordinate with local authorities having jurisdiction.

3.3 SURVEYS FOR MEASUREMENT AND PAYMENT

- A. Perform surveys to determine quantities of unit cost and cost plus work, including control surveys to establish measurement reference lines. Notify Architect prior to starting work.

- B. Contractor's Project Engineer Responsibilities: Sign surveyor's field notes or keep duplicate field notes. Calculate and certify quantities for payment purposes.
- C. Unit Price Items: Submit associated field notes, calculations, and certified measure and quantities with pay applications, as required for field verification of units of measure specified by Section 012200.

END OF SECTION 01 7123

SECTION 01 7229 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Procedural execution requirements and limitations for incidental cutting and patching of in-place work.
- B. Related Sections: following Sections contain requirements that relate to this Section:
 - 1. Section 013100 - Project Coordination for procedures for coordinating cutting and patching with other construction activities.
 - 2. Section 013544 - Hazardous Materials Procedures
 - 3. Division 21 - 27 - Fire Suppression, Plumbing, Mechanical, Electrical, and Telecommunications for other requirements and limitations applicable to cutting and patching

1.2 DEFINITIONS

- A. Cutting: Cutting into in-place work for installation or extension of other work.
- B. Patching: Subsequent fitting and repair, as necessary to restore construction and finished surfaces to specified condition.
- C. Cutting and Patching: Does not include following:
 - 1. Off-site work during manufacturing and fabrication of products.
 - 2. Initial work involving installation and erection processes.
 - 3. Drilling of holes to install fasteners.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Conform to Section 013100 for coordination with work of other Sections.
 - 2. Coordinate procedures and potential conflicts between work of different sections and conditions requiring cutting and patching.
- B. Preinstallation Meetings:
 - 1. Arrange meetings at Project Site with parties involved in cutting and patching, including mechanical and electrical trades.
 - 2. Review areas of potential interference and resolve conflicts before proceeding.

1.4 SUBMITTALS

- A. Work Procedures: Submit written description, for review and acceptance by Owner's environmental consultant, and revised accordingly. Include demonstration of following:

1. Techniques for minimizing dust generation at sources; confining dust and other contamination; cleaning procedures following demolition; conformance to applicable housekeeping regulations; and surface preparation.
 2. Methods to protect workers and adjacent area occupants from lead dust, testing procedures,
 3. Conformance to State of Washington requirements contained in WAC 296-155 - Lead Exposure in Construction.
- B. Notification of Cutting and Patching not Indicated by Contract Documents: Notify Architect at weekly Project Meetings or submit in writing prior to Project Meetings. Obtain architect's acceptance prior to beginning cutting and patching procedures that may affect following:
1. Integrity of structural elements.
 2. Integrity of weather exposed or moisture-resistant elements.
 3. Efficiency, maintenance, or safety of operational elements.
 4. Visual qualities of sight-exposed elements.
 5. Work under separate contract with Owner during Work of this Contract.
 6. Disturbance or relocation of utilities.
- C. Submittal Format: Include with Proposal:
1. Identification of Project.
 2. Location and description of affected Work.
 3. Necessity for cutting or alteration.
 4. Description of proposed Work and products to be used.
 5. Firms or entities that will perform the work.
 6. Alternatives to cutting and patching.
 7. Effect on work of Owner or separate contractor.
 8. Written permission of affected separate contractor.
 9. Date and time work will be executed.
 10. Structural calculations where cutting and patching affects structural reinforcement.

1.5 PLANNING/ ENGINEERING

- A. Cutting and Patching Plan: Describe procedures well in advance of time cutting and patching will be performed. Include following information, as applicable:
1. Extent of cutting and patching required. Describe how it will be performed and why it is needed.
 2. Effect on existing construction to remain, including structural integrity, visual appearance, functional characteristics, operating capacity, and affected adjoining construction elements and systems. Include anticipated results.
 3. List of products to be used and qualifications of those performing this work.
 4. Dates when cutting and patching will be performed.
 5. Utility services that will be disturbed, removed, out-of-service, or otherwise disrupted by this work. Include time period for disruption.
 6. Structural calculations prepared, stamped, and signed by licensed professional engineer for cutting and patching affecting existing structural elements. Include for additional reinforcement, shoring, and integration of new structural elements into existing in-place construction not shown on Contract Drawings. Review is required by Professional Engineer of Record.

- B. Owner reserves right to reject unsatisfactory cutting and patching and to require removal and replacement with new work despite acceptance of Cutting and Patching Plan.

1.6 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Where possible, retain original installers and fabricators, for cutting and patching of construction of acceptable workmanship.
 - 2. Where original installers and fabricators are unavailable, employ another recognized, experienced, and specialized firm, skilled and experienced in workmanship required to perform cutting and patching procedures.
 - a. Conform to qualifications for Sections specifying materials and systems being cut and patched.
 - b. Submit satisfactory evidence documenting experience and qualifications for projects of equivalent quality and scope upon request by Architect.
 - 3. Where original work required specialists or a specific trade, execute cutting and patching utilizing same specialist or trade, except where conditions are such that another specialist or trade is better suited due to perform the work.
- B. Visual Requirements:
 - 1. Perform cutting and patching in manner as accepted by Architect to maintain aesthetic qualities.
 - 2. Cut and patch in manner so as to leave no visual evidence.
- C. Structural Elements: Where cutting is required for installation of subsequent work, verify in writing from Architect and obtain direction prior to proceeding.
 - 1. Cut and patch in ways that will not affect load-carrying capacities and load-deflection ratios.
 - 2. Plan and engineer cutting and patching, including for following.
 - a. Foundation construction.
 - b. Bearing and retaining walls.
 - c. Structural concrete.
 - d. Structural steel.
 - e. Miscellaneous structural metal fabrications.
 - f. Steel decking.
 - g. Lintels.
 - h. Timber and wood primary framing.
 - i. Stair systems.
 - j. Exterior curtain-wall construction.
 - k. Equipment support elements, including for piping, ductwork, and equipment.
- D. Construction Elements, Assemblies, and Operational Systems:
 - 1. Cut and patch in manner so as to not reduce capacity and functional integrity affecting ability to perform as intended, increase maintenance, decrease function and longevity, and adversely affect health and safety.
 - 2. Plan and engineer cutting and patching, including for following.
 - a. Building enclosure and finish systems.
 - b. Air, water, moisture, and vapor barriers.

- c. Roofing and waterproofing membranes and flashings.
- d. Fire and smoke barriers.
- e. Operating elements and equipment.
- f. Conveying systems.
- g. Acoustical noise and vibration control elements and systems.
- h. Fire protection and alarm systems.
- i. HVAC systems.
- j. Electrical power and lighting systems.
- k. Communication systems.

1.7 WARRANTIES

- A. Existing Warranties: Conduct cutting and patching to replace, patch, and repair materials and surfaces in conformance to manufacturer instructions and provisions as required to maintain or extend existing warranties.

PART 2 - PRODUCTS

2.1 REGULATORY REQUIREMENTS

- A. Conform to provisions of Regulatory Requirements specified Section 014100.
- B. Fire Resistive Construction: Conform to IBC Chapter 7 and provisions of Section 078413.

2.2 MATERIALS

- A. Use new products, except where salvaged material is specified.
- B. For exposed surfaces, use materials that visually match existing adjacent surfaces and original installation, identical in color, pattern, and physical characteristics.
- C. Where matching materials are not available, replace entire surfaces, components, and assemblies so that patching is not visible.
- D. Provide materials with installed performance characteristics equivalent to or surpassing that of existing original materials.
- E. Product Substitutions: Submit for approval under provisions of Section 012500.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine existing conditions prior to commencing cutting and patching work.

- B. Analyze conditions and identify elements that may be subject to damage or movement during cutting and patching.
- C. Where unsafe or unsatisfactory conditions are encountered, take corrective action before proceeding and notify Owner and Architect/ Engineer.

3.2 PREPARATION

- A. Provide temporary support and bracing to maintain structural integrity of affected work.
- B. Protect work exposed by cutting and patching from adverse construction and environmental conditions.
- C. Avoid interference with use and free passage to Owner occupied areas.
- D. Identify and take measures to avoid cutting site and building utility systems, including pipe, conduit, and ductwork serving Owner occupied building areas prior to bypassing or replacement by new systems.

3.3 GENERAL PROCEDURES

- A. Provide incidental cutting, fitting, and patching as required to extend and complete the Work and make parts of the Work fit together properly.
- B. Cut and patch installed work to gain access for specified inspections and testing procedures.
- C. Remove improperly sequenced work, defective work, and non-conforming work and replace with new work conforming to requirements of Contract Documents.
- D. Make routine penetrations for installations of piping, ductwork, and conduit through non-structural locations.
- E. Where firestopping is removed, changed, or missing in fire resistive construction, such as walls, partitions, ceiling, or floor construction, patch with fire-resistive rated materials and systems in conformance to Section 078400 - Firestopping.
- F. Conform to requirements specified under Division 32 where cutting requires excavation and backfilling.

3.4 CUTTING

- A. Execute cutting by methods to avoid damage to portions of work to remain and to provide surfaces appropriate for patching and finishing.
 - 1. Where possible, review proposed cutting with original installer.
 - 2. Obtain, and follow manufacturer's installation instructions.

- B. Cut existing construction as necessary to install and extend the Work and to make provision for subsequent fitting and patching required to restore exposed surfaces to original condition.
- C. Use hand tools or small power equipment designed for sawing or grinding, not hammering or chopping.
- D. Cut holes, slots, and saw cuts to obtain clean cuts and even lines in sizes and areas as necessary to complete work with no evidence of patching.
- E. Cut concrete, masonry and other such rigid materials using masonry carborundum saw or diamond core drill specifically designed for that purpose. Do not use pneumatic tools, except as accepted by Architect.
- F. Cut and drill, starting from exposed or finished side into concealed side of concrete, wood, and other surfaces subject to popping out or splintering, as required to prevent marring of exposed finished surfaces. Use conventional drills, not roto-hammers.
- G. Cut concrete slabs-on-grade by first drilling 2 test holes to determine thickness, and saw-cut 1/2 inch shallower than thinnest portion of slab to avoid cutting underslab piping and conduit.
- H. Cap and seal remaining portions of cut-off pipe and conduit within walls and site utility services to prevent intrusion of dirt, moisture, gases, vermin, and other matter into abandoned ends.

3.5 PATCHING

- A. Employ original installer where possible for weather exposed and moisture resistant elements, and sight-exposed surfaces.
- B. Perform work in manner to achieve least evidence of patching and as necessary to achieve unblemished, uniform appearance.
- C. Match finish of patched material. Where necessary, refinish to nearest joint, intersection, natural break, or adjoining construction to eliminate evidence of patching.
- D. Patch miscellaneous holes, gouges, scrapes, penetrations and other damaged surfaces on existing construction.
- E. Patch using durable materials and methods, suitable to physical characteristics, tolerances, and expansion coefficients of materials being patched. Where feasible, inspect and test patched areas to verify integrity of installation.
- F. Where cutting and removing of existing material results in uneven finished surfaces, perform work as necessary to establish even, uniform surface of same color and pattern as original work. Where this is impractical, verify with Architect and proceed as directed.

- G. Where patch cannot be made invisible at a continuous surface, prepare and extend final finish over to next natural break in surface, including wall and floor lines, wall corner edges, and wall and ceiling intersections.
 - 1. Restore exposed finishes of patched areas and extend finish restoration into adjoining areas to eliminate evidence of patching and refinishing.
 - 2. Where patching occurs at painted surface, extend paint finish coating over entire unbroken surface. Recoat as necessary to conform to appearance requirements of Section 099000.
 - 3. Restore feature strips and other visual elements original condition existing prior to cutting and patching.
- H. Where removal of walls and partitions extends one finished area into another, patch and repair floor and wall surfaces in new space, provide an even transition of uniform surface, color, and appearance. Include removal and replacement of wall and floor finishes and coverings.
 - 1. Patch, repair, and reinstall existing ceilings and associated mechanical and electrical work as necessary to make flat and level surfaces of uniform appearance.
 - 2. Refinish entire housing and finished surfaces for pieces of exposed equipment to make uniform in appearance.
- I. Patch to maintain fire-resistive construction at construction joints, voids, openings, and penetrations in conformance to Section 078400.

3.6 ADJUSTING

- A. Make repairs or replace cutting and patching work not conforming to specified requirements.
- B. Repair damage to work resulting from work of this Section, as directed by Architect. Reimburse Owner for damage to original construction, deducted from Contract Sum.
- C. Restore damaged pipe coverings to original condition.

3.7 CLEANING

- A. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials.
- B. Leave areas clean and free from debris resulting from work of this Section.
- C. Remove spillage, soiling, sealants paint, mortar, solder, oils, putty, sealant, and overspray from finished surfaces.

END OF SECTION 01 7229

SECTION 01 7419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Construction waste management provisions for recycling and adaptive reuse.
- B. Related Requirements:
 - 1. Section 018100 - Sustainable Design Requirements WSSP.

1.2 REFERENCES

- A. Contractors' Guide to Preventing Waste and Recycling.
<http://www.resourceventure.org/rv/issues/building/publications/index.php>
 - 1. Step-by-step guide to help set up and operate a job site recycling program.
 - 2. Spreadsheets to calculate savings.
 - 3. Sample Waste Management Plan to use as a guide.
- B. Washington Sustainable Schools Protocol.
<https://www.k12.wa.us/policy-funding/school-buildings-facilities/school-facilities-programs/high-performance-school-buildings-program>
- C. Seattle/King County, Construction Recycling Directory 2012
<https://www.seattle.gov/Documents/Departments/SDCI/Permits/KingCountyConstructionRecyclingDirectory.pdf>
- D. Snohomish County Construction Recycling Guide
<https://snohomishcountywa.gov/DocumentCenter/View/32788/Commercial-Recycling-Guide?bidId=>

1.3 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Bidders: Upon notification by Owner, submit initial Waste Management Plan for Owner review. Plan will be reviewed prior to notification and acceptance of apparent low bidder.
 - 1. Identify recycling and adaptive reuse processing facilities.
 - 2. Identify construction waste materials anticipated for recycling and adaptive reuse.
 - 3. Describe sorting and site storage methods.
- C. Discuss Owner reviewed Waste Management Plan with Owner at Pre-Construction Meeting and Progress Meetings, specified Section 013119.
- D. Submit documentation to Owner prior to Substantial Completion substantiating that Waste Management Plan was maintained and that goals were achieved.

1. Trash: Quantity by weight deposited in landfills. Include associated fees, transportation costs, container rentals, and taxes for total cost of disposal.
2. Salvaged Material: Quantity by weight or quantity with destination for each type of material salvaged for resale, recycling, or adaptive reuse. Include associated fees, transportation costs, container rentals, and taxes for total cost of disposal. Also, include reimbursements due to salvage resale.
3. Total Cost: Indicate total cost or savings for implementation of Waste Management Plan. This does not imply reimbursement by Owner.

1.4 DEFINITIONS

- A. Waste: For the purpose of this section, the term applies to all excess building materials. Waste includes materials that can be salvaged, returned, recycled, or reused.
- B. Trash (Garbage): That part of the waste that cannot be returned, reused, recycled, or salvaged.
- C. Construction, Demolition, and Land-Clearing Waste (CDL): Non-hazardous solid wastes resulting from construction, demolition, and land-clearing activities. Includes, but is not limited to, building materials, demolition rubble, landscaping materials, soils, packaging materials, debris, and trash.
- D. Proper Disposal: As defined by the jurisdiction receiving waste.
- E. Landfill: Public or private business involved in the practice of trash disposal.
- F. Hazardous Waste: Material and byproducts of construction, regulated by the US Environmental Protection Agency (EPA) or Labor and Industries (L&I), that may not be disposed in landfill or other waste end-source without adherence to applicable laws.
- G. Material Recovery Facility (MRF): General term used to describe a waste-sorting facility. Mechanical, hand-separation, or a combination of both procedures are used to recover recyclable materials from other waste, which is then disposed of as trash.
- H. Recycling: Process of sorting, cleaning, treating, and reconstituting materials for the purpose of using material in the manufacture of a new product. Can be conducted on site (as in the grinding of concrete and reuse on site).
- I. Recycling Facility: Operation that can legally accept materials for the purpose of processing the materials into an altered form for the manufacture of a new product.
 1. Recycling facilities have their own specifications for accepting materials.
 2. Depending on the type of facility, it may accept source-separated waste or co-mingled waste or both.
- J. Recycling Services. Types of services include:
 1. Source-Separated: Construction waste is sorted on the job-site in separate containers as it is generated. The recycling hauler takes the materials directly to a recycler or a transfer site.

- 2. Co-mingled: This service allows contractors to put select recyclables such as wood, cardboard, and metals in one container. The recycling hauler takes the materials to a sorting facility where the materials are separated for recycling.
- K. Reuse: Making use of a material without altering its form.
- L. Salvage: Recovery of materials for on-site reuse or donation to a third party.
- M. Source-separated Materials: Materials that are sorted at site for purpose of reuse or recycling.
- N. Co-mingled Materials: Mixed recyclable CDL materials that have not been source-separated. Some facilities will separate co-mingled materials off-site for recycling.

1.5 WASTE MANAGEMENT PLAN REQUIREMENTS

- A. Conform to WSSP and Section 018100, for calculating construction waste management points.
- B. Salvage minimum 50 percent by weight or by quantity of construction waste materials through resale, recycling, or adaptive reuse for duration of Project.
- C. Implement Waste Management Plan to reduce dumping into landfills and to either generate cost savings or increase minimal additional cost to Project for waste disposal. Include:
 - 1. Types and estimated quantities (where reasonably available) of salvageable materials that are expected to be generated during demolition. Base calculations on either dry weight or volume consistently throughout.
 - 2. Methods for recycling materials include one or more of following options:
 - a. Contracting with a demolition specialist to salvage all or most of materials generated.
 - b. Selective salvage as part of demolition contractor's work
 - c. Reuse of materials on-site or in new construction.
 - 3. Types and estimated quantities (where available) of recyclable materials expected to be generated during construction, in significant amounts, including but not limited to wood, concrete, metals, cardboard, and drywall. Base calculations on weight or volume consistently throughout.
 - 4. Method to be used to recycle these materials. Include one or more of the following options:
 - a. Requiring subcontractors to take materials back for recycling at a permitted facility.
 - b. Contracting with a full service recycling service to recycle all or most materials at a permitted facility.
 - c. Processing or reusing materials on-site.
- D. Contractors Project Engineer:
 - 1. Implement Waste Management Plan.
 - 2. Distribute to subcontractors and other workers.
 - 3. Oversee, instruct, and document results.
 - 4. Review with Owner.

- E. Collect construction debris into clearly marked bins or containers, and arrange for transportation to recycling centers or adaptive salvage and reuse processing facilities.
- F. Maintain recycling and adaptive reuse storage and collection area in orderly arrangement with materials clearly separated to eliminate co-mingling of unsuitable materials.
- G. Do not store products in manner that may pollute, constitute a fire hazard, or otherwise constitute a hazard to persons or property.
- H. Cover to protect materials subject to disintegration, mixing with water runoff, or otherwise polluting air, water, and soil.

1.6 RECYCLING

- A. Use Source Separation Method or Co-mingling Method suitable to sorting and processing method of selected recycling center. Dispose non-recyclable trash separately into landfill.
 - 1. Source Separation Method: Recyclable materials separated from trash and sorted into bins or containers prior to transportation to recycling center.
 - 2. Co-Mingling Method: Recyclable materials separated from trash and placed in unsorted bins or container for sorting at recycling center.
- B. Design Waste Management Plan to divert following waste categories from the landfills.
 - 1. Acoustical ceiling tiles
 - 2. Asphalt
 - 3. Bricks (where not reusable)
 - 4. Cardboard (from supplies and packaging)
 - 5. Carpet and carpet pad
 - 6. Concrete
 - 7. Concrete unit masonry
 - 8. Equipment oil.
 - 9. Excavated soils
 - 10. Fluorescent tubes and ballasts (if not recycled designate as hazardous waste)
 - 11. Gypsum board (clean, unpainted)
 - 12. Land clearing and organic plant debris
 - 13. Metals (from banding, stud trim, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized sheet steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze)
 - 14. Native stone and granular fill.
 - 15. Packing materials including paper, cardboard, foam plastic, and sheeting.
 - 16. Paint
 - 17. Plastic film (sheeting, shrink wrap, packaging)
 - 18. Window glass
 - 19. Wood (clean, unpainted, untreated wood scrap including pallets and engineered wood)
 - 20. Job-shack wastes, including office paper, blueprints, pop cans and bottles, recyclable plastics, and office cardboard.

1.7 REVENUES

- A. Revenues and other savings obtained from recycled, reused, or salvaged materials accrue to Contractor, except as otherwise indicated by Contract Documents or Owner-Contractor Agreement.

1.8 COMMUNICATION

- A. Contractors Project Engineer (or other designated person):
 - 1. Implement Waste Management Plan.
 - 2. Distribute copies to subcontractors and others performing work on site.
 - 3. Oversee, instruct, and document results.
- B. Conduct and oversee safety meetings, signage, and subcontractor agreements to communicate goals of Waste Management Plan, including instruction about appropriate separation, handling separation, handling, and recycling, salvage, reuse and return methods to be used by all parties at the appropriate stages of the Project.

1.9 MATERIALS CONSERVATION

- A. Protect products from damage during storage, installation, and for duration of construction following installation.
- B. Include waste reduction provision in supply agreements specifying preference for reduced, returnable, or recyclable packaging.
- C. Prepare detailed take-offs to identify location and use in construction to reduce risk of unplanned and potentially wasteful use of materials.

1.10 MATERIALS HANDLING

- A. Designate specific locations to facilitate separation of materials for recycling, salvage, reuse and return.
- B. Maintain recycling and waste bin areas in clean condition and clearly marked to reduce risk of co-mingling materials.
 - 1. Take means to prevent bins from off-site contamination during non-working hours.
 - 2. Conform to recycling facility and Separate recycling waste in accordance with requirements of recycling facility/hauler.
- C. Protect materials to be recycled or reused from contamination. Handle, store, and transport materials in a manner that meets the requirements of the designated acceptance facility.
- D. Separately store and dispose of hazardous wastes according to local regulations.

- E. As part of regular clean-up, schedule and conduct visual inspections of dumpsters and recycling bins to identify potential contamination of materials.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 7419

SECTION 01 7423 - FINAL CLEANING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Requirements for final cleaning at Substantial Completion.
- B. Related Requirements: Special cleaning requirements for specific elements of Work are included in applicable Divisions in Sections of Divisions 2 through 32.
 - 1. Section 015000 - Temporary Facilities and Controls, for routine maintenance cleaning requirements
 - 2. Section 017700 - Closeout Procedures, for general closeout procedures.
 - 3. Section 015200 - Construction Facilities, for general cleanup and waste removal

1.2 QUALITY ASSURANCE

- A. Cleaners: Employ experienced or professional cleaning personnel skilled in commercial cleaning procedures.
 - 1. Able to show 10 years of experience in post-construction cleaning of large commercial and institutional facilities.
 - 2. Have sufficient labor available within a limited period to perform cleaning for entire project.
 - 3. Able to work evenings, weekends, holidays, and as required for completion of project cleaning prior to Owner taking occupancy.
- B. Owner Prerogative:
 - 1. Owner reserves right at Owner discretion to employ and conduct cleaning procedures by an independent company in event that Contractor fails in duties described in this Section with costs deducted from Contractor's Final Payment or retainage.

1.3 ENVIRONMENTAL REQUIREMENTS

- A. Conduct cleaning and waste disposal operations in conformance to local laws and ordinances. Comply fully with federal and local environmental and anti-pollution regulations.
 - 1. Do not dispose of volatile wastes such as mineral spirits, oil or paint thinner in storm or sanitary drains.
 - 2. Burning or burying of debris, rubbish or other waste material on premises is not permitted.
 - 3. Only use products that are environmentally safe and that will not cause or contribute to Indoor Air Quality (IAQ) problems when facility is occupied.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of surface to be cleaned.
- B. Do not use cleaning agents that are potentially hazardous to health or property, or that might damage finished surfaces.
- C. Pay special attention to easily marred surfaces and reactive metals such as aluminum.

2.2 REGULATORY REQUIREMENTS

- A. Conform to governing regulations and safety standards for cleaning operations. Remove waste materials from site and dispose of in a lawful manner.
- B. Where extra materials of value remain after completion of associated construction, such materials shall become Owner's property. At Owner's direction, relocate these materials on site.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Provide final cleaning operations for all trades. Employ professional cleaners for final cleaning. Clean each surface or unit of Work to condition expected from a first class institutional building cleaning and maintenance program. Conform to manufacturer's instructions.
- B. Complete following cleaning operations before requesting inspection for Certification of Substantial Completion for entire Project or a portion of Project.
- C. Clean Project site, yard and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste materials, litter and foreign substances. Sweep paved areas broom clean. Remove petro-chemical spills, stains and other foreign deposits. Rake grounds that are neither planted nor paved, to a smooth even-textured surface.
- D. Remove tools, construction equipment, machinery and surplus material from 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. Pay special attention to corners and other hard to clean areas. 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. Broom clean and shop vacuum concrete floors in unoccupied spaces.
- I. Vacuum clean carpet and similar soft surfaces, removing debris and excess nap. Shampoo if any visible wear, soil or odor is present.
- J. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds, advertising labels and other substances that are 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 all visible labels that are not permanent labels and are not related to a products fire, mechanical or electrical rating.
- 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 show evidence of repair or restoration. Do not paint over "UL" and similar labels, including mechanical and electrical name plates.
- M. Wipe surfaces of mechanical and electrical equipment, elevator equipment and similar equipment. Remove excess lubrication, paint, sealant and mortar droppings and all other foreign substances.
- N. Clean plumbing fixtures to a sanitary condition, free of stains and film, including stains resulting from water exposure and from sealants.
- O. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills. Clean ducts, blowers, and coils if units were operated without filters during construction.
- P. Clean food service equipment to a sanitary condition, ready and acceptable for its intended use and obtain approvals by Health Department.
- Q. Clean light fixtures, lamps, globes and reflectors to function with full efficiency. Replace burned out or noticeably dimmed bulbs, and slow to start, defective and noisy starters in fluorescent and mercury vapor fixtures.
- R. Use metal detector to locate all metal objects, nails, etc. that may pose a hazard. Sweep all non-hard surface areas that were within or adjacent to any construction area or over which any construction related traffic traveled.
- S. Leave Project clean and ready for occupancy.

3.2 PEST CONTROL

- A. If pests have been observed, engage an experienced licensed exterminator to make a final inspection, and rid Project of rodents, insects, and other pests. Conform to regulations of local authorities.

3.3 REMOVAL OF PROTECTION

- A. Unless requested otherwise by Owner, remove temporary protection and facilities installed during construction to protect previously completed installations during remainder of construction period.

END OF SECTION 01 7423

SECTION 01 7700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Administrative and procedural requirements for project closeout, including but not limited to:
 - 1. Inspection procedures.
 - 2. Project record document submittal.
 - 3. Operating and maintenance manual submittal.
 - 4. Submittal of warranties.
 - 5. Final cleaning.
- B. Closeout Procedures specified by Other Sections:
 - 1. Section 09 9100 - Commissioning
 - 2. Section 01 3233 - "Photographic Documentation" for submitting final completion construction photographic documentation.
 - 3. Section 01 7823 - "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 4. Section 01 7839 - "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
 - 5. Section 01 7900 - "Demonstration and Training" for requirements for instructing Owner's personnel.
 - 6. Section 01 9113 - "General Commissioning Requirements" for equipment, controls and system operation assurance.
 - 7. Divisions 02 - 32 - As specified by specified by specific Sections
 - 8. Section 01 2900 - Payment Procedures

1.2 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete following. List exceptions in request. Submit request in writing to Architect. Refer in addition to Section 012900.
 - 1. In Application for Payment that coincides with, or first follows, date Substantial Completion is claimed, show 100 percent completion for portion of the Work claimed as substantially complete. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to Contract Sum.
 - a. Where 100 percent completion cannot be demonstrated, include list of incomplete items, value of incomplete construction, reasons the Work is not complete and schedule for completion of remaining work.
 - 2. Advise Owner of pending insurance change-over requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.

4. Obtain and submit releases enabling Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates and similar releases.
 5. Submit Project Record Documents, Operations and Maintenance (O&M) Manuals, data system tests, certifications, and similar final record information.
 6. Deliver tools, spare parts, extra stock, and similar items. Obtain signed receipt for each from authorized Owner's representative. Items turned over without signed receipt, if misplaced, will require replacement by Contractor.
 7. Medico Locks and Keys: Make final changeover to permanent cylinders and keys. Transmit keys, final keying schedule, and written notification of changeover completion to Owner.
 8. Discontinue or change over and remove temporary facilities from site, along with construction tools, mock-ups, and similar elements.
 9. Complete final clean up requirements, including touch-up painting. Touch-up and otherwise repair and restore marred exposed finishes.
- B. Inspection Procedures: On receipt of a written request for inspection, Architect will either proceed with inspection or advise Contractor of unfilled requirements. The Architect will prepare Certificate of Substantial Completion (AIA Form G704) following inspection, or advise Contractor in writing of construction that must be completed or corrected before Certificate will be issued.
1. The Architect will repeat inspection within a reasonable period when requested in writing and assured that the Work has been 100 percent substantially completed.
 2. Results of completed inspection will form basis of requirements for final acceptance.
 3. If work is not 100 percent substantially complete after second request and inspection, all subsequent inspections and related travel and administrative costs will constitute Additional Services of Architect. The cost of these will be deducted from Contractor's Final Payment or retainage by Owner.
 4. If the Work does not achieve Substantial Completion within two weeks of date originally scheduled to do so, plus any time adjustments by Change Order, Architect's time and efforts beyond that period shall constitute Additional Services. The cost of this will be deducted from Contractor's Final Payment or retainage by Owner.
 5. The 5 percent punchlist line items in Schedule of Values will be released on any given line item only when all punchlist items relating to that line item are satisfactorily completed.

1.3 FINAL ACCEPTANCE

- A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete following and submit to Architect. List exceptions and request for inspection, in writing. Refer in addition to Section 012976.
1. Submit written, signed and notarized statement that "The Contract Documents have been reviewed. The Work described therein has been inspected by Cornerstone General Contractors Inc. for compliance to Contract Documents. The Work has been completed in accordance with Contract Documents."
 2. Submit final payment request with releases of liens from all sub-contractors and supporting documentation not previously submitted and accepted. Furnish an affidavit that payrolls, bills for materials and equipment and any other

- indebtedness associated with the Work has been paid or otherwise satisfied. Submit on AIA Document G706. Include certificates of insurance for products and completed operations where required. Coordinate with Section 012976.
3. Submit an updated final statement, accounting for final additional changes to Contract Sum.
 4. Submit a certified copy of Architect's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance and list has been endorsed and dated by Architect.
 5. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion, or when Owner took possession of and responsibility for corresponding elements of the Work.
 6. Submit consent of surety to final payment.
 - a. Include letter from Bonding Company directed to Owner stating that Surety approves release of Final payment; Surety waives submittal of final receipts from all subcontractors and suppliers and that terms of Bond will extend for general warranty period.
 - b. If Surety is unable to provide letter with statements listed, Contractor shall submit final receipts from each subcontractor and supplier.
 7. Submit a final liquidated damages settlement statement.
 8. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 9. Submit Certificate of Occupancy if temporary certificate or other exemption acceptable to Owner delayed such submission at Substantial Completion.
 10. Submit Certificate of Inspections for Mechanical and Electrical work.
 11. Submit Affidavit of Wages Paid for Contractor and all sub-contractors.
 12. Submit Employment Security Release.
 13. Submit Department of Labor and Industries Release.
 14. Submit Department of Revenue Release (for projects over \$20,000 only).
- B. Architect Reinspection Procedure: The Architect will reinspect the Work within a reasonable period after receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except items whose completion has been delayed because of circumstances acceptable to Architect.
1. Upon completion of re-inspection, Architect will prepare a certificate of final acceptance, or advise Contractor in writing of the Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
 2. If necessary, re-inspection will be repeated.
 3. If work is not 100 percent complete after second request and inspection, all subsequent inspections and related travel and administrative costs will constitute Additional Services for Architect. The cost of these will be deducted from Contractor's Final Payment or retainage by Owner.
 4. If the Work does not achieve Final Completion within 60 days of Substantial Completion date, Architect's time and efforts beyond that period shall constitute Additional Services. The cost of this will be deducted from Contractor's Final Payment or retainage by Owner.
- C. Commissioning Agent Reinspection Procedure: The Commissioning Agent will reinspect the Work within a reasonable period after receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except items whose completion has been delayed because of circumstances acceptable to Owner.

1. Upon completion of re-inspection, Commissioning Agent will prepare a Final Commissioning Report, or advise Contractor in writing of the Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
2. If necessary, re-inspection will be repeated.
3. If work is not 100 percent complete after second request and inspection, all subsequent inspections and related travel and administrative costs will constitute Additional Services of Commissioning Agent. The cost of these will be deducted from Contractor's Final Payment or retainage by Owner.
4. If the Work does not achieve Final Completion within 60 days of Substantial Completion date, Commissioning Agents time and efforts beyond that period shall constitute Additional Services. The cost of this will be deducted from Contractor's Final Payment or retainage by Owner.

1.4 CLOSEOUT PROCEDURES

- A. Operating and Maintenance Instructions: Arrange for each installer of equipment that requires regular maintenance to meet with Owner's personnel to provide instruction in proper operation and maintenance. If installers are not experienced in procedures, provide instruction by manufacturer's representatives. Include a detailed review of following items:
 1. Maintenance manuals.
 2. Record documents.
 3. Spare parts and materials.
 4. Tools.
 5. Lubricants.
 6. Fuels.
 7. Identification systems.
 8. Control sequences.
 9. Hazards.
 10. Cleaning.
 11. Warranties and bonds.
 12. Maintenance agreements and similar continuing commitments.
- B. As part of instruction for operating equipment, demonstrate following procedures:
 1. Start-up.
 2. Shutdown.
 3. Emergency operations.
 4. Noise and vibration adjustments.
 5. Safety procedures.
 6. Economy and efficiency adjustments.
 7. Effective energy utilization.
 8. Routine cleaning, maintenance and repair techniques for faults correctable by Owner's personnel without voiding warranty.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 7700

SECTION 01 7823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Administrative and procedural requirements for Operation and Maintenance (O&M) Manuals including following:
 - 1. Operation and Maintenance Manuals Format
 - 2. Electronic Media Manuals
 - 3. Operation and Maintenance Manuals Content
 - 4. Building Products, Materials, and Finishes Manuals
 - 5. Equipment Systems Maintenance Manuals
- B. Related Requirements:
 - 1. Section 013300 - Submittals
 - 2. Section 017700 - Closeout Procedures
 - 3. Section 017836 - Warranties
 - 4. Section 017839 - Project Record Documents
 - 5. Section 017900 - Demonstration and Training
 - 6. Division 02 – 49 - Project Manual, for additional requirements for operation and maintenance data.

1.2 SUBMITTALS

- A. Preliminary Submittal of Operation and Maintenance (O&M) Manuals:
 - 1. Prior to Substantial Completion: Submit electronic PDF format drafts to Architect for review, following nominal completion of operating systems and equipment requiring O&M Manuals
 - 2. Include temporary cover and complete table of contents showing intended layout.
 - 3. Architect and Architect's consultants will review draft and return one copy with comments within 15 days of receipt.
 - 4. Revise in response to comments, and resubmit as necessary for acceptance by Architect prior to final submittal.
 - 5. Following final inspection for Substantial Completion, make additional modifications conforming to Architect and Owner comments.
 - 6. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.
 - 7. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit manuals for approval prior to Substantial Completion.
- B. Final Submittal of Operation and Maintenance Manuals:
 - 1. Following acceptance of final draft, submit 3 copies to Architect in final form at least 15 days following Architect's final acceptance of draft.

2. Architect and consultants will review for completeness and return one annotated copy.
3. Architect will turn over final sets to Owner.

1.3 QUALITY ASSURANCE

- A. Prepare Operation and Maintenance Manuals by persons trained and experienced in maintenance and operation of products and systems described.
 1. Where possible, use manufacturer's standard in-depth operational and maintenance guidelines and information.
 2. Customize to describe operations and maintenance data that differs from standard products and systems.
- B. Prepare written instructions by technical writers, skilled in communication of technical data.
- C. Prepare drawings and diagrams by specialists in computer graphics or by persons skilled in professional drawing and drafting, as necessary for clear, understandable format.

1.4 OPERATION AND MAINTENANCE MANUALS FORMAT

- A. Operation and Maintenance Data: Compile and arrange in format and organization appropriate for Owner's maintenance and operation needs.
 1. Prepare in format for use as instructional manuals by Owner's personnel.
 2. Modify data as required to accurately represent completed installations.
 3. Arrange content by systems under Section numbers and sequence of Table of Contents of Project Manual.
 4. When multiple binders are used, correlate data into related groupings.
 5. Include cross-referencing of related data as necessary for operation and maintenance.
- B. Binders: Heavy-duty, commercial quality, loose-leaf, 3 ring, metal hinged, vinyl covered hardboard, 1 inch to 3 inch thick, sized to receive 8-1/2 by 11 inch paper, and with clear plastic sleeves on spine, and front and back faces. Include 3-hole punched clear plastic pockets to receive folded sheets.
- C. Binder Covers:
 1. Identify each binder on spine and front and back covers printed with:
 - a. Operation and Maintenance Data.
 - b. Project Title.
 - c. Completion date of Project.
 - d. Identification of subject matter contained in Manual.
 - e. Volume number for multiple sets of manuals.
 2. Include names of Owner, Architect, Engineers, General Contractor, major subcontractors, and major equipment suppliers.
- D. Tabbed Dividers: Heavy paper dividers with celluloid covered tabs for each separate Section.

1. Indicate typed description on each tab by Section number and contents as listed in Table of Contents.
 2. Provide typed description of Section number, products, and major components included in Section on each divider or on a leader sheet immediately following divider.
- E. Protective Plastic Jackets: Provide protective transparent plastic jackets designed to enclose diagnostic software for computerized electronic equipment.
- F. Text Material: Manufacturer's printed data or type face information on 20 pound low acid, white or off-white bond paper.
- G. Drawings and Diagrams: Provide with reinforced punched binder tabs and bind in with text.
1. Insert sheets larger than 8-1/2 by 11 inch and not larger than 11 by 17 inch as fold-outs and bind into Manual with other standard size sheets.
 2. Neatly fold larger sheets with identifying title block visible on outside fold to fit size of standard size sheets. Insert into clear plastic pockets with three ring binder edge attached.
 3. Where necessary to insert drawing sheets into pockets located at front or back of Manual:
 - a. Insert typewritten page indicating drawing title, description of contents, and drawing location at appropriate location in manual.
 - b. Affix permanent typed label to drawing pocket indicating contents.

1.5 ELECTRONIC MEDIA MANUALS

- A. Provide electronic (paperless) media in addition to standard paper Operation and Maintenance Manuals.
1. Assume that hard copy Manuals are required and confirm with Owner.
 2. Follow Owner's written instructions for exact requirements.
- B. Format: Portable Document Format (PDF).
- C. Media: DVD (Blue Ray), flash drive, or other portable medium equipped for computer USB port that is reliable, likely to be available in future years, is easily accessed by untrained personnel using standard equipment and software, and is as accepted in writing by Owner.
- D. Organize Electric Operation and Maintenance Manual corresponding to hard copy Operation and Maintenance Manual. Use same titles, content, and index following Project Manual Table of Contents at Section numbers and titles.

1.6 OPERATION AND MAINTENANCE MANUALS CONTENT

- A. Include following in consecutive order.
- B. Title Page: Bind in plastic envelope.
1. Project Title, Project Number, and Address of Project.

2. Subject matter covered by this volume of Maintenance and Operation Manual
 3. Date of submittal.
 4. Name of Contractor, Owner, and Architect.
 5. Cross reference to related data and systems located in other volumes of Operation and Maintenance Manual.
- C. Project Directory: Bind in plastic envelope.
1. Project Title and Project Number.
 2. Owner, Architect, Consultants, and Contractor: Include postal addresses, telephone numbers, email addresses, web sites, and names of responsible parties.
- D. Table of Contents: Bind in plastic envelope. Include comprehensive table of contents in each volume of Manual and identify contents within each volume.
1. Manual Contents List: Index to Project Manual Table of Contents Section numbers and titles.
 2. Products List: List under each indexed section number and title.
- E. Products, Installers, Distributors, and Maintenance Information:
1. Product Names, Manufacturers, and Fabricators: Index and label according to order of Table of Contents.
 2. Installers, Subcontractors, Distributors, and Suppliers: Include postal addresses, telephone numbers, email addresses, and web sites, as applicable.
 3. Maintenance Services: Include locally available sources for servicing, repairs, replacement, and equipment parts, including custom manufactured products, with names, addresses, telephone numbers, email addresses, and web sites, as applicable.
- F. Product Data:
1. Submit original product literature. Photo-copies are not accepted.
 2. Clearly identify specific products, model numbers, component parts, and data applicable to installation from other products shown on product data sheet.
 3. Delete inapplicable information by marking out, striking out, or by notation.
 4. For custom fabricated products, where product data is unavailable, reference by Shop Drawing submittal number and description.
- G. Written Text:
1. Include as necessary to supplement product data.
 2. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions as specified by Section 014300.
- H. Drawings and Diagrams:
1. Include as necessary to supplement Product Data.
 2. Illustrate relations of component parts of equipment and systems.
 3. Show wiring, control, and flow diagrams.
 4. Coordinate with information contained in Project Record Documents as necessary to correctly illustrate completed installation.
 5. Do not use Project Record Documents as maintenance drawings.
- I. Warranties, Service Contracts, and Maintenance Contracts Issued: Refer to Section 017836 and requirements of specific Sections.

1. Copies of each Warranty, Service, and Maintenance Contracts: Signed by authorized representative.
2. Provisions: Define in detail and indicate where different from that specified by applicable Sections.
3. Exclusions: List circumstances and conditions that may invalidate warranty, service, and maintenance provisions.
4. Procedures: Means and methods to be followed by Owner's personnel in event of product failure.

1.7 BUILDING PRODUCTS, MATERIALS, AND FINISHES MANUALS

- A. Furnish separate manuals for following:
 1. Architectural Products: Includes exposed-to-view installed products, materials, and finishes.
 2. Building Enclosure Products: Including not-exposed-to-view air and vapor barriers, waterproofing, moisture-protection, thermal insulation, and weather- exposed products.
- B. Architectural Products:
 1. Manufacturer identifying product names, including numbers, series, or types.
 2. Product characteristics, including material composition, performance and design data, limitations, specifications, and tolerances, as applicable.
 3. Reference standards, code approvals, and test data.
 4. Sizes, dimensions, and configurations.
 5. Color identified by manufacturer, color name and number, or formula, as necessary to re-establish original.
 6. Texture, patterns, and surface treatments.
 7. Maintenance Instructions:
 - a. Appropriate cleaning agents and methods.
 - b. Precautions against detrimental agents and treatments.
 - c. Recommended maintenance schedules.
 8. Reordering information, including custom and non-standard products, with finishes to match original.
- C. Building Enclosure Products:
 1. Manufacturer identifying product names, including numbers, series, or types.
 2. Product characteristics, including chemical composition, performance and design data, limitations, specifications, and tolerances, as applicable.
 3. Reference standards, code approvals, and test data.
 4. Installation instructions and details.
 5. Inspection, maintenance instructions, repair, and replacement procedures.
- D. Building Products, Materials, and Finishes includes products under following Divisions for Work of this Contract.

Division 07 Thermal and Moisture Protection Waterproofing

Weather Barriers

Roofing

Wall Panels and Siding

Division 08	Openings	Doors and Frames Specialty Doors Entrances, Storefronts, and Curtain Walls Windows Skylights Hardware Glazing Systems / Insulating Glass Units Wall Louvers
Division 09	Finishes	Ceramic, Tile Systems Acoustical Ceiling Systems Wood Flooring Resilient Flooring and Base Carpeting Painting and Coating Systems
Division 10	Specialties	Visual Display Surfaces
Division 12	Furnishings	Window Treatments Seating Systems

1.8 EQUIPMENT SYSTEMS MAINTENANCE MANUALS

- A. Furnish Operation and Maintenance Data in separate Operation and Maintenance Manuals for following:
1. Systems listed under Division 11 - Equipment and Division 14 – Conveying (Elevator) Systems.
 2. Irrigation, Sewage Pumping, and Other Site Equipment Systems.
 3. Building Mechanical (HVAC), Plumbing, Fire Suppression Systems
 4. Electrical, Integrated Automation, Communications, and Electronic Safety and Security Systems.
- B. General Data: Furnish following for each major component of building equipment and control systems. Where applicable, include additional information specified by related Sections.
1. General system or equipment description.
 2. Design factors and assumptions.
 3. Copies of applicable shop drawings and product data.
 4. System or equipment identification, including:
 - a. Name of manufacturer.
 - b. Model number.
 - c. Serial number of each component.
 5. Operation instructions.
 6. Emergency instructions.
 7. Wiring diagrams.
 8. Inspection and test procedures.
 9. Maintenance procedures and schedules.
 10. Improper operation and maintenance procedures and other precautions.
 11. Copies of warranties with contact names, addresses, emails, and phone numbers and internet site, as applicable, for warranted work.

12. Sources of required maintenance materials and related services including contact names, addresses, emails, phone numbers, and internet site, as applicable.
 13. Repair instructions including listing of spare parts.
- C. Equipment Systems Description: Furnish descriptive data for each unit and related component parts:
1. Equipment or system function.
 2. Operation characteristics.
 3. Limiting conditions.
 4. Performance curves.
 5. Engineering data and tests.
 6. Complete nomenclature and number of replacement parts.
- D. Manufacturer's Information: Furnish following for equipment and equipment system components:
1. Printed Operation and maintenance instructions.
 2. Assembly drawings and diagrams required for maintenance.
 3. List of items recommended to be stocked as spare parts.
- E. Maintenance Procedures: Furnish following information detailing essential maintenance procedures:
1. Routine operations.
 2. Trouble-shooting guide.
 3. Disassembly, repair and reassembly
 4. Alignment, adjusting and checking.
- F. Operation Procedures: Furnish information on equipment and system Operation procedures, including following:
1. Start-up procedures.
 2. Equipment or system break-in.
 3. Routine and normal Operation instructions.
 4. Regulation and control procedures.
 5. Instructions on stopping.
 6. Shut-down and emergency instructions.
 7. Summer and winter Operation instructions.
 8. Required sequences for electric or electronic systems.
 9. Special Operation Instructions.
- G. Servicing Schedule: Furnish a schedule of routine servicing and lubrication requirements, including a list of required lubricants for equipment with moving parts.
- H. Controls: Mount copy of following under laminated safety glass in space with equipment at location directed by Owner's Operation personnel. Locate by reference to room number and include a plan showing referenced rooms.
1. Description of sequence of operation and control diagrams as installed.
 2. Predicted life of parts subject to wear, and items recommended to be stocked as spare parts.
 3. Locations of valves, filters, strainers, drains, vents, dampers, shut offs and similar key components.

- I. Contractor's Coordination Drawings: Furnish with identifying color coded piping diagrams, as installed.
- J. Valve Tags: Charts of valve tag numbers with location and function of each valve.
- K. Panelboard Electric and Electronic Systems Circuit Directories: Furnish with color coded wiring diagrams, as installed.
 - 1. Electric service.
 - 2. Controls.
 - 3. Communication.
- L. Irrigation Systems: Recommended schedule for start-up and shut-down of system. List step by step procedures for following:
 - 1. Spring activation and use.
 - 2. Winter deactivation, drain down, and clean out.

PART 2 - PRODUCTS (Not Used)**PART 3 - EXECUTION (Not Used)****END OF SECTION 01 7823**

SECTION 01 7836 - WARRANTIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Administrative and procedural requirements for processing warranties during procedures for Project.
 - 1. Submittal Requirements.
 - 2. Form of Submittals.
 - 3. Start of Warranties.
 - 4. Warranty provisions.
 - 5. Corrective Measures.
 - 6. Owner Rights
 - 7. Schedule of Warranties
 - 8. Minimum format and content of Warranties
- B. Related Requirements:
 - 1. Division 00 - Conditions of Contract, for other warranty terms and provisions.
 - 2. Section 017700 - Closeout Procedures, for additional closeout submittal requirements.
 - 3. Section 017823 - Operation and Maintenance Data

1.2 DEFINITIONS

- A. Standard Warranties: Preprinted published warranties defining warranty provisions, limitations, and exclusions, and specifically endorsed by individual manufacturers to Owner.
- B. Special Warranties: Written warranties required by or incorporated into Contract Documents that increase warranty provisions, including time extensions and Owner rights, beyond that provided by standard published warranties.
- C. Correction Period: Refers to standard correction period as required by Conditions of Contract requiring Contractor to warrant Work for a one year period following Substantial Completion.

1.3 SUBMITTALS

- A. Submit as specified by Section 017700 with Contractor's Closeout Submittals.
- B. Forms for special warranties are included at end of this Section.
 - 1. Prepare a written document, utilizing form provided at end of this Section, ready for execution by applicable Warrantor including Contractor, subcontractor, supplier, manufacturer, and fabricator.

2. Submit a draft to Owner through Architect for approval prior to final execution.
 3. Refer to individual Sections for specific content requirements, and particular requirements for submittal of special warranties.
- C. Assemble executed warranties by manufacturers, fabricators, suppliers, and others providing warranties as specified by individual Sections. Include with each warranty:
1. Full description of Warranty provisions.
 2. Warrantor (entity providing Warranty) with name of authorized representative, postal address, telephone number, email address, and web site.
 3. Beginning and duration dates of Warranty and related Service and Maintenance Contracts.
 4. Procedural instructions for exercising warranty.
 5. Exclusions, limitations, and instances affecting warranty provisions.
 6. Installer name, address and telephone number.
 7. Name of local representatives and services responsible for warranty work during warranty period for warranties executed by out-of-area warrantors.
- D. Organize warranty documents into an orderly sequence based on Project Manual Table of Contents.

1.4 FORM OF SUBMITTALS

- A. Prepare in triplicate packets.
- B. Format Size: 8-1/2 inch by 11 inch heavy bond, low acid paper, punched for three-ring binder. Fold larger sheets to fit into binders.
- C. Binders: Commercial quality, metal hinged, 3-ring vinyl covered loose-leaf binders, minimum 1 inch and maximum 3 inch thick as necessary to accommodate contents, and sized to receive 8-1/2 inch by 11 inch paper.
1. Print WARRANTIES on front, back and spine along with Project title and date.
- D. Cover Sheet: Identify date, title of Project, and contract information for Contractor, Owner, and Architect, including postal address, telephone number, email address, and web site for each.
- E. Table of Contents: Neatly type in orderly sequence indexed to Project Table of Contents.
- F. Paper Dividers: Heavy paper with celluloid covered tabs for each separate warranty, marked with Section and product identifier for each warranty.

1.5 START OF WARRANTIES

- A. Start of Warranty Period: Upon date of Substantial Completion.
- B. Start of Warranty Period: Upon date of Final Acceptance of Work by Owner's Board of Directors.

1.6 WARRANTY PROVISIONS

- A. Warrant materials, products, equipment, systems, and services incorporated into Work of this Contract as specified by individual specification Sections and required by Conditions of Contract.
 - 1. Meet or exceed terms and conditions of manufacturer's published Standard Warranties, applying to purchase and use of manufacturers' products, equipment, systems, and services.
 - 2. Where specified, provide written extended Special Warranties meeting or exceeding provisions of published Standard Warranties.
- B. Correction Period: Where no warranty provisions are specified, conform to minimum one-year correction period required by Conditions of Contract for correction of defective work.
 - 1. Include uncovering and repairing damage associated with defective work.
 - 2. Do not limit statute of limitations, defined by law, that permit Owner to seek compensation for non-conforming and defective work.

1.7 CORRECTIVE MEASURES

- A. When requested by Owner, correct or replace defective work, substandard work, and work not conforming to provisions of Contract Documents.
- B. Make corrections in conformance to manufacturer instructions and in conformance to current laws and regulatory requirements by authorities having jurisdiction
- C. Reinstate warranties by issuing new warranties that begin at time of completion of corrected, restored, and replaced work. Meet or exceed provisions of original warranties except as applicable for an equitable adjustment for depreciation of patched and minor repairs to larger portions of work.
- D. Assume full adjustment costs to meet Warranty provisions without regard as to whether or not Owner has benefited from a portion of Warranty period. Do not prorate.
- E. Where work has been damaged due to failure of warranted work or has been removed to gain access to warranted work, repair and replace as necessary to reinstate original warranties and to meet original provisions of Contract Documents.
- F. Coordinate corrective work to cause least interruption and disruption to Owner activities and occupation of site.

1.8 OWNER'S RIGHTS

- A. Owner reserves right to make corrections, 10 days after giving Notice, at Contractor's and Contractor's Surety's expense, upon failure of Contractor to conform to terms of Warranty.

- B. Owner reserves right to make emergency repairs without first giving Notice to Contractor, at Contractor's and Contractor's Surety's expense, where delay may result in loss or damage to Owner.
- C. Owner reserves right to reject warranties and product selections that conflict with provisions of Contract Documents.
- D. Written warranties made to Owner are in addition to implied warranties, and do not limit or weaken duties, obligations, rights, statutory rights to legal redress, and remedies otherwise available under law.
- E. Warranty periods are not to be interpreted as limitations on time in which Owner can enforce other duties, obligations, rights, or remedies.
- F. Owner will not be bound by Warranty provisions that contain limitations, exclusions, and other provisions that reduce implied or expressed product performance to less than had no Warranty been issued.

1.9 SCHEDULE OF WARRANTIES

- A. Schedule: In addition to a general Project warranty, provide warranties on products and installations as specified in respective Specification Sections.

1.10 MINIMUM FORMAT AND CONTENT OF WARRANTIES

- A. Minimum content of all warranties shall include following or have attached a cover letter including following:

Undersigned I, We Name of Contractor, hereby certify certifies that Name of Trade or Portion Of Work warranted that was installed by Name of Sub-Contractor on Project Name at Street Address or other exact location description is work performed in strict compliance with Contract Documents.

Undersigned I, We further warrant warrants this work to be watertight, fully operational, other (describe) and free from defects in materials and workmanship for warranty period in years from date of Final Acceptance of Owner's Board of Directors or, in accordance with General Conditions of Contract, for concealed work not visible or apparent upon conducting a reasonable investigation, until defect is discovered by Owner in that work, and will repair or replace without delay any defects in material and workmanship discovered within warranty period.

Undersigned I, We acknowledge acknowledges that failure to proceed with terms of warranty within ten days of notification shall allow Owner to have defects corrected and that I, we and my, our surety shall be liable for all expenses incurred by Owner.

Undersigned I, We further acknowledge acknowledges that in case of emergency where, in opinion of Owner or Architect/Engineer, delay would cause serious loss or damage or allow a public health or safety risk to exist, repairs may be made without

notice being given to me, us and I, we and my, our surety shall remain liable for all expenses incurred.

Very Truly,

Signature of authorized agent or officer

Printed Name Title

Name of Contractor, address and telephone number

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 7836

SECTION 01 7839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Administrative and procedural requirements for submittal of project record documents at completion of Project.
- B. Project Record Documents required include:
 - 1. Marked-up copies of Contract Drawings.
 - 2. Marked-up copies of Shop Drawings.
 - 3. Newly prepared Drawings.
 - 4. Marked-up copies of Specifications, addenda and Change Orders.
 - 5. Marked-up Product Data submittals.
 - 6. Record Samples.
 - 7. Field records for variable and concealed conditions, including Survey information.
 - 8. Record information on Work that is recorded only schematically.
- C. Specific record copy requirements that expand requirements of this Section are included in the individual Sections of Divisions 2 through 16.
- D. General project closeout requirements are included in Section "Project Closeout."
- E. General requirements for submittal of Record Documents are included in Section "Project Record Documents."
- F. Specific record Survey information requirements are included in Section "Field Engineering".
- G. Maintenance of Documents and Samples: Store record documents and Samples in the field office apart from Contract Documents used for construction and well protected from any damage or degradation. Do not permit Project Record Documents to be used for construction purposes. Maintain record documents in good order, and in a clean, dry, legible condition. Make documents and Samples available at all times for inspection by the Architect/ Engineer.

1.2 RECORD DRAWINGS

- A. Mark-up Procedure: During the construction period, maintain a set of black-line white-prints of Contract Drawings and Shop Drawings for Project Record Document purposes.
 - 1. Mark these Drawings daily when Work is being installed to indicate the actual installation where the installation varies from the installation shown originally. Give particular attention to information on concealed elements which would be difficult to identify or measure and record later. Items required to be marked include but are not limited to:

- a. Dimensional changes to the Drawings.
 - b. Revisions to details shown on the Drawings.
 - c. Depths of foundations below the first floor.
 - d. Plan locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits, either vertically or horizontally.
 - 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.
 - k. Details not on original Contract Drawings.
 - l. Updated room numbers corresponding to signage.
 2. Mark completely and accurately record prints of Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.
 3. Mark record sets with red erasable colored pencil; use other colors to distinguish between changes for different categories of the Work at the same location.
 4. Mark important additional information which was either shown schematically or omitted from original Drawings.
 5. Note construction change directive numbers, alternate numbers, change order numbers and similar identification.
 6. Responsibility for Markup: Where feasible, the individual or entity who obtained record data, whether the individual or entity is the installer, subcontractor, or similar entity, is required to prepare the mark-up on record Drawings.
 - a. Accurately record information in an understandable Drawing technique.
 - b. Record data as soon as possible after it has been obtained. In the case of concealed installations, record and check the mark-up prior to concealment.
- B. Project Record Drawings.
1. The purpose of the final record drawings is to provide factual information, for transfer to CADD and other electronic (PDF) format by the Architect, regarding all aspects of the work, both concealed and visible to enable future modification of the work to proceed without lengthy and expensive site measurement, investigation, and examination.
 2. The job set of Record Drawings shall be made available to the Architect and Owner for cross checking the corresponding Project Record Documents that will be used as the basis for the Architect's transfer of information to a CADD and other electronic (PDF) format.
- C. Newly Prepared Record Drawings: Prepare new Drawings instead of following procedures specified for preparation of Record Drawings where new Drawings are required by a Change Order issued as a result of acceptance of an alternate, substitution, or other modification, and the Architect/Engineer determines that neither the original Contract Drawings nor Shop Drawings are suitable to show the actual installation.
1. Consult with the Architect/Engineer for the proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction. When completed and accepted, integrate newly prepared

Drawings with procedures specified for organizing, copying, binding and submittal of record Drawings.

1.3 RECORD SPECIFICATIONS

- A. During the construction period, maintain one copy of the Project Specifications, including addenda and modifications issued, for Project Record Document purposes.
 - 1. Mark the Specifications to indicate the actual installation where the installation varies substantially from that indicated in Specifications and modifications issued. Note related Project Record Drawing information, where applicable. Give particular attention to substitutions, selection of product options, and information on concealed installations that would be difficult to identify or measure and record later.
 - a. In each Specification Section where products, materials or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.
 - b. Record the name of the manufacturer, supplier and installer, and other information necessary to provide a record of selections made and to document coordination with record Product Data submittals and maintenance manuals.
 - c. Note related record Product Data, where applicable. For each principal product specified, indicate whether record Product Data has been submitted in maintenance manual instead of submitted as record Product Data.
 - 2. Upon completion of mark-up, submit record Specifications to the Architect/Engineer for Owner's records.
 - 3. Each prime Contractor is responsible for marking-up Sections that contain its own Work.
 - a. The Contractor for General Construction is responsible for collecting marked-up record Sections from each of the other prime Contractors, and for collating these Sections in proper numeric order with its own Sections to form a complete set of record Specifications.
 - b. The Contractor for General Construction is responsible for submitting the complete set of record Specifications as specified.

1.4 RECORD PRODUCT DATA

- A. During the construction period, maintain one copy of each Product Data submittal for Project Record Document purposes.
 - 1. Mark Product Data to indicate the actual product installation where the installation varies substantially from that indicated in Product Data submitted. Include significant changes in the product delivered to the site, and changes in manufacturer's instructions and recommendations for installation.
 - 2. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 3. Note related Change Orders and mark-up of record Drawings, where applicable.
 - 4. Upon completion of mark-up, submit a complete set of record Product Data to the Architect/ Engineer for the Owner's records.

5. Where record Product Data is required as part of maintenance manuals, submit marked-up Product Data as an insert in the manual, instead of submittal as record Product Data.
6. Each prime Contractor is responsible for mark-up and submittal of record Product Data for its own Work.

1.5 RECORD SAMPLE SUBMITTAL

- A. Immediately prior to date of Substantial Completion, the Contractor shall meet with the Architect/ Engineer and, if desired, the Owner's personnel at the site to determine which of the Samples maintained during the construction period shall be transmitted to Owner for record purposes. Comply with the Architect/ Engineer's instructions for packaging, identification marking, and delivery to Owner's Sample storage space. Dispose of other Samples in manner specified for disposal of surplus and waste materials.

1.6 MISCELLANEOUS RECORD SUBMITTALS

- A. Refer to other Specification Sections for miscellaneous record- keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for use and reference. Submit to the Architect/ Engineer for the Owner's records.
 1. Categories of requirements resulting in miscellaneous records include, but are not limited to the following:
 - a. Field records on excavations and foundations.
 - b. Field records on underground construction and similar Work.
 - c. Certified and stamped Survey showing locations and elevations of underground lines.
 - d. Surveyor's log of control and survey work.
 - e. Certified and stamped Surveys establishing building lines and levels.
 - f. Invert elevations of drainage piping.
 - g. Authorized measurements utilizing unit prices or allowances.
 - h. Records of plant treatment.
 - i. Ambient and substrate condition tests.
 - j. Certifications received in lieu of labels on bulk products.
 - k. Batch mixing and bulk delivery records.
 - l. Testing and qualification of tradesmen.
 - m. Documented qualification of installation firms.
 - n. Load and performance testing.
 - o. Inspections and certifications by governing authorities.
 - p. Leakage and water-penetration tests.
 - q. Fire resistance and flame spread test results.
 - r. Final inspection and correction procedures.

1.7 RECORDING

- A. Post changes and modifications to the Documents as they occur. Do not wait until the end of the Project. The Architect/ Engineer will periodically review record documents to assure compliance with this requirement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 7839

SECTION 01 7900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Instruction of Owner's personnel.
 - 2. Maintenance and operation instructions on electronic medium.
- B. Related Requirements:
 - 1. Section 017500 - Starting and Adjusting
 - 2. Section 017823 - Operation and Maintenance Data
 - 3. Section 017839 - Project Record Documents

1.2 SUBMITTALS

- A. Demonstration Training Material, Instruction Handouts, and Electronic Media: Submit directly to Owner's personnel following Substantial Completion and hands-on training sessions with Owner's designated personnel.

1.3 QUALITY ASSURANCE

- A. Instructors: for Owner's Personnel
 - 1. Qualified and experienced in instruction skills and techniques.
 - 2. Authorized manufacturer's representatives or certified by applicable trade organizations.
 - 3. Specialist in trades, products, equipment, and systems involved.
 - 4. Knowledgeable concerning Project.
- B. Training Memorandum Record:
 - 1. List subject of training, date, time, location, names of Owner's personnel attending and names of instructors.
 - 2. Obtain a signature for training sessions from an authorized Owner's representative.
 - 3. Repeat sessions not note and signed off at Owner's request.

1.4 INSTRUCTION OF OWNER'S PERSONNEL

- A. Instruct Owner's designated personnel in maintenance, adjustment, and operation of Products included in Operation and Maintenance Manuals.
- B. Coordinate with Section 017500 for system demonstrations and with additional requirements of related Sections.
- C. Demonstrate and instruct in classroom environment located at Project Site.

1. Meeting Time: As mutually agreed. Complete training prior to submitting Application for Final Payment.
2. Classroom Space: Mutually acceptable classroom within Building facility.
- D. Items Requiring Seasonal Maintenance: Arrange and perform additional instruction within six months.
- E. Hands-on-Training: Conduct at location, utilizing actual in-place Work.
- F. Use completed Operating and Maintenance Data Manuals and Project Record Documents as basis for instruction.
 1. Review contents of Operating and Maintenance Manuals in detail.
 2. Prepare and insert additional data when need for such data becomes apparent during instruction.
- G. Explain aspects of operations and maintenance. Cover such items as tools, spare parts and materials, lubricants, fuels, identification systems, control sequences, hazards, cleaning, renewal of finishes, and procedures that may void Warranty and conflict with manufacturer instructions.
- H. Furnish additional instructional aids as handouts to students, including:
 1. Written materials, including handouts, workbooks, and reference manuals. Supply one complete set for each student.
 2. Audiovisual materials. Supply in triplicate.
- I. Training Program Material: Becomes property of Owner during program.

1.5 ELECTRONIC MEDIA MAINTENANCE AND OPERATION INSTRUCTIONS

- A. Owner reserves right to digitally record instruction and training for future use in training personnel. Cooperate and coordinate with Owner to allow access and means to conduct including repeating procedures that are not adequately recorded.
- B. Manufacturer Electronic Instructions:
 1. Furnish electronic media for Mechanical, Electrical, Elevator, and other equipment and systems as directed by Owner.
 2. Refer to Division 22, Division 23, and Division 26 for additional requirements.
- C. Electronic Medium Content:
 1. Cover recommended maintenance methods, procedures, and materials in same order as presented in Maintenance Instructions section of Maintenance and Operations Manuals so that information is complementary and easy to follow.
 2. Zoom in on identifying labels, valves, switches, and other small features as needed to clarify locations of specific items and demonstrate specifics.
 3. Demonstrate manufacturer's recommended maintenance procedures, such as servicing, lubricating, inspecting, testing, and procedures that may void warranties and manufacturer instructions.
 4. Include graphics and written information on video as need to demonstrate operation and maintenance procedures.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 7900

SECTION 01 8100 - SUSTAINABLE DESIGN REQUIREMENTS - WSSP

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Administrative and procedural requirements required to meet specific requirements of Washington Sustainable Schools Protocol (WSSP) sustainability criteria as outlined by following:
 - 1. Submittals
 - 2. Sustainable Project Goals
 - 3. Sustainable Procedural Plans.
 - 4. Sustainable Product Requirements.
 - 5. Sustainable Project Checklist Protocol Scorecard.
- B. Related Requirements: following contain requirements related to this section:
 - 1. Division 01 - General Commissioning Requirements
 - 2. Division 01 - HVAC & R Systems Commissioning Requirements

1.2 REFERENCED STANDARDS

- A. American Society of Heating, Refrigerating and Air-Conditioning Engineers:
 - 1. ASHRAE 52.2 - Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size.
 - 2. ASHRAE 62 - Ventilation for Acceptable Indoor Air Quality.
 - 3. ASHRAE 90.1 - Energy Efficient Design of New Buildings Except Low-Rise Residential Buildings.
 - 4. ASHRAE 129 - Measuring Air-Change Effectiveness.
- B. ASTM International:
 - 1. ASTM C1371 - Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers.
 - 2. ASTM C1549 - Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer.
 - 3. ASTM E408 - Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques.
 - 4. ASTM E903 - Standard Test Method for Solar Absorptance, Reflectance, and Transmittance of Materials Using Integrating Spheres.
 - 5. ASTM E1918 - Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-Sloped Surfaces in Field.
 - 6. ASTM E1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces.
- C. Bay Area Air Quality Management District:
 - 1. BAAQMD Regulation 8, Rule 51 - Adhesive and Sealant Products.

- D. Carpet and Rug Institute:
 - 1. CRI Green Label Testing Program.
 - 2. CRI Green Label Plus Testing Program.
- E. Certified Wood:
 - 1. Forest Stewardship Council Guidelines, with Chain of Custody verification.
 - 2. Sustainable Forestry Initiative (SFI): SFI is required for American Forest & Paper Association (AF & PA) members. Third-party certification is optional. Chain of custody is not available.
 - 3. CSA International (CSA): An independent non-profit organization accredited by Standards Council of Canada. Primarily focused on Canadian forests. Third-party certification is required. Chain of custody is available on limited scale.
 - 4. American Forest Foundation, American Tree Farm System, primarily focused on non-industrial forests in US. Third-party certification is required. Chain of custody is not available.
 - 5. Forests regulated under chapter 76.09 RCW of Washington Forest Practices Act.
- F. Green Seal (GS):
 - 1. GC-03 - Anti-Corrosive Paints.
 - 2. GS-11 - Product Specific Environmental Requirements.
 - 3. GS-36 - Aerosol Adhesives Sheet Metal and Air Conditioning Contractors:
- G. Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
 - 1. SMACNA IAQ - IAQ Guidelines for Occupied Buildings under Construction.
- H. U.S. Environmental Protection Agency (EPA):
 - 1. EPA 832-R-92-005 - Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.
 - 2. EPA Baseline IAQ - Testing for Indoor Air Quality, Baseline IAQ, and Materials Section 01445.
- I. Office of Superintendent of Public Instruction (OSPI),): Web Site. <http://www.k12.wa.us/SchFacilities/Programs/HighPerformanceSchoolBuildings.aspx>
 - 1. WSSP - Washington Sustainable Schools Protocol Criteria for High Performance Schools, Final Draft, January 15, 2006, V.2.
 - 2. WSSP - Work Plan, Score Card, and Costing Sheet
 - 3. High-Performance Guidelines for School Districts.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meetings: Arrange, in accordance with Section 013119.
 - 1. Attendance: Contractor, Owner, Architect, and those requested to attend.
 - 2. Meeting Time: Minimum 2 weeks prior to beginning Work.
 - 3. Location: Project Site.
 - 4. Agenda:
 - a. Review submittal and documentation requirements.
 - b. Review construction procedures and temporary facilities requirements.

1.4 SUBMITTALS

- A. Conform to submittal requirements of Section 013300.
- B. Sustainability Documentation Manual:
 - 1. Prepare three-ring binders and submit 3 copies - one for Owner, one for architect, one for overseeing agency. Include following:
 - a. Documentation: Records, calculations, and other material needed to fully, accurately record, and document conformance to products and procedures specified by this Section.
 - b. MSDS information, chain of custody, and other information required for WSSP certification, prepared in formats prescribed by WSSP.
 - 2. Compile submittals as received and processed.
 - 3. Review submittals at each monthly project meeting.
- C. Status Report: Submit on monthly basis.
- D. Sustainable Protocol Scorecard: Refer to following:
 - 1. Section 018100a Attachment to this Section for specific requirements.
 - 2. WSSP Work Plan with Workbook Tabulation Tools Schedule attached as to this Section for documenting conformance to WSSP requirements.
 - a. WSSP Work Plan is also available from Architect as an Excel spreadsheet file.
- E. Construction Photographs: Submit photographs showing measure taken to protect following products from moisture:
 - 1. Absorptive Materials: Including masonry units, lumber, finished architectural woodwork, flush wood doors, gypsum board, acoustical ceiling tiles, insulation, and other materials subject to damage from moisture exposure.
 - 2. Ducts and other HVAC equipment.
- F. Cost Data: Submit cost for following products installed as part of permanent construction. Exclude cost of labor and equipment used for installation.
 - 1. Recycled Material Content: Cost as percentage of recycled content in relation to cost of materials.
 - 2. Local or Regional Materials: Cost of materials produced within 500 miles of project in relation to total cost of materials.
 - 3. Certified Wood: Cost as percentage of total cost of wood used on project.
 - 4. Materials: Total cost of materials, excluding mechanical and electrical materials, used on project.
 - 5. Salvaged and Refurbished Materials: Cost as a percentage of total materials cost, excluding mechanical and electrical materials, used on project.
- G. Procedural Plans: Submit within 30 days of Notice to Proceed.
 - 1. WSSP Materials Credits 1.1: Construction Waste Management Plan.
 - a. Develop and execute plans conforming to WSSP criteria for at least 75 percent reduction of waste deposited at landfills. Include:
 - 1) Analysis of estimated job site waste, including types and quantities.
 - 2) Proposed alternatives to use of landfill.
 - 3) Submit monthly reports of actual recycling rates, salvage rates, and landfill rates.

2. WSSP Indoor Environmental Quality Credit IEQ3.6: Construction Indoor Air Quality (IAQ) Plans for during construction and before occupancy.
 - a. Develop and execute plans conforming to WSSP criteria. Indicate following:
 - 1) Absorptive material and HVAC system protection.
 - 2) Source control.
 - 3) Preconditioning of materials.
 - 4) Pathway interruption.
 - 5) Housekeeping.
 - 6) Construction sequencing.
 - 7) Cleaning of materials and ductwork.
 - 8) Other measures necessary for conformance to WSSP criteria.

1.5 QUALITY ASSURANCE

- A. Perform Work of this Contract in conformance to WSSP criteria and provisions of Contract Documents as needed to permit achievement of Sustainable Project Goals and standards.
 1. Meet or exceed specified Sustainable Project Goals for:
 - a. Product properties and performance criteria.
 - b. Means and methods.
 - c. Documentation procedures.
- B. Conflicts and Deviations: Where these may interfere with sustainability goals and standards, promptly advise Owner and Architect, and obtain direction prior to preparation of submittals, ordering products, and beginning installations.

PART 2 - PRODUCTS

2.1 SUSTAINABLE PROJECT GOALS

- A. Provide materials, installations, administrative and management procedures, and other tasks in conformance to WSSP and additional criteria specified by individual specification Sections for Work of this Contract.
- B. Follow attached Check List as needed to achieve points indicated by WSSP criteria.
 1. Provide necessary materials, methods, and documentation needed to document conformance .
 2. Refer to specified criteria for related Sections for more detailed requirements. Meet or exceed specified safety, health, performance, and durability criteria.
 3. Notify Owner and Architect where conflicts may arise between specified criteria and Sustainable Project Goals.
- C. Assist Owner in achieving number of points indicated in attached WSSP Protocol Scorecard.
 1. Refer to specific WSSP Project credits noted within Sustainable Protocol Scorecard, Section018100a attached to this Section.

- D. Conform to performance and administrative requirements of WSSP to assist Owner with documenting submittals related to Sustainable Project Goals.

2.2 SUSTAINABLE PRODUCT REQUIREMENTS

- A. Sustainability Criteria: Conform to WSSP and specific product requirements specified by this Section including submittal requirements specified by this Section.
- B. Additional Administrative, Product, and Installation Procedures: Conform to additional requirements specified by Sections included in Project Manual.

2.3 PRODUCT SELECTION

- A. Provide products based on criteria specified by this Section to meet or exceed WSSP. Include product documentation as required to show conformance to provisions of this Section.

2.4 PROHIBITED MATERIALS

- A. Materials containing asbestos, polychlorinated biphenyls (PCB) or other hazardous materials.
- B. HCFC based refrigerants or Halon extinguishing agents.
- C. Materials containing butyl at interior locations.

2.5 CHEMICAL COMPONENT LIMITATIONS

- A. Interior Adhesives, Sealants and Concrete Sealers: South Coast Air Quality Management District, Rule 1168.
- B. VOC limit, less water and less exempt compounds in grams per liter: Specified limits remain in effect, except for revised limits as listed in subsequent columns.

1.	Architectural Applications	Current VOC Limit
a.	Indoor Carpet Adhesives.....	50
b.	Carpet Pad Adhesives.....	50
c.	Outdoor Carpet Adhesives... ..	150
d.	Wood Flooring Adhesive... ..	100
e.	Rubber Floor Adhesives.....	60
f.	Subfloor Adhesives... ..	50
g.	Ceramic Tile Adhesives.....	65
h.	VCT and Asphalt Tile Adhesives.....	50
i.	Gypsum Board Adhesives.....	50
j.	Cove Base Adhesives... ..	50
k.	Multipurpose Construction Adhesives... ..	70
l.	Structural Glazing Adhesives... ..	100
m.	Single-Ply Roof Membrane Adhesives.....	250

2.	<u>Specialty Applications</u>	<u>Current VOC Limit</u>
a.	PVC Welding	510
b.	CPVC Welding.....	490
c.	ABS Welding	325
d.	Plastic Cement Welding... ..	250
e.	Adhesive Primer for Plastic.....	550
f.	Computer Diskette Mfg.....	350
g.	Contact Adhesive.....	80
h.	Special Purpose Contact Adhesive... ..	250
i.	Tire Retread... ..	100
j.	Adhesive Primer for Traffic Marking Tape	150
k.	Structural Wood Member Adhesive... ..	140
l.	Sheet Applied Rubber Lining Operations.....	850
m.	Top and Trim Adhesive.....	250

- C. Conform to following VOC limits in grams per liter for adhesives, adhesive bonding primers, and other primer not regulated by tables above and where applied to following substrates:

1.	<u>Substrate Specific Applications</u>	<u>Current VOC Limit</u>
a.	Metal to Metal	30
b.	Plastic Foams	50
c.	Porous Material (except wood)... ..	50
d.	Wood... ..	30
e.	Fiberglass... ..	80
2.	<u>Sealants</u>	<u>Current VOC Limit</u>
a.	Architectural.....	250
b.	Marine Deck	760
c.	Nonmembrane Roof	300
d.	Roadway	250
e.	Single-Ply Roof Membrane	450
f.	Other	420
3.	<u>Sealant Primers</u>	<u>Current VOC Limit</u>
a.	Architectural, Nonporous	250
b.	Architectural, Porous... ..	775
c.	Modified Bituminous... ..	500
d.	Marine Deck	760
e.	Other	750

- D. Interior Carpet and Resilient Flooring: Carpet and Rug Institute Green Label Indoor Air Quality Test Program.

1. Current criteria for program are based on a maximum emission factor measured in mg/m² hr as follows:
 - a. Total Volatile Organic Compounds.....0.5
 - b. 4-PC (4-Phenylcyclohexene) 0.05
 - c. Formaldehyde (to prove that none is used)0.05
 - d. Styrene... .. 0.4

- E. Interior Paint: Green Seal GS-11 Standard.

1. VOC Concentrations of Products:
 - a. As listed below and as determined by US Environmental Protection Agency (EPA) Reference Test Method 24 (Determination of Volatile Matter

Content, Water Content, Density Volume Solids, and Weight Solids of Surface Coatings), Code of Federal Regulations Title 40, Part 60, Appendix A.

2. VOC Calculation: Exclude water and tinting color added at point of sale.

2.6 INTERIOR COATINGS

A. VOC Weight in Grams/Liter

1.

<u>Coating Type</u>	<u>of Product Minus Water</u>
a. Non-Flat3...	..150
b. Flat.....	50

B. VOC Weight in Grams/Liter

1.

<u>Coating Type</u>	<u>of Product Minus Water</u>
a. Non-Flat4...	..200
b. Flat.....	100
2. Aromatic Compounds: Maximum 1.0 percent by weight of sum total of aromatic compounds.
 - a. Testing for concentration of these compounds is required if determined to be present in products during materials audit.
3. Chemical Component Restrictions: manufacturer is required to demonstrate that following chemical compounds are not used as ingredients in manufacture of product.
 - a. Acrolein; acrylonitrile; antimony; benzene; butyl benzyl phthalate; cadmium; di (2-ethylhexyl) phthalate; 1,2-dichlorobenzene; diethyl phthalate; dimethyl phthalate; di-n-butyl phthalate; ethylbenzene; formaldehyde; hexavalent chromium; isophorone; lead; mercury; methyl ethyl ketone; methyl isobutyl ketone; methylene chloride; naphthalene; toluene (mthylbenzene); 1,1,1-tricholoroethane; vinyl chloride

C. Building Insulation, Interior Wood Flooring, and Composite Wood Products: Submit manufacturer certification that products have been produced with no added urea-formaldehyde.

D. Acoustical Ceilings: Greenguard Emission Criteria:

1. Ceiling Systems Applicable To: Ceiling tile, ceiling grid.
 - a. Individual VOCs1)... ≤ 0.1 TLV
 - b. Formaldehyde..... ≤ 0.05 ppm (≤ 0.06 mg/m³)
 - c. Total VOCs2)..... ≤ 0.5 mg/m³
 - d. Total Aldehydes3).... ≤ 0.1 ppm
 - e. Respirable Particles ($\leq 10 \mu\text{m}$)..... ≤ 0.05 mg/m³
 - f. Listing of measured carcinogens and reproductive toxins as identified by California Proposition 65, US National Toxicology Program (NTP), and International Agency on Research on Cancer (IARC) must be provided.
 - g. pollutant regulated as a primary or secondary outdoor air pollutant must meet a concentration that will not generate an air concentration greater than that promulgated by National Ambient Air Quality Standard (US EPA, code of Federal Regulations, Title 40, Part 50).
 - 1) VOCs not listed must produce an air concentration level no greater than 1/10 Threshold Limit Value (TLV) industrial work place standard

(Reference: American Conference of Government Industrial Hygienists, 6500 Glenway, Building D-7, Cincinnati, Ohio 45211-4438).

- 2) Defined to be total response of measured VOCs falling with C6-C16 range, with responses calibrated to a toluene surrogate.
- 3) Defined to be total response of a specific target list of aldehydes (2-butanal; acetaldehyde; benzaldehyde; 2,5-dimethylbenzaldehyde; 2-methylbenzaldehyde; 3-and/or 4-methylbenzaldehyde; butanal; 3-methylbutanal; formaldehyde; hexanal; pentanal; propanal), with each individually calibrated to a compound specific standard.

PART 3 - EXECUTION

3.1 GENERAL

- A. Employ procedures as needed to meet criteria specified herein. Document same in sufficient manner to prove compliance in requirements.

3.2 SUSTAINABLE PROTOCOL SCORECARD

- A. Refer to following Section 018100a.

3.3 SITE WASTE REDUCTION

- A. Develop and implement a waste management plan, quantifying material diversion by weight to: recycle, compost, and/or salvage at least 75% by weight of construction, demolition, and land clearing waste.

3.4 CONSTRUCTION INDOOR AIR QUALITY

- A. During construction, meet or exceed of following minimum requirements:
- B. Temporary Construction Ventilation:
 1. Continuously ventilate affected spaces during installation of materials that emit volatile organic compounds (VOC) and for at least 72 hours after installation.
 2. Ventilate longer than 72 hours if necessary to completely remove odors.
 3. Exhaust air directly to outside. Do not recirculate to other enclosed spaces.
 4. Where continuous ventilation is not possible using building's HVAC system or temporary ventilation, ventilate by opening windows and operating temporary fans.
- C. Duct Protection: Turn ventilation system off, and protect HVAC supply and return openings from debris generated during dust-producing activities such as gypsum board installation and finishing. Provide temporary ventilation as required.

- D. Preconditioning: Allow products with odors and significant VOC content to off-gas off-site in dry, well-ventilated space for at least two weeks prior to delivery to construction site. Remove products from their containers and packaging to maximize off gassing of VOCs.
- E. Sequencing: Install odorous and VOC-emitting products prior to installation of porous and fibrous materials.
- F. HEPA Vacuuming (carpets and upholstery): After installation, vacuum carpeted and soft surfaces with a high-efficiency particulate arrestor (HEPA) vacuum as needed and just prior to occupancy.
- G. HEPA Duct Cleaning:
 - 1. Prior to installation, inspect and clean ductwork of dust, debris, particulates, oil film, and other mater.
 - 2. Prior to substantial completion and prior to using system, inspect ducts again for dust and other debris that may have collected during construction. Immediately remove dust using a HEPA vacuum.
- H. After construction, flush building continuously, 24 hours per day, using 100 percent tempered outside air for at least two weeks after substantial completion of construction is achieved and before building is occupied.
 - 1. Replace specified air filters before and after flushout.
 - 2. If contractor is required to perform touch-up work during this time, provide temporary construction ventilation using MERV 13 air filters during work and extend building flush-out by a minimum of four days after touch-up installation.

3.5 PRE-INSTALLATION MEETINGS

- A. Convene a pre-construction meeting to review requirements of this Section, and specific requirements of other Sections of this Project Manual. Do so one week prior to commencing work or procedures outline in this Section. Include, to greatest extent possible, affected subcontractors, suppliers, contractor management/supervisory personnel, and Commissioning Authority. Recognizing that some affected parties may not be able to attend, take meeting minutes for subsequent reference by those not in attendance.
- B. Prior to execution of work affected by this Section, review again requirements of this Section with subcontractor performing work.

END OF SECTION 01 8100

ATTACHMENTS

- ☐ Protocol Scorecard

WSSP 2018 ScorecardDistrict: Northshore School District Contact Name & Phone: Dri Ralph, 425-408-7864 Date: 7-29-2019Project Name: Inglemoor HS Concert Hall + Music Building, Type: New, D Phase: D-5

Category	Group	Credit Number	Credit Name	Possible Points	Y	N	?	
Site 23 points	1) Selection & Use	S1.0	Code Compliance	R	R			
		S1.1	Sensitive Areas	1				
		S1.2	Greenfields	1	1			
		S1.3	Central Location	1			1	
		S1.4	Joint Use of On-Site Facilities	1-2	1	1		
		S1.5	Joint Use of Off Site Facilities	1		1		
		S1.6	Minimize Site Disturbance - Building	2			1	
	2) Transportation	S2.1	Public Transportation	1	1			
		S2.2	Bicycle Lanes & Security	1			1	
		S2.3	Electric Vehicle Charging Stations	1-2	1		1	
		S2.4	Minimize Parking	1		1		
	3) Stormwater Management	S3.0	Construction Stormwater Pollution Prevention	R	R			
		S3.1	On-site Stormwater Management and Flow Control	R-1	R	1		
		S3.2	Stormwater Treatment	R-1	R	1		
		S3.3	Soil Management	1		1		
	4) Outdoor Surfaces	S4.1	Outdoor Learning Spaces	2		1		
		S4.2	School Gardens	1-2		2		
		S4.3	Reduce Heat Island - Site	1		1		
		S4.4	Reduce Heat Island - Roof Design	1	1			
	5) Outdoor Lighting	S5.1	Light Pollution Reduction	1	1			
				Total possible	23	6	10	4
	Water 10 points	1) Outdoor Systems	W1.0	Landscape Water Use Budget	R	R		
			W1.1	Irrigation Water Reduction (50%, 100%)	1-2		1	1
W1.2			Control Irrigation Water Use	1	1			
W1.3			Irrigation System Testing and Training	1	1			
2) Indoor Systems		W2.0	Lead-Free Potable Water System	1	1			
		W2.1	Potable Water Use Reduction for Sewage (25%, 45%)	1-2	1	1		
		W2.2	Potable Water Use Reduction (20%, 30%, 40%)	1-3	1	2		
			Total possible	10	5	4	1	
Materials and Waste 25 points	1) Waste Reduction and Efficient Materials Use	MW1.0	Storage and Collection of Recyclables and Compostables	R	R			
		MW1.1	Construction Site Waste Management (50%, 75%)	1-2	2			
		MW1.2	Building Reuse - Structure/Shell (50%, 75%, 95%)	1-3		3		
		MW1.3	Building Reuse - Interior Non-Structural Elements (50%)	1		1		
		MW1.4	Materials Reuse (5%, 10%)	1-2		2		
	2) Sustainable Materials	MW2.1	Recycled Content (10%/4 mtl's, 20%/8 mtl's)	1-2		1	1	
		MW2.2	Rapidly Renewable Materials	1			1	
		MW2.3	Certified Wood (50%, Chain of Custody)	1-2			2	
		MW2.4	Regional/Local Materials	1-2		1	1	

		MW2.5	Environmentally Preferable Products - Multiple Attribute	1-2			2
		MW2.6	Environmental Product Declaration	2-7			2
		MW2.7	Building Materials Health Product Disclosure	1			1
			Total possible	25	2	8	10
Category	Group	Credit Number	Credit Name	Possible Points	Yes	No	Maybe
Energy 60 points	1) Efficiency	E1.0	Minimum Energy Performance				
		E1.0.1	Energy Code Minimum	R	R		
		E1.0.2	Energy Star Certified Equipment	R	R		
		E1.1	Superior Energy Performance - Prescriptive Component Design	2-10	2		
		E1.2	Superior Energy Performance - Whole Buidling Design	8-20	8		2
		E1.3	Zero Net Energy	35		35	
	2) Building Automation	E2.0	Audio and Visual Systems Control	R	R		
		E2.1	Daylight Responsive Controls	R	R		
		E2.2	HVAC Controls and Operable Windows	1			1
		E2.3	Occupancy Controls				
		E2.3.1	Occupancy Sensor-based Controls	1	1		
		E2.3.2	Occupancy Sensor-based Control for Temperature & Airflow	1	1		
		E2.4	Demand Control Ventilation	1	1		
		E2.5	Exterior Lighting Motion Detection	2	2		
	3) Alternative Energy	E3.1	On-Site Renewable Energy				
		E3.1.1	On-Site Renewable Energy	2-8		6	2
		E3.1.2	Solar Ready	1	1		
		E3.1.3	Service Water Heating	2		2	
		E3.1.4	Zero Net Energy Capable	3		3	
		E3.2	Combined Heat & Power	4		4	
	4) Commissioning	E4.0	Fundamental Commissioning	R	R		
		E4.1	Enhanced Commissioning				
		E4.1.1	Commissioning Review	1	1		
		E4.1.2	Verification and Assurances	1	1		
		E4.1.3	Systems Manual	1	1		
	5) Metering & Management	E5.0	Minimum Energy Metering	R	R		
		E5.1	Energy Metering - Other				
		E5.1.1	Energy Metering System - Not Code Required	4	4		
		E5.1.2	Additional Use Metering	2			2
		E5.1.3	Energy Use Metering Display	2			2
		E5.2	Energy Storage	2		2	
		E5.3	Automated Demand Response				
		E5.3.1	Manage Peak Demand	2		2	
E5.3.2		Future Demand Response	1		1		
			Total possible	60	23	55	9
Category	Group	Credit Number	Credit Name	Possible Points	Yes	No	Maybe
Indoor Environmental Quality 36 points	1) Daylighting	IEQ1.0	Permanent Shading	R-1	R		
		IEQ1.1	Outdoor View Windows	R-1	R		1
		IEQ1.2	Davlighting Classrooms	1-4	2		2

2) Electric Lighting Quality	IEQ2.0	Electric Lighting Quality				
	IEQ2.0.1	Electric Lighting Quality	R	R		
	IEQ2.0.2	Electric Lighting Dimming	1	1		
	IEQ2.0.3	Electric Lighting Luminaire Color	1		1	
3) Indoor Air Quality	IEQ3.0	Min Requirements Ventilation, Filtration, & Moisture Control				
	IEQ3.0.1	Permanent Ventilation	R	R		
	IEQ3.0.2	Increased Ventilation	1	1		
	IEQ3.0.3	Evaluate Envelope	1	1		
	IEQ3.1	Low-Emitting Interior Finishes	1-6	6		
	IEQ3.2	Low-Emitting Furniture	1	1		
	IEQ3.3	Source Control	3	3		
	IEQ3.4	Ducted HVAC Returns	1	1		
	IEQ3.5	Particle Arrestance Filtration	1-2	2		
	IEQ3.6	Construction IAQ Management				
	IEQ3.6.1	During Construction	1	1		
	IEQ3.6.2	After Construction	1	1		
	IEQ3.7	Indoor Air Monitoring	2		2	
	4) Acoustics	IEQ4.0	Minimum Acoustic Performance	R	R	
IEQ4.1		Improved Acoustical Performance				
IEQ4.1.1		Reduced Unoccupied Classroom Noise All Classrooms	1	1		
IEQ4.1.2		STC 50 All Classrooms	1	1		
IEQ4.1.3		Cymnasium Reverberation Times	1		1	
IEQ4.1.4		Multi-Purpose, Commons, Cafteria Reverberation Times	1			1
IEQ4.2		Audio Enhancement	1	1		
5) Thermal Comfort	IEQ5.0	Thermal Code Compliance	R	R		
	IEQ5.1	Radiant Heated Floors - K–5	2		2	
6) User Controls	IEQ6.1	User Control - Windows	1			1
	IEQ6.2	User Control - Temperature	1	1		
		Total possible	36	24	6	5
Group	Credit Number	Credit Name	Possible Points	Yes	No	Maybe
1) Integration	IEO1.1	Integrated Design Workshop	1	1		
	IEO 1.2	Durability	1	1		
	IEO1.3	Faculty and Staff Changing and Shower Facilities	1		1	
	IEO1.4	Innovation	1-2	2		
	IEO1.5	Biophilic Design	1-2			2
	IEO1.6	Pursue Additional Funding Sources	2		2	
	IEO1.7	Safer Schools by Design	2	2		
2) Education	IEO2.1	Green Building Learning	1-2	2		
3) Operations	IEO 3.0	Operational Performance Monitoring	R	R		
	IEQ3.1	Post Occupancy Evaluation (POE)				

	IEO3.1.1	POE Occupant Survey	R	R		
	IEO3.1.2	Comprehensive POE	2	2		
	IEO3.2	ELCCA/LCCA				
	IEO3.2.1	ELCCA Required Facilities	R	R		
	IEO3.2.2	ELCCA Other Facilities	1		1	
	IEO3.2.3	ELCCA Update	1	1		
	IEO3.2.4	LCCA	1	1		
	IEO3.3	Monitoring-Based Commissioning	4	4		
	IEO3.4	Project or District Long Term Operations				
	IEO3.4.0	Asset Preservation Program (APP)-New Buildings	R	R		
	IEO3.4.1	Operations and Maintenance Staff Involvement	R	R		
	IEO3.4.2	Asset Preservation System (APS) on Modernizations	1		1	
	IEO3.4.3	Green Power and Carbon Offsets	1-2		1	1
	IEO3.4.4	Resouce Conservation and GHG Reduction Plan	1			1
	IEO3.4.5	IAQ Management Plan	2	2		
	IEO3.4.6	Integrated Pest Management Program	2	2		
	IEO3.4.7	Transportation Options Program	1			1
	IEO3.4.8	Opeations and Maintenance Personnel Training	1-2			2
	IEO3.4.9	Food Related Waste Management	1-2	1	1	
	IEO3.4.10	Wasted Food Reduction Program	1, 2-3		3	
	IEO3.4.11	Fuel Efficient Buses and Maintenance Vehicles	1		1	
	IEO3.4.12	Environmentally Preferable Supplies Purchasing	1			1
	IEO3.4.13	Green Cleaning Policy and Program	1	1		
	IEO3.4.14	Green School Program	1			1
			Total Possible	43	22	11
GRAND TOTAL Possible Points (Most points possible, not a total of all points listed above)			197	82	94	38
Minimum required for Washington Sustainable School Two-tier system: New Facility and new Building on Existing Facility For Class I Districts: Minimum 66 points For Class II Districts: Minimum 58 points Modernization For Class I Districts: Minimum 49 points For Class II Districts: Minimum 43 points			58 or 66			
			43 or 49			
Published June 2018						

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PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Owner Program Requirements and Basis of Design

2.1 GENERAL DESCRIPTION

- A. Commissioning is the process of verifying and validating that all building systems are installed and perform interactively according to the design intent; that systems are efficient and cost effective to operate and meet the Owner's operational needs; that the installation is adequately documented; and that Operators are adequately trained. It serves as a tool to minimize post-occupancy operational problems. It establishes testing and communication protocols in an effort to advance the building systems from installation to full dynamic operation and optimization.
- B. Commissioning Authority shall work with the Contractor and the Engineer to direct and oversee the Commissioning process.
 - 1. Utilize Autodesk BIM-360 collaboration software to maintain an observation log, equipment installation and start-up status.
 - 2. Contractors and subcontractors shall interface with the Commissioning process using BIM-360 web interface and/or an Apple iPad.
 - 3. Design Phase:
 - a. Provide design reviews.
 - b. Generate a commissioning plan including schedule.
 - c. Integrate commissioning activities into the general construction schedule.
 - d. Provide commissioning specifications.
 - 4. Construction Phase:
 - a. Lead commissioning kick-off and coordination meetings.
 - b. Verify that applicable equipment and systems are installed according to the contract documents, manufacturer's recommendation, and industry accepted minimum standards and that they receive adequate operational checkout by the installing contractors.
 - c. Verify and document test, adjust and balance is complete and accurate.
 - 5. Acceptance Phase:
 - a. Verify and document proper performance of equipment and systems.
 - b. Verify that operation and maintenance documentation left onsite is complete.
 - c. Verify that the Owner's operating personnel are adequately trained.
 - d. Verify the building automation system requirements are in place for post occupancy data collection and monitoring based commissioning.
 - e. Provide a Final Commissioning report.

6. Integrate commissioning activities into the general construction schedule.
 7. Provide commissioning specifications
 8. Lead commissioning kick-off and coordination meetings.
 9. Verify that applicable equipment and systems are installed according to the contract documents, manufacturer's recommendation, and industry accepted minimum standards and that they receive adequate operational checkout by the installing contractors.
 10. Verify and document test, adjust and balance is complete and accurate.
 11. Verify and document proper performance of equipment and systems.
 12. Verify that operation and maintenance documentation left onsite is complete.
 13. Verify that the owner's operating personnel are adequately trained.
 14. Provide a Final Commissioning report.
- C. The Commissioning Plan details the commissioning process.
- D. The Commissioning process does not take away from or reduce the responsibility of the system designers or installing contractors to provide a finished and fully functional product as defined in the plans and specifications.
- E. This Section and other Sections of the specifications detail the Contractor's responsibilities relative to the Commissioning process. It expands on the Commissioning Plan, which covers the roles and responsibilities of all Parties. It also indicates the details of the Functional Performance Testing in which the Contractor must participate.

3.1 SUMMARY

- A. Section includes:
1. General requirements that apply to implementation of commissioning without regard to specific systems, assemblies, or components.
- B. Specific Equipment/systems to be utilized is "to be determined" (TBD) at this time. At minimum, the following general equipment/systems shall be commissioned:
1. HVAC system and controls.
 2. Lighting control system.
 3. Domestic hot water system.
 4. Metering.
 5. Building Envelope (Alternate 2)
 6. Emergency Power systems
 7. Power Loss Monitoring system
 8. Controlled Receptacle system
- C. References:
1. ASHRAE Standard 202-2013, "The Commissioning Process for Building and Systems"
 2. ASHRAE Guideline 0-2013, "The Commissioning Process"
 3. ASHRAE Guideline 1.1-2007, "HVAC & R Technical Requirements for the Commissioning Process"
 4. ASHRAE Guideline 4-2008, "Preparation of Operating and Maintenance Documentation for HVAC&R Systems"
 5. American Society for Testing and Materials (ASTM)

6. BCA - Building Commissioning Association
7. Electronics Industry Association/Telecommunications Industry Association (EIA/TIA)
8. International Building Code (IBC)
9. Illuminating Engineering Society (IES)
10. Institute of Electrical and Electronics Engineers (IEEE)
11. International Electrical Testing Association (NETA)
12. National Electrical Manufacturers Associates (NEMA)
13. National Fire Protection Association (NFPA)
14. NEBB - Procedural Standards for Building Systems Commissioning
15. National Electric Code (NEC)
16. NETA-ATS, Testing Standards
17. Underwriters Laboratory, Inc. (UL)
18. U.S. Green Building Council (USGBC)
19. Washington State Energy Code (WSEC)
20. Washington Sustainable Schools Protocol (WSSP) Fundamental Commissioning
21. WSSP Enhanced Commissioning

D. Related Sections:

1. Section 01 35 46 "Indoor Air Quality Procedures".
2. Section 01 70 00 "Execution and Closeout Requirements".
3. Section 22 08 00 "Commissioning of Plumbing".
4. Section 23 00 00 "Heating, Ventilating, and Air Conditioning (HVAC)".
5. Section 23 05 93 "Testing, Adjusting, and Balancing for HVAC".
6. Section 23 08 00 "Commissioning of HVAC".
7. Section 23 09 00 "Instrumentation and Control for HVAC".
8. Section 25 08 00 "Commissioning of Integrated Automation".
9. Section 26 08 00 "Commissioning of Electrical Systems".

4.1 DEFINITIONS

1. Acceptance Phase: This is the phase of the project when the facility and its systems and equipment are inspected, tested, verified, and documented; and when most of the Functional Performance Testing and formal training occurs. This will generally occur after the Construction Phase is complete (start-up and checks have been accomplished). The Acceptance Phase typically begins with Substantial Completion and ends with Functional Completion.
2. A/E: General reference to the Architect/Engineer lead-design entity.
3. Building Automation System (BAS): The computer-based heating, ventilation and air-conditioning (HVAC) control or automation system.
4. BoD: Basis of Design. A document that records concepts, calculations, decisions, and product selections used to meet the OPR and to satisfy applicable regulatory requirements, standards, and guidelines. The document includes both narrative descriptions and lists of individual items that support the design process.
5. Commissioning Plan: A document that outlines the organization, schedule, allocation of resources, and documentation requirements of the commissioning process.
6. Commissioning Authority (CA): The Party retained by the Owner who will oversee the Commissioning process as well as develop and stipulate many of the Commissioning requirements. They will also manage the Commissioning process, and ensure and validate that systems and equipment are designed, installed and tested to meet the Owner's requirements.

7. Commissioning Coordinator (Cx): This refers to the Individual within each of the various Parties that is designated the point of contact for that Party relative to Commissioning activities.
8. Commissioning Portal: This is an internet hub for the collaboration on Commissioning information. This portal will act as a hub for posting electronic information.
9. Commissioning Plan: The Commissioning Plan is a part of the Contract Documents and outlines many of responsibilities, procedures and tasks throughout the Commissioning process. It also describes the Functional Performance Tests that will be performed during the Acceptance Phase. The Contractor must have an understanding of commissioning process and the Contractor requirements within the plan.
10. Commissioning Team (CxT): The group of Parties involved in the commissioning process for any given system. The Commissioning Team will include a core group involved with all systems. This core group will typically include the CA, the Construction Manager's Commissioning Coordinator (CM-CxC), the Owner's Commissioning Coordinator (O/O-CxC) and the General Contractor's Commissioning Coordinator (GC-CxC). On any given system, the Commissioning Team will also include the Commissioning Coordinator for the Contractor(s) responsible for the system or equipment.
11. Contractor: As used herein, 'Contractor' is a general reference to the installing Party and can therefore refer to the General Contractor, subcontractors, or vendors as inferred by its usage. The contractor generally refers to the person or entity who has agreed with the owner to perform work. Whereas the subcontractor is any person other than the contractor who agrees to furnish or furnishes any supplies, material, equipment, or services of any kind in connection with the work.
12. Construction Manager (CM): The Party retained by the Owner to represent the Owner and make decisions on the Owner's behalf throughout the design and construction process.
13. Construction Phase: Phase of the project during which the facility is constructed and/or systems and equipment are installed and started. Contractor and subcontractors complete the installation, complete start-up documentation, submit operation and maintenance information, establish trends, and perform any other applicable requirements to get systems started. Contractor and Vendors may also conduct equipment specific training. The Construction Phase will generally end upon completed start-up and test, adjust and balance of systems and equipment.
14. Deferred Functional Testing: FPTs that are performed later during the warranty phase, after substantial completion, due to partial occupancy, equipment, seasonal requirements, design or other site conditions that disallow the test from being performed.
15. Deficiency: A condition in the installation or function of a component, piece of equipment or system that is not in compliance with the Contract Documents (that is, does not perform properly or is not complying with the design intent).
16. Engineer: Licensed Professional Engineer that designed and stamped the project reflecting his or her specific area of certification and expertise.
17. Factory Authorized Representative: An individual fully trained on the equipment and certified by the manufacturer to start-up equipment, perform the respective task, and make reports.
18. Factory Start-Up: Start-up of equipment by a Factory Authorized Representative.
19. Factory Testing: Testing of equipment off-site at the manufacturer's facility. The testing may be witnessed by the members of the project team.
20. Functional Performance Testing (FPT): The detailed and thorough testing of building systems and their interactions with building components and other building systems.
21. IAQ: Indoor Air Quality.
22. Installation, Operation and Maintenance (I,O&M) Documentation: This refers to Contractor-developed documentation designed to address the needs of facilities personnel and customized for the context of the specific facility and installation. The

foundation of I,O&M Documentation is manufacturer's literature (including 'installation and operational and maintenance manual', parts lists, troubleshooting guides, etc.) as well as Contractor-developed instructions for start-up and shut-down, sequences, and other installation-specific information. I,O&M Documentation content is a subset of the Facility Manual, so it is common for only one or the other to be specified. All documentation shall be submitted to Owner in electronic format. See Division 1, Section 01785 for additional information.

23. Measurement and Verification (M&V): Period after commissioning where systems are trended and analyzed for proper operations and for hitting energy savings requirements. This is a separate service apart from commissioning.
24. Monitoring Based Commissioning (MBCx): Using measurements of energy to diagnose problems, account for savings, and help ensure that savings persist over time. Observation Log: This is a list that is maintained and updated by the commissioning authority that includes all Observation Items that relate to Commissioning activities and site observations requiring contractor action or response.
25. OPR: Owner's Project Requirements. A document that details the functional requirements of a project and the expectations of how it will be used and operated. These include Project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information.
26. Opposite Season: The season opposite that when the majority of the testing occurs.
27. Installation verification: Preliminary testing accomplished during a scheduled system outage to verify system functionality prior to placing the system/equipment into preliminary service.
28. Start-Up: Refers to the quality control process whereby the Contractor verifies the proper installation of a device or piece of equipment, executes the manufacturer's starting procedures, completes the Start-Up Checklist, energizes the device, verifies that it is in proper working order and ready for dynamic testing, including Start-Up Tests.
29. Systems, Subsystems, Equipment, and Components: Where these terms are used together or separately, they shall mean "as-built" systems, subsystems, equipment, and components.
30. TAB: Can refer to the test, adjust, and balance process or the Testing, Adjusting, and Balancing Contractor.
31. Transition Period: Time period after FPT completed to operate systems to purge the building and stabilize equipment operations. Time is also used by the CA to test system performance.
32. Trending: Monitoring and recording a history of parameters typically using the BAS.
33. Warranty Phase: Includes the early occupancy of the building and can continue through the Warranty Period and at least into the opposite season from when it was initially tested.

5.1 COMMISSIONING TEAM

- A. Members Appointed by Contractor(s): Individuals, each having the authority to act on behalf of the entity he or she represents, explicitly organized to implement the commissioning process through coordinated action. The commissioning team shall consist of, but not be limited to, representatives of each Contractor, including Project superintendent and subcontractors, installers, suppliers, and specialists deemed appropriate by the CA.
- B. Members Appointed by Owner:

1. CA: The designated person, company, or entity that plans, schedules, and coordinates the commissioning team to implement the commissioning process. Owner will engage the CA under a separate contract.
2. Representatives of the facility user and operation and maintenance personnel.
3. Architect and engineering design professionals.

6.1 OWNER RESPONSIBILITIES

- A. Provide the OPR documentation to the CA and Contractor for information and use.
- B. Assign operation and maintenance personnel and schedule them to participate in commissioning team activities.
- C. Provide the BoD documentation, prepared by Architect and Engineer and approved by Owner, to the CA and Contractor for use in developing the commissioning plan, systems manual, and operation and maintenance training plan.
- D. Provide remote access to building controls for purposes of monitoring system performance.

7.1 COORDINATION MANAGEMENT PROTOCOL

- A. Coordination responsibilities and management protocols relative to Commissioning are initially defined below but will be refined and documented in the Commissioning Plan. Contractor shall have input in the protocols and all parties will commit to scheduled obligations. The CA will record and distribute.
 1. Submittals and Shop Drawings: CM shall distribute the submittal log to the CA. CA shall review the submittal log and communicate which submittals need to be forwarded.
 2. CA Review Comments for Shop Drawings: An email reply is sent directly to the CM, A/E, and Owner by the CA. The Owner and A/E will consider and incorporate at their discretion.
 3. Deficiencies Identified by the Commissioning Authority: When the CA identifies a deficiency, the CA shall make a good faith assessment of responsible parties. Those parties, as well as the Owner and CM shall be notified of the perceived deficiency. This communication is FOR INFORMATION ONLY and is not a direction to resolve the deficiency or to take any action. Contractor may elect to accept responsibility and resolve the deficiency. If the contractor contests either the deficiency or responsibility for that deficiency, Contractor shall respond to that deficiency indicating disagreement. If responsibility is not agreed to via the Commissioning dialogue, CM shall issue a work directive or RFI via the normal contractual channels to resolve the issue.
 4. Requests for Meetings: In general request by the contractor for a meeting with the CA shall be routed through Owner and CM who will then determine the validity. Note that every attempt should be made to deal with Commissioning issues at regularly scheduled Commissioning Meetings.
 5. Control Sequence Modifications: CA shall review the sequences during the design and submittal phases and address any known issues prior to the submittal approval. However, CA and the contractor may incorporate minor changes to the sequence during testing when it is apparent that it improves the control of the equipment but does not fundamentally change the sequence, subject to the approval of the Owner and Engineer. Any and all changes must be thoroughly documented in the record documents.

6. Notification of Completion Milestones: Contractor shall notify the CA, Owner and CM at least one week prior to any anticipated commissioning activity or commissioning milestone (such as FPT). The Owner or CM (as applicable) shall then coordinate the scheduling of the activity between all required parties. Notification shall be via email.
7. Observation Log: CA maintains a categorized Observation Log which tracks the Commissioning related action items. Any party that is copied on an email resulting from an Observation Item posting may respond to it and contribute to the dialogue. CA normally distributes a copy of the current open items on the action list with each site visit report.
8. Start-Up Checklist and Test Documents: Minimum start-up and documentation requirements are listed in the respective sections of the specifications for controls and mechanical commissioning. The Contractor then performs the reviewed and approved Start-Up procedures, completes the documentation and signs, and submits it. CA subsequently spot checks the procedures and documentation during the FPT. They are then included in the Commissioning Record.
9. Functional Performance Test Documents: FPTs are witnessed and documented by the CA but performed by the contractor. They are developed during the construction phase generally after completed submittals. CA drafts and forwards the FPT procedures to the CM to be subsequently distributed to the subcontractors for review by the CM. Contractors review and comment on the procedures. Throughout the Commissioning process, CA maintains a current record of the testing procedures and keeps the documentation up to date and accessible for all to access the current progress. Upon request, the CA will provide an electronic copy of completed functional test procedures at any significant stage of Cx.

B. Coordination Between Testing Parties

1. Factory Start-Ups: For many systems and equipment, Factory Start-Ups are specified. The Contractor is responsible for providing onsite support for the Factory representatives. These Factory Start-Ups will be reviewed and checked during FPT. All costs associated with the Factory Start-Ups are included with the bid unless otherwise noted. Contractor shall make notification of when Factory Start-Ups are occurring and coordinate these with witnessing Parties. The CA and CxT members may witness Factory Start-Ups at their discretion. Aspects of FPT accomplished during the Factory Start-Ups may be accomplished and approved by the CA if they meet the intent of the FPT. It is assumed that the Factory representatives budget the appropriate numbers of trips to support initial start-up, resolving equipment issues, TAB and training.
2. Independent Testing Agencies and Special Inspectors: For systems where contractor's independent testing agencies or special inspectors are specified, the cost of this testing is included with the bid unless otherwise noted. Much of the testing performed by these independent agencies or special inspectors will cover aspects required in the Start-Up Procedures and FPTs.
3. Contractor, testing agencies, and special inspectors shall coordinate with the CA so that the CA can support the testing (when necessary), witness the testing, and approve the applicable aspects of the FPTs. The Contractor should not start up equipment or systems without CA approval.
4. The CA may independently spot-check work of the testing agencies or special inspector if the tests were not witnessed. However, it is not the intent for the CA to re-accomplish testing by others that is specified in the construction specifications.
5. Contractor is responsible for coordinating the efforts of testing agency or special inspector with that of the Cx process. Documentation shall be contiguous and seamless, and duplication will be avoided. Testing agencies or special inspectors shall complete the documentation of the Cx process as required.

8.1 CONTRACTOR RESPONSIBILITIES

- A. Construction Phase: The following delineates the commissioning-related responsibilities of the Contractor (and their subcontractors) during the Construction Phase.
1. Include Commissioning requirements in price and plan for work.
 2. Designate a CxC from each major subcontractor with activities related to commissioning. These CxCs are to be the primary contacts for Commissioning activities.
 3. Attend Construction Phase Commissioning Kick Off Meeting. The CxC and Project Manager from each major subcontractor shall attend at a minimum.
 4. The CxC shall attend all Commissioning progress meetings unless otherwise agreed to by the CA.
 5. Remedy any deficiencies identified throughout construction.
 6. Submit Start-Up Procedures along with the manufacturer's application, installation and start-up information to the CA for review prior to implementation.
 7. TAB shall submit sample balancing forms for approval prior to starting work.
 8. Contractor shall incorporate the Commissioning process into the construction schedule outlining generic Commissioning tasks with precedents or prerequisites to each task. These tasks will apply to many systems and the Contractor shall incorporate as such. Examples of enumerated tasks include:
 - a. Contractor preparation of the Training Plan.
 - b. Independent Testing Agency activities.
 - c. Contractor documentation of pipe pressure testing, flushing, and cleaning of applicable systems.
 - d. Documentation of the Start-Up Procedures for equipment and systems
 - e. TAB of applicable system
 - f. Training Events
 - g. Preparation of the O&M Manual content
 - h. FPT and Acceptance
 - i. Observation Period and System Optimization
 - j. Occupant or other Regulatory Agency testing or approval process
 9. Coordinate the work of subcontractors, vendors, manufacturers, Testing Agencies and Special Inspectors provided with the bid, and ensure that they are informed of and are adhering to the requirements of the Commissioning process specified throughout the contract documents. Particular reference is made to providing the required O&M Documentation; submittal of training materials and documentation of that training; collaboration with the overall start-up and testing process; developing comprehensive integrated procedures for scheduling and task notification and documenting them in a common format; and electronic delivery requirements if applicable.
 10. Provide assistance to the CA in preparation for the specific FPT procedures. Contractors, subcontractors and vendors shall review the FPTs to ensure feasibility, safety and equipment protection and provide necessary written alarm limits to be used during the tests. Damage caused to equipment performed in accordance with the approved procedures that is the result of malfunctioning equipment or contract deficiencies, shall be the responsibility of the Contractor.
 11. Thoroughly complete and inspect installation of systems and equipment as detailed throughout Contract Documents, as required by reference or industry standards, and as specifically indicated elsewhere this section. The Contractor (and subcontractors) shall record, in the form of photographs, compliance to and/or deviation from IAQ standards.

12. For projects that will be phased, if contractor intends to start, run, or occupy portions of systems in phases, contractor shall submit a plan for phasing in areas/portions of systems that will be connected subsequent to the initial portions. Specifically address:
 - a. Pipe and Duct Cleaning: Indicate the configurations and protocols for isolating subsequent regions and then protecting the preceding regions when the subsequent region is cleaned, flushed and connected.
 - b. Pipe disinfection: Indicate the plan for disinfecting each region of potable water that requires disinfection. Indicate how the preceding regions of the system will be protected when connecting subsequent regions.
 - c. System Modifications: Indicate the protocols for making subsequent changes to the systems of pipe and duct when the systems have already been cleaned, flushed, pressure tested, disinfected, certified, etc.
 - d. HVAC Equipment: Indicate the protocols for operating the HVAC equipment in a construction environment. The plan shall, at a minimum, include; filtering, operation, maintenance, and Control System responsibilities.
 13. Contractor shall notify the CA at least 7 days in advance of any tests, start-ups, or training. CA shall witness selected tests and start-ups. Notification shall be accompanied by a schedule showing the coordinated start date and task duration and all open prerequisites
 14. Start-up, TAB of systems and equipment prior to verification and FPT by the CA. Start-up procedures shall be in accordance with Contract Documents, reference or industry standards, and Commissioning specs. Provide skilled technicians who are qualified to do the work required. Provide factory trained/authorized technicians where required by the contract documents and stated in the applicable technical section. Generally, start-up and testing shall proceed from device checkout, to component checkout, to system checkout, to inter-system checkout.
 15. Record start-up and testing procedures on start-up forms or checklists and certify that the systems and equipment have been started and/or tested in accordance with the requirements specified above. Each task or item shall be indicated with the party actually performing the task or procedure.
 16. Demonstrate the operation of all systems as specified.
 17. Certify that systems have been installed and are operating per Contract Documents and OEM prior to FPT and acceptance.
 18. Support/Assist in the building flush-out per Construction Indoor Air Quality, Section 01561. If the flush-out is not performed or is incomplete, then the Contractor shall coordinate an air quality test from an approved Industrial Hygienist after construction is complete to verify the chemical air contaminants are below the specified limits.
 19. Maintain an updated set of Record Documentation as required by the Contract Documents.
 20. Conduct and document Equipment and Systems Training events as required by this Section and by applicable sections of the Specifications pertaining to each piece of equipment or system and general training requirements.
 21. Operate systems under direction of the CA during FPT's and other acceptance testing.
 22. Coordinate trend point naming convention with CA to ensure that systems are properly setup for data storage and remote monitoring capabilities.
- B. Acceptance Phase: The following delineates the commissioning-related responsibilities of the Contractor (and their subcontractors) during the Acceptance Phase.
1. Will work in conjunction with CA in FPT and will generally include the following:

- a. Operate and Manipulate systems and equipment to facilitate testing (as dictated in this section, relevant technical sections and the Commissioning Plan).
 - b. Operate and Manipulate BAS and other control systems to facilitate FPT (as dictated in this section, relevant technical sections and the Commissioning Plan).
 - c. Provide Point to Point and Device Calibration reports prior to coordinating FPT.
 2. Correct any work not in accordance with Contract Documents.
 3. Maintain record documentation and update and resubmit it after Functional Completion.
 4. Compensate the Owner for additional CA fees and expenses incurred to retest equipment and systems following testing failures.
 5. Monitor systems, equipment and areas throughout the Transition Period. Log and diagnose all alarms during this period. Maintain trends and logs of all critical parameters. Forward the logs and trends on a weekly basis throughout all Transition Periods.
- C. Warranty Phase: The following delineates the commissioning-related responsibilities of the Contractor (and their subcontractors) during the Warranty Phase.
1. Provide warranty service.
 2. Conduct BAS Sequence Training.
 3. Respond to and document Warranty issues.
 4. Participate as required in the opposite season testing.
 5. Correct any deficiencies identified throughout the Warranty Phase.
 6. Update record documentation to reflect any changes made throughout the Warranty Phase and resubmit final Record Drawings and data records at the close of the Warranty period.

9.1 DESIGN REVIEW

- A. The A/E provides the CA a design development (DD) set for review; the drawing set should be near 100% complete. The CA reviews the design set for inconsistencies, misses, OPR & BOD compliance, and opportunities for improvement. The CA documents their comments and provides them to the A/E for incorporation into the design set.
- B. The A/E provides a Construction Document (CD) set that is near 50% and/or 90% complete to the CA for review. The CA reviews the set to verify previous comments have been addressed and to identify any further misses or opportunities. The CA documents their comments and provides them to the A/E for incorporation into the construction set.

10.1 COMMISSIONING PLAN

- A. The CA will develop the Commissioning Plan and its elements shall be included in the project schedule when approved by the Owner or construction manager. The Commissioning Plan is a part of the Contract Documents and outlines many of responsibilities, procedures and tasks throughout the Commissioning process. It also describes the Functional Performance Tests that will be performed during the Acceptance Phase. The Contractor must have an understanding of commissioning process and the Contractor requirements within the plan. The following provides an overview of the Commissioning tasks discussed in the Commissioning Plan.

1. Commissioning program overview - Goals & Objectives, general project information, system to be commissioned
2. Commissioning team - Team members, roles & responsibilities, communications & protocols, meetings and management
3. Commissioning process activities - Document owner's project requirements, review the basis of designs, review submittals, development of system functional performance testing, verify system performance, report deficiencies & the resolution process, accepting the building system and training
4. Commissioning schedule - A commissioning schedule will typically include start and end dates for the following.
 - a. Design set review
 - b. CD set review
 - c. Bid packages released
 - d. Notice to proceed
 - e. Groundbreaking
 - f. Distributed power available
 - g. Distributed water available
 - h. Start-up tests
 - i. TAB
 - j. Functional performance testing

11.1 OBSERVATION LOG

- A. CA shall maintain an Observation Log (required information, identified deficiencies, work required, etc.) that relates to Commissioning. Each item shall be tracked with the initiator, the parties responsible, due date, the date of closure, and a description of the resolution. Each item shall be categorized for sorting and tracking and for documentation on applicable forms.
- B. CA will disseminate this list as appropriate to keep all parties informed.
- C. All parties indicated as responsible for an action item shall respond. The preferred response method is via e-mail. Response with a plan of action (either repair or plan to resolve) is expected within 48 hours.

12.1 SUBMITTAL

- A. The CA will provide appropriate contractors with a specific request for the type of submittal documentation the CA requires to facilitate the commissioning work. These requests will be integrated into the normal submittal process and protocol of the construction team. At minimum, the request will include the manufacturer and model number, the manufacturer's printed installation and detailed start-up procedures, full sequences of operation, O&M data, performance data, any performance test procedures, control drawings and details of owner contracted tests. In addition, the installation and checkout materials that are actually shipped inside the equipment and the actual field checkout sheet forms to be used by the factory or field technicians shall be submitted to the Commissioning Authority. All documentation requested by the CA will be included by the Subs in their O&M manual contributions.
- B. The Commissioning Authority will review and provide comment on submittals related to the commissioned equipment for conformance to the Contract Documents as it relates to the

commissioning process, to the functional performance of the equipment and adequacy for developing test procedures. This review is intended primarily to aid in the development of functional testing procedures and only secondarily to verify compliance with equipment specifications. The Commissioning Authority will notify the CM, Owner Representative, or A/E as requested, of items missing or areas that are not in conformance with Contract Documents and which require resubmission.

- C. The CA may request additional design narrative from the A/E and Controls Contractor, depending on the completeness of the design intent documentation and sequences provided with the Specifications.
- D. These submittals to the CA do not constitute compliance for O&M manual documentation. The O&M manuals are the responsibility of the Contractor, though the CA will review and approve them.
- E. Contractor's responsibility for deviations in submittals from requirements of the Contract Documents is not relieved by the Commissioning Authority's review.

PART 2 - PRODUCTS

1.1 INSTRUMENTATION

- A. All test instruments described in this section shall be acceptable for any portion of the commissioning process herein described. All instruments shall conform to the standards specified in the most recent edition of "NEBB Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems" in regard to accuracy and calibration status. Current calibration certificates must be available to the CA if requested.
- B. Test instrument accuracy and resolution must match or exceed that of the system component being verified or calibrated.
- C. Test instruments must be used within guidelines as recommended by instrument manufacturer. All measuring methods must be appropriate to the instrument application and measurements must be repeatable under equivalent conditions.
- D. Standard Testing Instrumentation: Standard instrumentation normally used for performance assessment and diagnosis will be provided by Cx/Contractor. These include:
 - 1. Electronic Manometer (for Air and Flow Hood)
 - 2. Electronic Manometer (for Water)
 - 3. Temperature Instruments
 - 4. Humidity Instruments
 - 5. CO2 Instrument
 - 6. Sound Meter
 - 7. Electronic Multimeter
 - 8. Tachometer
 - 9. Ultrasonic Flow Meter
 - 10. Thermal Infrared Camera
 - 11. Others as required

2.1 Controls Data

- A. Building Controls shall be BACnet compatible, and capable of trending system performance on a 15-minute interval for a minimum of 1 week without loss of data.
- B. Trended data shall be made available in a non-proprietary format.
- C. Building Controls System shall be capable of exporting trended data.

PART 3 - EXECUTION

1.1 Installation verification

- A. All equipment, components, and devices applicable to installation verification must be installed, and the installation verification must be documented and approved. This includes installation, identification labeling, insulation, and all other requirements for placing systems into dynamic operation.
- B. Required submittal documentation shall be present and located convenient to testing area. Validate that all required documentation has been submitted and is per the contract requirements.
- C. Contractor shall provide the completed installation verification procedures at the time of testing. CA shall review the installation verification procedure documentation and spot-check at the beginning of Start-Up.
- D. Contractor shall demonstrate that access is sufficient to perform required maintenance.
- E. System and equipment configurations shall be compared against the contract documents.

2.1 START-UP CHECKS

- A. All equipment, components, and devices applicable to the FPT must be started, and the Start-Up must be documented and approved. This includes completion of Start-Up Procedures, pressure testing (of equipment, duct and piping), flushing/cleaning, identification labeling, insulation, and all other requirements for placing systems into dynamic operation.
- B. Unless specifically agreed to by the Owner and CA, all support systems shall be complete prior to FPT. For instance, an air handler will require that:
 - 1. The electrical system serving it is completed and tested.
 - 2. The hydronic systems serving it have been pressure tested, flushed, and functional performance tested.
 - 3. Balancing has been completed.
 - 4. The control systems have been started and calibrated.
 - 5. The CA shall determine the optimal sequence of testing.

- C. Required submittal documentation shall be present and located convenient to testing area. Validate that all required documentation has been submitted and is per the contract requirements.
- D. Contractor shall provide the completed Start-Up Procedures at the time of testing. CA shall review the Start-Up Procedure documentation and spot-check at the beginning of FPT.
- E. Contractor shall demonstrate that access is sufficient to perform required maintenance.
- F. BAS trends shall have been established as required in the documents. These shall generally be reviewed prior to or during FPT.
- G. Capacities and adjusted/balanced conditions as applicable shall be subject to review.
- H. Sequencing Verification: For applicable systems and equipment, all modes of operation shall be verified for proper sequencing.
- I. System and equipment configurations shall be compared against the contract documents.
- J. Verify Modes (such as heating and cooling) are coordinated and do not overlap or 'fight'.
- K. All adjusted, balanced, controlled systems shall be assessed to determine the optimal setting for the system as applicable. The optimal settings should be determined to establish reliable, efficient, safe and stable operation.
- L. BAS or Local Panel Dynamic Graphics: The graphic displays for all components, systems, and areas required to be represented by a graphic shall be checked for adequacy and accuracy. Furthermore, when setpoints or other parameters are required to be adjustable, CA shall verify that they can be adjusted directly from the graphic screen.

3.1 START-UP PROCEDURE

- A. Purpose: The Commissioning process requires that the normal quality control processes involved with preparing systems and equipment for operation are performed to a high standard of care and are thoroughly documented. The required commissioning-related Start-Up Procedures involve nothing additional over that which would be done for a proper installation. These procedures shall be performed on all installed systems and equipment and no sampling strategy is used for the start-up process. The Commissioning process requires all Parties to collaborate to establish the optimal standard of care for starting systems and equipment. After the procedures are established, the Contractor performs them and documents them with the Start-up Procedures that are developed by the Contractor.
- B. Start-Up Procedures: The content of these Start-Up Procedures shall provide the minimally acceptable content in accordance with the OEM field quality control requirements. These procedures and protocols will normally be common across different manufacturers.
- C. Content of Start-Up Procedures: Start-Up Procedures shall generally include the following for each item of equipment or system (as applicable):
 - 1. Project-specific designation, location and service.
 - 2. Indication of the Party performing and documenting the Start-Up Procedure.

3. Clear explanation of the inspection, test, measurement, and outcome with a Pass/Fail indication and a record of measure parameters.
 4. A Start-up Checklist item indicating that proper maintenance clearances have been maintained.
- D. Recording and Documentation of Factory Start-Up: Manufacturer's start-up protocols shall be executed, and forms shall be completed by a qualified/authorized technician.
- E. Recording and Documentation of non-Factory Start-Up: The start-up tests and checklists shall be completed by a qualified technician.
- F. Commissioning Authority Review: CA will review and spot-check procedures during FPT.
- G. Documentation Completion: The individual executing the start-up must complete the start-up and pre-functional documentation for any given equipment and acknowledge acceptability with the indication of who did the associated task.
- H. Sampling and Final Submission: All (100% of) systems are started and documented per the approved procedures and NO sampling strategy is used. Completed Start-up and pre-functional checklists for all pieces of equipment associated with independent systems shall be submitted to CA prior to any associated FPT. Any outstanding item shall be clearly indicated, and an associated Action Item must be entered to track resolution.
- I. Owner Access: Contractor shall allow access by Owner representatives to inspect the equipment and ensure its proper operation.

4.1 POINT TO POINT VERIFICATION

- A. A documented, comprehensive point to point and basic function testing in the field is required on all installations. Factory calibration and bench tests are not acceptable alternates to onsite field-testing.
- B. Point-to-point (or calibration verification) scope of work consists of testing from all end field devices (any device that provides an input signal to or receives an output signal from the control hardware) through proper input/output to the graphic and operator interface. Testing must be complete, detailed and documented on approved point to point verification forms. Point-to-point should be performed with a separate device from the installation sensor - "ringing out a sensor" alone is not an acceptable level point-to-point testing. Point-to-point testing forms will include all point database requirements (i.e. alarm priority, paging, email, device range, etc.).
- C. Submittal of the control provider's forms for approval must take place 3 weeks prior to commencement of field testing. The point-to-point report summary documentation must include the signature of the test technicians and date completed. The technician's signature certifies that the system has been tested and is fully ready for the commissioning lead's performance verification testing.
- D. The CA will select up to 10% of the readings from the BAS Reports and spot check them, as part of the time allocations for the various systems. If subsequent failures are found, the Controls contractor will be required to justify noted failures or re-verify and re-document the system.

- E. The maximum failure rate for this sample is 10%. The readings selected by the CA may include air temperature, fluid temperature, air flow rate, liquid flow rate, differential pressure, gage pressure, relative humidity, CO concentration, CO₂ concentration, and refrigerant monitoring.
- F. For all readings a deviation of more than the below between the verification reading and reported data shall be considered as failing the FPT

Sensor Application	Accepted BAS Tolerance
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Airflow (Pressurized Spaces)	± 3 %
Airflow (Measuring Stations)	± 5 %
Airflow (Terminal)	± 10 %
Air Pressure Differential (Space)	± .001 in wg
Air Pressure (Ducts)	± .01 in wg
Air Relative Humidity	± 2 % RH
Air Temperature (Ducted)	± 1 deg F
Air Temperature (Room, AC unit, TU, etc.)	± 1 deg F
Air Temperature (Outside)	± 2 deg F
Air Wet Bulb Temperature Outdoor (Dew point)	± 2 deg F
Air Wet Bulb Temperature Indoor (Dew point)	± 1 deg F
Air Temperature Differential	± .25 deg F
Carbon Dioxide Monitor	± 50 PPM (of mid-range)
Carbon Monoxide Monitor	± 5 % (of mid-range)
Oxygen Monitor	± 5 %
Refrigerant Monitor	± 5 % (at 50 PPM)
Fluid Flow	± 5 %
Fluid Pressure	± 2 % (of full-scale)
Fluid Temperature	± 1 deg F
Electrical	± 5 %
Thermal Energy	± 5 %
Steam Flow	± 5 %
Steam Temperature	± 2 deg F
Vibration	± 5 %

■Notes:

Accepted calibration tolerances will vary according to measured medium and application of sensors. The tolerances listed are standard accepted criteria.

Not all sensors listed above may be in the project.

5.1 TEST, ADJUST, AND BALANCE

- A. CA shall review TAB reports.
- B. The CA will select up to 10% of the readings from the Balancing Reports and spot check them, as part of the time allocations for the various systems. If subsequent failures are found, the TAB contractor will be required to justify noted failures or rebalance and re-document the system.
- C. The maximum failure rate for this sample is 10%. The readings selected by the CA may include supply air diffuser readings (both minimum and maximum readings for variable air volume boxes), main and branch supply duct traverse readings, outside/return air flow readings, exhaust air flow readings, water flow readings, amp readings, and water pressure drop readings through coils, heat exchangers, and other hydronic elements.
- D. For all readings a deviation of more than 10% between the verification reading and reported data shall be considered as failing the FPT.

6.1 FUNCTIONAL PERFORMANCE TESTING

- A. Objectives and Scope:
 - 1. The objective of FPT is to demonstrate that each system is operating according to the documented design intent and Contract Documents. Functional testing facilitates bringing the systems from a state of substantial completion to full dynamic operation. Additionally, during the testing process, areas of deficient performance are identified and corrected, thus improving the function and operation of the systems.
 - 2. Each system shall be operated through all modes of operation (seasonal, occupied, unoccupied, warm-up, cool-down, normal **[and emergency power]**, fire alarm, part- and full-load) where there is a specified system response. Verifying each sequence in the sequences of operation is required. Proper responses to such modes and conditions as power failure, freeze condition, no flow, equipment failure, etc. shall also be tested.
- B. Development of Test Procedures:
 - 1. CA shall develop specific test procedures and forms to verify and document proper operation of each piece of equipment and system. Prior to execution, the CA shall provide a copy of the test procedures to the Contractor who shall review the tests for feasibility, safety, equipment and warranty protection, and scope. The CA will also submit the tests to the A/E for review.
 - 2. Contractor shall review the FPTs in detail and submit edits and comments to the CA for possible incorporation.
 - 3. The purpose of any given specific FPT is to verify and document compliance with the stated criteria of acceptance, modes of operation and performance.
- C. Scheduling: After Contractors' notification that systems are ready for testing and submittal and review of all the required submittals has occurred, CM shall schedule the testing. To the extent practical, tests shall be scheduled to allow efficient and contiguous testing of inter-related systems and equipment.

- D. Phasing: Non-interdependent segments of the project testing can be phased. Phasing of this project will be determined as the project progresses.
- E. Participation: CA will direct, witness and document FPTs performed by the contractor after Start-Up Procedure documentation of systems and equipment has been reviewed and accepted. CA will orchestrate the execution of the FPTs unless otherwise specified. Contractor shall perform the FPTs as described in section 3.6 with manipulation of the systems or equipment, provision of supporting equipment or materials (lifts, ladders, specialty test equipment, safety equipment), and on-the-spot remediation of minor identified deficiencies whenever possible.
 - 1. Required participating Parties shall be indicated in the individual FPT. Typically, multiple Parties are required for any given test, yet participation for any given Party is only required for the respective portion of the test for which the Party is responsible.
 - 2. Frequently, on multiple samples where a given party does not directly perform the test, the participation of that party will only be required for an initial quantity of systems/equipment. Whenever practical and at the discretion of the CA with the contractor's full approval, the CA will continue with the remaining portion of the sample without assistance from the Contractor(s) not directly performing the test. However, the Contractor is allowed to be present for any or all FPTs conducted.
 - 3. The required parties shall be available on-site throughout the testing of any given system for which they are required participants. Therefore, time for which they are not directly involved can be spent performing other work (typically addressing identified punch list items or failed tests).
 - 4. No party involved with the project is prohibited from participation in or witnessing of any tests. Any Contractor may elect to witness all tests on their systems even if their involvement is not directly required (for instance, BAS Vendor involvement is sometimes required on the first few of a sample and not on the entire sample).
 - 5. CA will endeavor to coordinate effectively with the individual Contractors throughout FPT and minimize their required involvement.
- F. Completeness: All systems must be completed and ready for FPT. All start up, factory authorized field testing, independent testing agency tests, and TAB procedures must be complete, and the control systems must be tested and started for the respective system or component.
- G. Test Documentation: CA will witness and document the tests. CA will record all test results on the forms developed for the testing. CA will 'Pass' or 'Fail' the testing and record the date and time of the test. Deficiencies shall clearly be indicated when the test is failed. When all related testing is completed successfully, CA shall recommend acceptance of the system or component. In the case of specialized testing, witness (at CA's discretion) and review the testing reports prepared by the Contractor.
- H. After functional testing is completed all settings adjusted to test the equipment/system will be returned to normal.
- I. FPT Acceptance:
 - 1. The Acceptance Criteria shall be as follows unless specifically indicated within applicable individual specification sections or test procedures. CA may exercise professional judgment to relax requirements and pass tests and recommend approval by the Owner and Engineer when appropriate.

2. Accuracy/repeatability on sensing devices will be as specified for the device. CA and TAB will use calibrated gages for independent validation and use judgment in passing or failing the devices. In many cases, the coordination of multiple related sensors is more important than absolute accuracy.
3. HVAC sequence-related criteria will be as explicitly specified in the documents and as interpreted by the CA.
4. Testing may be deferred due to seasonal or operational constraints. In either situation the testing will be coordinated and be governed by the specifications for the project.

J. FPT Deficiencies:

1. Non-Conformance: Non-conformance deficiencies identified during FPT shall be resolved as follows:
 - a. The CA will record the results of the functional test. All deficiencies or non-conformance issues shall be noted as Observation Log Items and reported to the Owner and CM.
 - b. Corrections of identified minor deficiencies may be made during the tests at the discretion of the CA. In such cases the deficiency will be noted on the FPT documents.
 - c. Every effort will be made by the CA to expedite the testing process and minimize unnecessary delays, while not compromising the integrity of the procedures.
 - d. As tests progress and deficiencies are identified, the CA will discuss the issue with the executing Contractor.
 - e. When there is no dispute on the deficiency and the Contractor accepts responsibility to correct it:
 - 1) The CA shall document the deficiency along with the Contractor's response and intentions, and they go on to another test or sequence. A copy/email of the deficiency shall be generated and provided to the Contractor and CA. The Contractor corrects the deficiency, completes the Action Item response certifying that the issue is resolved, and/or the equipment is ready to be retested, and sends it back to the CA.
 - 2) The CA reschedules the test and the test is repeated.
 - f. If there is a dispute about a deficiency, regarding whether it is a deficiency and/or who is responsible:
 - 1) The deficiency shall be documented as an Observation Log Item with the Contractor's response and the Owner and CM will be notified. The CM will track this issue under the construction contract dispute resolution provisions.
 - 2) Final interpretive authority is with the A/E. Final acceptance authority is with the Owner and CM.
 - 3) The CA documents the resolution to the Observation Log Item.
 - 4) Once the interpretation and resolution have been decided, the appropriate party corrects the deficiency, and responds to the Action Item indicating completion. The CA reschedules the test and the test is repeated until satisfactory performance is achieved. CA then closes the Action Item.

- K. Max Failure Limit and Sample Percentages: A Maximum Failure Limit is indicated along with the Sampling Percentages. The Max Failure Limit indicates the maximum percentage of the tested devices that may have any test that fails before an entirely new sample must be tested. This is

based on the concept that if many failures occur, it is a result of inadequate start-up by the Contractor. When the maximum number of failures is reached, testing on that sample will be terminated and re-testing will be scheduled.

1. If no Max Failure Limit is indicated, all tested samples must pass (Max Failure Limit 0%).
2. Where sample tests involve multiple systems (i.e., checking strainers on different hydronic systems) the Maximum Failure Limit will apply per system.
3. The responsible Contractors shall reimburse the Owner for the CA's cost of that sample test and redo the start-up and TAB for the applicable devices/systems.
4. All work necessitated by sample failures shall be at no cost to the Owner.

- L. Failure Due to Manufacturer's Defects: If 10% of identical pieces of equipment fail to perform to the Contract Documents (mechanically or substantively) due to manufacturing defect, all identical units may be considered unacceptable by the CM. (For the purposes of defining 'identical equipment' for this Section, size or capacity alone does not constitute a difference.) In case of failure due to manufacturer's defects, the Contractor shall provide the Owner with the following:

1. Manufacturer's response in writing as to the cause of the failure and proposed resolution.
2. Manufacturer shall implement their proposed resolution on a representative sample of the product.
3. The CM will determine whether a replacement of all identical units or a repair is acceptable.
4. Upon acceptance, the manufacturer shall replace or repair all identical items at their expense and shall extend the warranty accordingly (if the original equipment warranty had begun).
5. Manufacturer shall pay the costs of all retesting necessitated by the failure.

7.1 ACCEPTANCE

- A. The CA notes each satisfactorily demonstrated function on the test form. Formal approval of the functional test is made later after review by the CA and by the CM, if necessary. The CA recommends acceptance of each test to the CM using a standard form. The CM gives final approval on each test using the same form, providing a signed copy to the CA and the Contractor.

8.1 CLOSEOUT

- A. Commissioning Report:

1. A final summary report (about four to six pages, not including backup documentation) by the CA will be provided to the CM, focusing on evaluating commissioning process issues and identifying areas where the process could be improved.
2. All acquired documentation, logs, minutes, reports, deficiency lists, communications, findings, unresolved issues, etc., will be compiled in appendices and provided with the summary report.
3. Installation verification, Start Up checklists, TAB, functional tests and monitoring reports will not be part of the final report, but will be stored in the Commissioning Record in the I,O&M manuals.

4. Off season testing and additional factory start-ups shall clearly be identified, and the designated test period noted for contractor and owner coordination. See Warranty Period.

B. Code Required Reports:

1. Provide Contractor with all commissioning reports required by state and local authorities for compliance with governing energy code and mechanical code.

9.1 TRAINING

- A. The CM shall be responsible for training coordination and scheduling and ultimately for ensuring that training is completed.

1. A training plan shall be generated and include the following elements:
 - a. Equipment
 - b. Intended audience
 - c. Location of training
 - d. Objectives
 - e. Subject covered (description, duration of discussion and special methods)
 - f. Instructor for each subject
 - g. Method of instruction (classroom lecture, manufacturer video, site walk through, actual operational demonstration, written handouts)
2. The controls contractor shall attend any training in which their system interfaces (minimally mechanical)
3. Recommended training
 - a. Use printed installed ad O&M manuals
 - b. Review of O&M - include start-up, all modes of operation, shutdown, seasonal changes, and emergency operations (emphasis should be given on safety and proper operations).
 - c. Health and safety issues
 - d. Warranties and guarantees
 - e. Common troubleshooting
 - f. Peculiarities
 - g. Overrides

- B. The CA shall be responsible for overseeing and approving the content and adequacy of the training of Owner personnel for commissioned equipment.

10.1 INSTALLATION, OPERATION AND MAINTENANCE

- A. To facilitate a successful transition to sustainable operations, the contractor is responsible for gathering and providing the following information, in Excel format: comprehensive asset (equipment) list with all maintainable equipment identified by contract specification tag naming, along with physical location, area served, manufacturer, model, serial number, primary power feed breaker (switchgear, motor control center, panel, etc., sufficient for LOTO), annual preventative maintenance requirements (schedule, frequency, tasks), annual preventative maintenance cost, local vendor representative contacts, spare parts list with current cost, life

expectancy, replacement cost at end of life expectancy. Make an additional column/area to incorporate any operational notes from Cx testing.

- B. Prior to substantial completion, the CA shall review the I,O&M manuals, documentation and redline as-builds for systems that were commissioned to verify compliance with the Specifications. The CA will communicate deficiencies in the manuals to the CM or A/E, as requested.
- C. Upon a successful review of the corrections, the CA recommends approval and acceptance of these sections of the O&M manuals to the CM or A/E.
- D. The CA also reviews each equipment warranty and verifies that all requirements to keep the warranty valid are clearly stated. This work does not supersede the A/E's review of the I,O&M manuals according to the A/E's contract.

11.1 TRANSITIONAL/OPERATIONAL REVIEW

- A. During the Transition phase, seasonal testing (tests delayed until weather conditions are closer to the system's design) shall be completed as part of this contract. The CxP shall coordinate this activity. Tests will be executed, documented and deficiencies corrected by the appropriate Subs, with facilities staff and the CxP witnessing. Any final adjustments to the I, O&M manuals and as-builds due to the testing will be made.
 - 1. Ensure connectivity with remote monitoring sites. (McKinstry InfoCentre and Remote Operations Center [ROC])
 - 2. Ensure performance assurance monitoring is in place
- B. During the Operational Phases the CA will perform 12 months of ongoing commissioning, system optimization, training and performance evaluation. To include but not limited to:
 - 1. Monitor system operation and work with the design and construction team to optimize performance
 - 2. Assistance with resolving issues identified post-construction
 - 3. Periodic operational trend review and analysis
 - 4. Troubleshooting assistance and ongoing operational staff training
 - 5. Assistance in identifying and resolving warranty issues

12.1 WARRANTY REVIEW

- A. During the warranty period, seasonal testing (tests delayed until weather conditions are closer to the system's design) shall be completed as part of this contract. The CA shall coordinate this activity. Tests will be executed, documented and deficiencies corrected by the appropriate Subs, with facilities staff and the CA witnessing. Any final adjustments to the I,O&M manuals and as-builds due to the testing will be made.

END OF SECTION 01 91 00