

Collins Architectural Group, p.s.  
950 12<sup>th</sup> Avenue, Suite 200  
Longview, WA 98632

Addendum No. 1

Page No. 1 of 97

Date: June 18, 2020

Project: Kelso School District No. 458  
BUTLER ACRES ELEMENTARY MODERNIZATION & ADDITION RE-BID  
Project Number 2019-19  
Kelso, WA

**Notice to Contractor:**

The following changes in the Contract Documents, including the Drawings and Specifications, constitute this Addendum. All changes included in Addenda shall become a part of the Contract Documents for this Project. Any changes herein offset only the specific Drawings or Notes on Drawings or words or paragraphs in Specifications referenced to and the balance of the Drawings shall remain in full force.

**ARCHITECTURAL SPECIFICATION**

<u>ITEM</u>	<u>SHEET NO./ SECTION NO.</u>	<u>DESCRIPTION</u>
1.0	Attendance List	See attached for sign-in sheet from the first Pre-Bid Walk held on 06-18-2020.
1.1	Advert. for Bid	REVISE Bid opening date: <b>Submittal Time/Date/Location: Prior to 4:00 P.M. Tuesday, June 30, 2020.</b>
1.2	Proposal Form	REVISE Bid opening date: <b>Date: Tuesday, June 30, 2020.</b> The Proposal Form bound in the project manual may be used with the previous date.
1.3	AIA A101-2017	Attached is a revised Owner/Contractor Agreement to replace the one bound in the project manual.
1.4	Instr. to Bidders	Attached is a revised Instructions to Bidders to replace the one bound in the project manual.
1.5	Section 01 2300	01 2300, Paragraph 1.04 Schedule of Alternate Bids. D. 1, revised to read: Base Bid Item: Plastic laminate sills.
1.6	Section 09 6566	09 6566, Paragraph 2.01 Preformed Athletic Flooring. A. 2: DELETE.
1.7	A0.2	Construction Phasing Plan as shown on ADD 1_A0.2_RE-BID. The start date on initial phases has been changed to notice to proceed (NTP).
1.8	A2.3	REVISE Keynote 54 to include 2 additional items as shown on ADD 1_A2.3_RE-BID
1.9	A3.3	ADD Keynote 32 and play area stripping as shown on ADD 2_A3.3_RE-BID
1.10	Prevailing Wages	Attached is an updated issue of prevailing wages for the revised bid opening date.

## ELECTRICAL DRAWINGS

### 1.11 Drawing E3.2

**Add** Electrical connections for DB-1 & DB-2.

### 1.12 Drawing E3.3

**Add** Electrical connection for DB-3.

### 1.13 Drawing E4.1

**Revise** Load Summary -MSP to reflect load changes due to mechanical equipment changes.

### 1.14 Drawing E4.2

**Revise** Connected load for HP-1 & HP-2 in Panel Schedule 'B'.

### 1.15 Drawing E4.5

**Revise** Connected load for HP-3 in Panel Schedule 'M'.

### 1.16 Drawing E5.1

**Revise** Electrical connection requirements for HP-1, 2 & 3 and associated Fan Coil Units FC-1 thru FC-10

**Add** Electrical connection requirements for DB-1, 2 & 3.

### 1.17 Drawing E5.3

**Revise** Detail #3 per attached Addendum Drawing for Sheet E5.3.

### 1.18 Drawing E10.3

**Add** Covered play area lighting per attached Addendum Drawings for Sheet E10.3.

## ELECTRICAL SPECIFICATIONS

### 1.19 Section 28 1316 Security Management System

**Delete** Part 1.05, B, Items 6 thru 44. Relabel Item #45 to Item #6.

### 1.20 Section 28 1316 Security Management System

**Revise** Part 2.13, A, 1. to read as follows:

#### 1. Products

a. Mullion: Signo reader: 20NKS-01-00001H

b. Wall Mount: Signo reader: 40NKS-01-00001H

## MECHANICAL DRAWINGS

### 1.21 Drawing M1.2

**Revise** Fan Coil Unit schedule.

**Revise** Heat Pump – Air to Air schedule

**Add** Branch Distribution Box schedule

1.22 Drawing M4.5

**Revise** HP-1 and HP-2 piping per attached Addendum Drawing.

**Add** DB-1 and DB-2 per attached Addendum Drawing.

1.23 Drawing M4.6

**Revise** HP-3 piping per attached Addendum Drawing.

**Add** DB-3 per attached Addendum Drawing.

#### MECHANICAL SPECIFICATIONS

1.24 Section 23 34 23 HVAC Power Ventilators

**Replace** Section 23 34 23 with attached section 23 34 23.

1.25 Section 23 81 27 Split-System Heating and Cooling

**Replace** Section 23 81 27 with attached section 23 81 27.

1.26 Section 23 81 29 Variable Refrigerant Flow System

**Replace** Section 23 81 29 with attached section 23 81 29.

#### Product Substitution Approvals

<u>Specified Item</u>	<u>Approved Substitution</u>
#1 Lighting	A-Litecontrol
#2 Lighting	A1-Litecontrol
#3 Lighting	AD-Litecontrol
#4 Lighting	AD1-Litecontrol
#5 Lighting	B-Columbia
#6 Lighting	C-Columbia
#7 Lighting	C1-Columbia
#8 Lighting	D-Columbia
#9 Lighting	F-Prescolite
#10 Lighting	G-Columbia
#11 Lighting	H-HE Williams
#12 Lighting	J-Prescolite

#13	Lighting	K-Hubbell Outdoor Lighting
#14	Lighting	K-1 Hubbell Outdoor Lighting
#15	Lighting	N-Columbia
#16	Lighting	N1-Columbia (with recess flange kit)
#17	Lighting	P-FC Lighting (wet listing in up-light mount)
#18	Lighting	SB-FC Lighting
#19	Lighting	P-FC Lighting
#20	Lighting	V-HE Williams
#21	Lighting	X1-Dual Lite
#22	Unit Ventilators	Airdale (noise cannot exceed NC-35, elect loads)
#23	Breeching Stacks	Metal-Fab Corr/Guard
#24	Louvers	American Warming LE-49
#25	Energy Recover Units	Captive Air Paragon (elect load not exceed sched)
#26	HE Gas Fired Water Heater	Laars UHE Water Heater
#27	Roof Hoods	Penn Barry Airette

**END OF ADDENDUM 1**





# AIA® Document A101® – 2017

## **Standard Form of Agreement Between Owner and Contractor** where the basis of payment is a Stipulated Sum

**AGREEMENT** made as of the \_\_\_\_ day of \_\_\_\_\_ in the year Two Thousand Twenty  
(In words, indicate day, month and year.)

**BETWEEN** the Owner:  
(Name, legal status, address and other information)

**Kelso School District No. 458**  
601 Crawford Street  
Kelso, Washington 98626

and the Contractor:  
(Name, legal status, address and other information)

for the following Project:  
(Name, location and detailed description)

**Butler Acres Elementary School Modernization and Additions**  
1609 Burcham Street  
Kelso, Washington 98626

The Architect:  
(Name, legal status, address and other information)

**Collins Architectural Group, P.S.**  
950 12th Avenue, Suite 200  
Longview, Washington 98632

The Owner and Contractor agree as follows.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101®–2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201®–2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

## TABLE OF ARTICLES

1	THE CONTRACT DOCUMENTS
2	THE WORK OF THIS CONTRACT
3	DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
4	CONTRACT SUM
5	PAYMENTS
6	DISPUTE RESOLUTION
7	TERMINATION OR SUSPENSION
8	MISCELLANEOUS PROVISIONS
9	ENUMERATION OF CONTRACT DOCUMENTS

## EXHIBIT A — INSURANCE AND BONDS

### ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

### ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the entire Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

### ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:

*(Check one of the following boxes.)*

☐ — The date of this Agreement.

☒ — A date set forth in a notice to proceed issued by the Owner.

☐ — Established as follows:

*(Insert a date or a means to determine the date of commencement of the Work.)*

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the ~~Work~~. Work as provided in the notice to proceed.

#### § 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:

*(Check one of the following boxes and complete the necessary information.)*

☐ — Not later than ( ) calendar days from the date of commencement of the Work.

Init.

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[ ] By the following date: ~~X~~ ] By the following date: August 20, 2021.

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work such as phases are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date
Phase 1:	August 20, 2020
Phase 2:	December 18, 2020
Phases 3, 4, and 5:	August 20, 2021

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5. The Contractor shall achieve Final Completion within sixty days of achieving Substantial Completion.

#### ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be \_\_\_\_\_ Dollars (\$ ), plus Washington State and local sales tax on the Contract Sum, subject to additions and deductions as provided in the Contract Documents.

#### § 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price
------	-------

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement. *(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)*

Item	Price	Conditions for Acceptance
<u>As allowed in the bidding documents or Contract Documents.</u>		

§ 4.3 Allowances, if any, included in the Contract Sum: Sum; these descriptions are summary in nature, and the scope of this work is further described in the Contract Documents:  
*(Identify each allowance.)*

Item	Price
<u>1,000 Square Feet of Unit Price A</u>	
<u>200 Receptacles of Unit Price B</u>	

§ 4.4 Unit prices, if ~~any~~ any; these descriptions are summary in nature, and the scope of this work is further described in the Contract Documents:  
*(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)*

Item	Units and Limitations	Price per Unit (\$0.00)
<u>Unit Price A: Patching of Vinyl Voids</u>	<u>Square Feet</u>	
<u>Unit Price B: Replace Receptacles</u>	<u>Per Receptacle</u>	

§ 4.5 Liquidated damages, if any:  
*(Insert terms and conditions for liquidated damages, if any.)*

Delayed Completion will cause substantial damages to the Owner. The Contractor must read and carefully consider these liquidated damages provisions, and the Contractor shall not bid this Project if it is not prepared to finish the Work on time (including any use of overtime pay at its own costs) or pay these liquidated damage amounts. If the Contractor does not Substantially Complete and Finally Complete all of the Work as provided in Section 3.3.1, the

Owner will be forced to incur substantial expenses. For these reasons, liquidated damages will be assessed for each calendar day that Substantial Completion of each Phase is not timely achieved at \$1,000 per calendar day. Contractor should review and understand Section 15.1.5.2 of the A201 regarding if and how any adverse weather may or may not extend the date of Substantial Completion, as rain or other adverse weather may or may not extend the date of Substantial Completion since rain and other adverse weather must be anticipated during the Project and only materially greater than normal inclement weather extending the critical path of the Project will be the basis for an extension of the Contract Time.

**§ 4.6 Other:**

*(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)*

N/A

**ARTICLE 5 PAYMENTS**

**§ 5.1 Progress Payments**

**§ 5.1.1** Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

**§ 5.1.2** The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

See the Contract Documents.

*(Federal, state or local laws may require payment within a certain period of time.)*

**§ 5.1.3** ~~Provided that an Application for Payment is received by the Architect not later than the — day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the — day of the — month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than — ( — ) days after the Architect receives the Application for Payment.~~  
*(Federal, state or local laws may require payment within a certain period of time.)*

**§ 5.1.4** Each Application for Payment shall be based on the most recent approved schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of ~~the Work~~, the Work and as specified in the Contract Documents. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect or Owner may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

**§ 5.1.5** Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

**§ 5.1.6** In accordance with AIA Document A201™ ~~2017~~, A201™-2007, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

**§ 5.1.6.1** The amount of each progress payment shall first include:

- .1 That portion of the Contract Sum properly allocable to completed Work;
- .2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in writing and in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
- .3 That portion of Construction Change Directives that the Architect ~~determines~~, determines and the Owner agrees, in the Architect's professional judgment, to be reasonably justified.

**§ 5.1.6.2** The amount of each progress payment shall then be reduced by:

- .1 The aggregate of any amounts previously paid by the Owner;

- .2 The amount, if any, for Work that remains uncorrected and for which the Owner or Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document ~~A201–2017;~~ A201–2007;
- .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- .4 For Work performed or defects discovered since the last payment application, any amount for which the Owner or Architect may withhold payment, or for which the Owner or Architect may nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; A201–2007; and
- .5 Retainage withheld pursuant to Section 5.1.7.

## § 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:

*(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)*

Statutory retainage of five percent (5%) shall be withheld from all payments, unless the Contractor submits and the Owner accepts a retainage bond pursuant to RCW 60.28.011(6).

§ 5.1.7.1.1 The following items are not subject to retainage:

*(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)*

N/A

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:

*(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)*

Per statute and the Contract Documents.

§ 5.1.7.3 ~~Except as set forth in this Section 5.1.7.3, upon~~ Upon obtaining Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7, sufficient to increase the total payments to ninety-eight percent (98%) of the Contract Sum less retainage (see Section 9.2 of the A201 regarding the final two percent (2%) of the Contract Sum to be paid after Substantial Completion), less such amounts as the Architect shall determine for incomplete Work in excess of the amount allocated under Section 9.2.4 of the A201–2007 and any other amounts as specified in the Contract Documents. The Application for Payment submitted at Substantial Completion shall not include retainage as follows: a request for payment of retainage.

*(Insert any other conditions for release of retainage upon Substantial Completion.)*

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document ~~A201–2017;~~ A201–2007.

§ 5.1.9 Except with the Owner's prior written approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

## § 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, except for retainage, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document ~~A201–2017;~~ A201–2007, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment has been issued ~~by the Architect;~~ by the Architect; and
- .3 Final Acceptance by the Owner's Board of Directors has occurred.

**§ 5.2.2** The Owner's final payment to the Contractor shall be made no later than ~~30 days after the issuance of the Architect's final Certificate for Payment, or as follows: sixty days after completion of all requirements for Final Acceptance listed in the A201-2007 General Conditions.~~

**§ 5.2.3** Retainage shall be paid according to statute and the Contract Documents.

### **§ 5.3 Interest**

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.  
(Insert rate of interest agreed upon, if any.)

~~%~~ Payments due and unpaid under the Contract Documents shall bear interest at the Bank of America prime plus two percent per annum, unless a different rate is required by RCW 39.76.

## **ARTICLE 6 DISPUTE RESOLUTION**

### **§ 6.1 Initial Decision Maker**

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201-2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.  
(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

There is no "Initial Decision Maker" for this Project.

### **§ 6.2 Binding Dispute Resolution**

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document ~~A201-2017, A201-2007,~~ the method of binding dispute resolution shall be as follows:  
(Check the appropriate box.)

☐ ~~Arbitration pursuant to Section 15.4 of AIA Document A201-2017~~

☐ ~~Litigation in a court of competent jurisdiction~~

☐ ~~Other (Specify)~~ ☒ Litigation in Superior Court in Cowlitz County, Washington

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in the County in which the Project is located in a court of competent jurisdiction.

## **ARTICLE 7 TERMINATION OR SUSPENSION**

**§ 7.1** The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document ~~A201-2017, A201-2007.~~

**§ 7.1.1** If the Contract is terminated for the Owner's convenience in accordance with Article 14 of AIA Document ~~A201-2017, A201-2007,~~ then the Owner shall pay the Contractor a termination fee as follows:  
(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner's convenience.)

N/A

**§ 7.2** The Work may be suspended by the Owner as provided in Article 14 of AIA Document ~~A201-2017, A201-2007.~~

## **ARTICLE 8 MISCELLANEOUS PROVISIONS**

**§ 8.1** Where reference is made in this Agreement to a provision of AIA Document ~~A201-2017, A201-2007~~ or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

**§ 8.2** The Owner's Designated representative:

Init.

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*(Name, address, email address, and other information)*

Mary Beth Tack  
Superintendent  
Kelso School District No. 458  
601 Crawford Street  
Kelso, Washington 98626  
(360) 501-1903  
marybeth.tack@kelsosd.org

All communications shall be directed to the Owner's Project Manager identified below except for notices and Claims required by this Agreement, which shall be sent to the Owner's Designated Representative identified above. The Project Manager shall receive copies of all correspondence and submittals with third parties, AHJ's and the Architect.

Construction Services Group, ESD 112  
Attn: Andrew Twyman, VMA  
Project Manager  
(360) 952-3566  
andrew.twyman@esd112.org

**§ 8.3** The Contractor's Designated representative:  
*(Name, address, email address, and other information)*

**§ 8.4** Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

**§ 8.5 Insurance and Bonds**

**§ 8.5.1** The Owner and the Contractor shall purchase and maintain insurance as set forth in the A201 General Conditions and as described elsewhere in the Contract Documents. AIA Document A101™-2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, ~~and elsewhere in is not used and is not a part of the Contract Documents.~~

**§ 8.5.2** The Contractor shall provide bonds as set forth in AIA Document A101™-2017 Exhibit A, the A201 General Conditions and elsewhere in the Contract Documents.

**§ 8.6** Notice in electronic format, pursuant to Article 1 of AIA Document A201-2017, may be given in accordance with AIA Document E203™-2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise format may be given as set forth below:

*(If other than in accordance with AIA Document E203-2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)*

Per the Contract Documents.

**§ 8.7** Other provisions:

N/A

**ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS**

**§ 9.1** This Agreement is comprised of the following documents:

Init.

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- .1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor
- .2 ~~AIA Document A101™–2017, Exhibit A, Insurance and Bonds [Not used.]~~
- .3 AIA Document A201™–2017, ~~A201™–2007~~, General Conditions of the Contract for Construction as revised by the Owner. All references to the A201 or to the General Conditions are to the revised 2007 version document. A 2007 modified version of the A201 is used with this Agreement, not the 2017 version.
- .4 ~~AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below: [Not used.]~~  
(Insert the date of the E203-2013 incorporated into this Agreement.)

N/A

- .5 Drawings

**Number**  
See the Index of Drawings in the Project Manual

**Title**

**Date**

- .6 Specifications

**Section**  
See the Table of Contents in the Project Manual

**Title**

**Date**

**Pages**

- .7 Addenda, if any:

**Number**

**Date**

**Pages**

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

- .8 Other Exhibits:  
(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

☐ ~~AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:  
(Insert the date of the E204–2017 incorporated into this Agreement.)~~

☒ ~~The Sustainability Plan~~ ☒ Supplementary and other Conditions of the Contract:

**Title**

**Date**

**Pages**

**Document**

**Title**

**Date**

**Pages**

See the Project Manual dated

☐ ~~Supplementary and other Conditions of the Contract:~~

**Document**

**Title**

**Date**

**Pages**

- .9 Other documents, if any, listed below:

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**User Notes:**

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*(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™-2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)*

Department of Labor and Industries Prevailing Wage Rates.

This Agreement entered into as of the day and year first written above.

\_\_\_\_\_  
**OWNER** *(Signature)*

\_\_\_\_\_  
*(Printed name and title)*

\_\_\_\_\_  
**CONTRACTOR** *(Signature)*

\_\_\_\_\_  
*(Printed name and title)*

## ***Certification of Document's Authenticity***

### ***AIA® Document D401™ – 2003***

I, Graehm Wallace, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with this certification at 09:15:56 PT on 06/15/2020 under Order No. 2573503930 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A101™ – 2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, as published by the AIA in its software, other than changes shown in the attached final document by underscoring added text and striking over deleted text.

\_\_\_\_\_  
*(Signed)*

\_\_\_\_\_  
*(Title)*

\_\_\_\_\_  
*(Dated)*

## INSTRUCTIONS TO BIDDERS

### 1.01 DEFINITIONS

- A. All definitions set forth in the General Conditions of the Contract for Construction or in other Contract Documents are applicable to the Bidding Documents.
- B. “**Addenda**” are written or graphic instruments issued by the Architect or the Kelso School District prior to the execution of the Contract which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections. The contents of Addenda are issued in no particular order and therefore should be carefully and completely reviewed. Addenda relating to administrative matters, such as, for example, the date or time of meetings or Bid receipt, may be issued in writing by fax, mail or other delivery.
- C. An “**Alternate Bid**” (or “**Alternate**”) is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted by the Kelso School District.
- D. “**Award**” means the formal decision by the Kelso School District notifying a Bidder with the lowest Responsive Bid of the Kelso School District’s acceptance of the Bid and intent to enter into a contract with the Bidder. A contract is only formed upon execution of the contract, and not simply by Award.
- E. The “**Award Requirements**” include the following statutory requirements as a condition precedent to Award. The lowest Responsive Bidder shall:
- (1) have a certificate of registration in compliance with RCW 18.27;
  - (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;
  - (4) have an employment security department number as required in Title 50 RCW;
  - (5) have a state excise tax registration number as required in Title 82 RCW;
  - (6) not be disqualified from bidding on any public works contract under RCW 39.06.010 (unregistered or unlicensed contractors) or RCW 39.12.065(3) (prevailing wage violations);
  - (7) 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 RCW 49.04 for the one-year period immediately preceding the date of the Bid solicitation;
  - (8) have received training on the requirements related to public works and prevailing wages under chapters 39.04 and 39.12 RCW, or be exempt from such training requirements if the Bidder has completed three or more public works projects and has had a valid business license in Washington for three or more years; and

- (9) 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.

Further, under revised RCW 39.04.350, if the Bidder has a history of receiving monetary penalties for not achieving the apprentice utilization requirements pursuant to RCW 39.04.320, or is habitual in utilizing the good faith effort exception process, the bidder must submit an apprenticeship utilization plan within ten business days immediately following the Kelso School District's notice to proceed.

- F. The “**Base Bid**” is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base to which work may be added or from which work may be deleted for sums stated in Alternate Bids.
- G. A “**Bid**” is a complete and properly signed proposal to do the Work or designated portion thereof, submitted in accordance with the Bidding Documents, for the sums therein stipulated and supported by any data called for by the Bidding Documents.
- H. A “**Bidder**” is a person or entity who submits a Bid for a prime contract with the Kelso School District for the Work described in the Contract Documents.
- I. The “**Bidding Documents**” include the Advertisement or Invitation to Bid, Instructions to Bidders, the Bid form, any other sample Bidding and contract forms, the Bid Bond, and the Contract Documents, including any Addenda issued prior to receipt of Bids.
- J. The “**Contract Documents**” for the Work consist of the Agreement Between Owner and Contractor, the General Conditions of the Contract (as well as any Supplemental, Special or other Conditions included in the Project Manual), the Drawings, the Specifications, and all Addenda issued prior to, and all modifications issued after, execution of the Contract.
- K. The “**Owner**” is the Kelso School District No. 458.
- L. To be considered “**Responsible**” or meet “**Responsibility**” requirements, a Bidder must meet the following supplemental criteria applicable to this Project to the satisfaction of the Architect and the Kelso School District:
- (1) The ability, capacity, and skill to perform the Contract;
  - (2) The character, integrity, reputation, judgment, experience, and efficiency of the Bidder;
  - (3) Whether the Bidder can perform the Contract within the time specified;
  - (4) The previous and existing compliance by the Bidder with laws relating to the Contract;
  - (5) The quality of performance of previous contracts, including demonstration of successful completion of similar projects in the last three (3) years;
  - (6) The designated Project Manager shall have a minimum of three (3) years of successful experience in project management and scheduling of projects of similar scope and complexity;

- (7) The designated Superintendent shall have a minimum of five (5) years of successful supervision of projects of similar scope and complexity;
  - (8) Any other qualifications required by the Contract Documents or Bidding Documents; and
  - (9) Such other information as may be secured having a bearing on the decision to award the contract.
- M. A “**Sub-bidder**” is a person or entity who submits a bid to a Bidder for materials, equipment or labor for a portion of the Work.
- N. A “**Unit Price**” is an amount stated in the Bid as a price per unit of measurement for materials, equipment or services as described in the Bidding Documents or in the Contract Documents. The Kelso School District reserves the right to reject at any time, without impairing the balance of the proposal, any or all such predetermined unit prices.

## 1.02 BIDDER’S REPRESENTATIONS

By making its Bid, each Bidder represents that:

- A. BIDDING DOCUMENTS. The Bidder has read and understands the Bidding Documents, and its Bid is made in accordance with them.
- B. POSSIBLE SELF-PERFORMED WORK REQUIREMENT. The Bidder will perform *with its own forces* at least that percentage (if any) of the Work required by the Bidding Documents or the Contract Documents.
- C. PRE-BID MEETING. The Bidder has attended any pre-bid meeting(s) required by the Bidding Documents.
- D. BASIS. Its Bid is based upon the materials, systems, services, and equipment required by the Bidding Documents, without exception.
- E. EXAMINATION. The Bidder has carefully examined and understands the Bidding Documents, the Contract Documents (including, without limitation, any liquidated damages and insurance provisions), and the Project site, including any existing buildings, it has familiarized itself with the local conditions under which the Work is to be performed and has correlated its observations with the requirements of the Contract Documents and it has satisfied itself as to 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 the Contract Documents. The Bidder has also satisfied itself as to the conditions and other matters that may be encountered at the Project site or affect 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 and utilities; availability and condition of roads; climatic conditions and seasons; physical conditions at the Project site and the surrounding locality; topography and ground surface conditions; and equipment and facilities needed preliminary to and at all times during the performance of the Work. The failure of the Bidder fully to acquaint itself with any applicable condition or matter shall not in any way relieve the Bidder from the responsibility for performing the Work in accordance with, and for the Contract Sum and within the Contract Time provided for in, the Contract Documents.
- F. PROJECT MANUAL. The Bidder has checked its copies of the Project Manual with the Table of Contents bound therein to ensure the Project Manual is complete.

- G. **SEPARATE WORK.** The Bidder has examined and coordinated all Drawings, Contract Documents, and Specifications for any other contracts to be awarded separately from, but in connection with, the Work being bid upon, so that the Bidder is fully informed as to conditions affecting the Work under the contract being bid upon.
- H. **LICENSE REQUIREMENTS.** Bidders and their proposed Subcontractors shall be registered and shall hold such licenses as may be required by the laws of Washington, including RCW 18.27, for the performance of the Work specified in the Contract Documents.
- I. **NO EXCEPTIONS.** Bids must be based upon the materials, systems and equipment described and required by the Bidding Documents, and terms and conditions in the Contract Documents, without exception.

### 1.03 **BIDDING DOCUMENTS**

#### A. **COPIES**

- 1. **Deposit.** Bidders may obtain electronic copies of the Bidding Documents from the issuing office and from any other locations designated in the Advertisement or Invitation to Bid. Bidders that desire paper copies may have the electronic copies reproduced at the Bidder's expense.
- 2. **Sub-bidders.** Bidding Documents will not be issued directly to Sub-bidders or others unless specifically offered in the Advertisement or Invitation to Bid.
- 3. **Complete sets.** Bidders shall use complete sets of Bidding Documents in preparing Bids and are solely responsible for utilizing established plan holder identification processes to obtain updated bid information; neither the Kelso School District nor the Architect assumes any responsibility for errors or misinterpretations resulting from the use of incomplete and/or superseded sets of Bidding Documents. Printed copies of plans take precedence over any on-line images.
- 4. **Conditions.** The Kelso School District and/or the Architect make copies of the Bidding Documents available on the above terms only for the purpose of obtaining Bids on the Work and do not confer a license or grant permission for any other use.
- 5. **Legible Documents.** To the extent any drawings, specifications, or other Bidding documents are not legible, it is the Bidder's responsibility to notify the Kelso School District and the Architect and to obtain legible documents from the plan center.

#### B. **INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS**

- 1. **Format.** The Contract Documents may be divided into parts, divisions, and sections for convenient organization and reference. Generally, there has been no attempt to divide the Specification sections into Work performed by the various building trades, any Work by separate contractors, or any Work required for separate facilities in or phases of the Project.
- 2. **Notify Owner and Architect.** Bidders and Sub-bidders shall promptly notify the Kelso School District and the Architect in writing of any ambiguity, inconsistency, or error that they may discover upon examination of the Bidding Documents or of the site and local conditions. All Bidders and Sub-bidders shall thoroughly familiarize themselves with specified products and installation procedures and submit to the Kelso School District and the Architect any objections (in writing) no later than seven (7) calendar days prior to the Bid Date. The

submittal of the Bid constitutes acceptance of products and procedures specified as sufficient, adequate, and satisfactory for completion of the Contract.

3. **Written request.** Bidders and Sub-bidders requiring clarification or interpretation of the Bidding Documents shall make a written request which shall reach the Architect at least seven (7) calendar days prior to the date for receipt of Bids.
4. **Addenda.** Any interpretation, correction or change of the Bidding Documents will be made by written Addendum. Interpretations, corrections or changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon such interpretations, corrections and changes.
5. **Singular references.** Reference in the singular to an article, device, or piece of equipment shall include as many of such articles, devices, or pieces as are indicated in the Contract Documents or as are required to complete the installation.
6. **Utilities and runs.** The Bidder should assume that the exact locations of any underground or hidden utilities, underground fuel tanks, and any plumbing and electrical runs may be somewhat different from any location indicated in the surveys or Contract Documents.
7. **Division of Contract Documents.** The Contract Documents may be divided into parts, divisions, and sections for convenient organization and reference. Generally, there has been no attempt to divide the Specification sections into Work performed by the various building trades, any Work by separate contractors, or any Work required for separate facilities in of phases of the Project.

C. SUBSTITUTIONS

1. **Standard.** The materials, products, procedures and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance, and quality that must be met by any proposed substitution.
2. **Substitution procedure.** No substitution will be considered prior to receipt of Bids unless the Architect receives a written request for approval on the Architect's Substitution Request form for the Project, with all data requested on the form completed, at least seven (7) days prior to the date for receipt of Bids. Each such request shall be submitted with a Request for Substitution form identical to or equivalent in content to the form found in the Project Manual, and shall include the name of the material or equipment proposed to be replaced and a complete description of the proposed substitute, including drawings, cuts, performance and test data, warranty information, and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or other Work that incorporation of the substitute would require shall be included. The proposer has the burden to prove the merit of the proposed substitute; by proposing the substitution, the Bidder represents that it has personally investigated the proposed material or product and determined that it is equal or better in all respects to that specified, that the same or better warranty will be provided for the substitution, that complete cost data, including all direct and indirect costs of any kind, has been presented, that the Contract Time will not be increased, and that it will coordinate the installation of the substitute if accepted and make all associated changes in the Work. The Architect's decision to approve or disapprove a proposed substitution shall be final. Written requests for approval shall constitute a guarantee by the Bidder that the articles or materials are in all respects, including warranty and installation, equal or superior to those specified, unless otherwise noted. To the extent the proposed substitution will require additional services by the Architect or its consultants after Bid award, the Bidder, if

successful, will be required to pay the Architect or its consultants for these services at their customary hourly rates.

3. **Addendum.** If the Architect approves a proposed substitution prior to receipt of Bids, the approval will be set forth in a written Addendum. Bidders shall not rely upon approvals made in any other manner. Substitution request forms returned by the Architect are a courtesy only, and Bidders/Sub-bidders shall rely solely on substitution approvals listed in an Addenda.
4. **Post-Bid substitutions.** After the Contract has been executed, the Kelso School District and the Architect may consider a written request for the substitution of material or products in place of those specified in the Contract Documents only under the circumstances as specified therein.

D. ADDENDA

1. **Written.** All Addenda will be written. They will be mailed, emailed, faxed delivered, and/or posted electronically with notice to those the Architect knows to have registered with the Architect as a Bidder.
2. **Copies.** Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.
3. **Verification and acknowledgment of receipt.** Prior to bidding, each Bidder shall ascertain that it has received all Addenda issued. Each Bidder shall acknowledge its receipt of all Addenda in its Bid.

1.04 BIDDING PROCEDURE

A. FORM AND STYLE OF BIDS

1. **Form.** Bids (including any required attachments) shall be submitted on forms identical to the form included with the Bidding Documents. Bids on different forms may be rejected. No oral, email, or telephonic responses or modifications will be considered to be Bids.
2. **Entries on the Bid form.** All blanks on the Bid form shall be filled in by typewriter or manually in ink.
3. **Words and figures.** Where so indicated by the makeup of the Bid form, sums shall be expressed in both words and figures; in case of discrepancy between the two and regardless of any statement to the contrary on the Bid form, *the amount written in figures shall govern and the words shall be used to determine any ambiguities in the figures.* Portions of the Bid form may require the addition of component bids to a total or the identification of component amounts within a total. In case of discrepancy between component amounts listed and their sum(s), the component amounts listed shall govern.
4. **Initial changes.** Any interlineation, alteration or erasure must be initialed by an authorized representative of the Bidder.
5. **Alternates and Unit Prices.** All requested Alternates and unit prices should be bid. The Kelso School District reserves the right, but is not obligated, to reject any Bid on which all requested Alternates or unit prices are not bid. If no change in the Base Bid is required for an Alternate, enter “No Change.” If there is no entry, it will be presumed that the Bidder has made no offer to accomplish this Alternate. If it is not otherwise clear from the Bid or nature



of the Alternate, it will be presumed that the amount listed for an Alternate is an add rather than a deduct.

6. **No conditions.** The Bidder shall make no conditions or stipulations on the Bid form nor qualify its Bid in any other manner.
7. **Identity of Bidder.** The Bidder shall include in the specified location on the Bid form the legal name of the Bidder and, if requested, a description of the Bidder as a sole proprietor, a partnership, a joint venture, a corporation (including the state of incorporation), or another described form of legal entity. The Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid submitted by an agent shall have a current power of attorney attached certifying the agent's authority to bind the Bidder, and provide other information requested.
8. **Bid amounts do not include sales tax.** The Bid shall include in the sum stated all taxes imposed by law, EXCEPT STATE AND LOCAL SALES TAX ON THE CONTRACT SUM.
9. **Bid breakdown.** The Bid form may contain, for the Kelso School District's accounting purposes only, a breakdown of some or all of the components included in the Base Bid.

B. POTENTIAL LISTING OF SUBCONTRACTORS

1. **Procedure.** On certain projects of the Kelso School District, the Bid form includes a requirement that certain Subcontractors be listed, and the list must be submitted to the Kelso School District as described in the bidding documents. In these circumstances, the Bidder must name the Subcontractor with whom the Bidder, if awarded the Contract, will subcontract *directly* (i.e., not lower-tier Subcontractors) for performance of the work of:
  - (a) HVAC (heating, ventilation and air conditioning),
  - (b) plumbing as described in RCW 18.106,
  - (c) electrical work as described in RCW 19.28,
  - (d) structural steel installation,
  - (e) rebar installation, and
  - (f) any other categories of Work listed on the Subcontractor listing form(s).

**TIMING:** The listing of HVAC, plumbing, and electrical subcontractors shall occur within one hour of the published bid submittal time. The listing of structural steel installation and rebar installation subcontractors shall occur within forty-eight hours of the published bid submittal time. The listing of any other categories of Work listed on the Subcontractor listing form(s) shall occur as indicated on such forms or as otherwise described in the bidding documents.

**SELF-PERFORMANCE:** If the Bidder intends to self-perform any of these categories of Work, it must name itself for each such category of Work.

**IF NO SUBCONTRACTORS:** If there is no work to be performed by a HVAC, plumbing, electrical, structural steel installation, rebar installation, or other subcontractor category identified on the Bid form(s), the Bidder should insert "None" or "N/A" on the Bid form. If a

category is left blank, that shall indicate that the Bidder believes that there is no Work to be performed by that trade.

**MULTIPLE ENTRIES:** The Bidder shall not list more than one (1) entity for a particular category of Work identified, unless a Subcontractor varies with an Alternate Bid, in which case the Bidder shall identify the Subcontractor to be used for the Alternate and the affected portion of the Work and otherwise make its Bid clear as to which subcontractor shall be utilized depending upon the selection of alternates.

**MULTIPLE SUBMITTAL TIMES.** In the event the Bidding Documents call for a second submittal time for receipt of alternate bids, and no additional Subcontractors are listed with such alternate bids, the Kelso School District will consider that there is no change in the Subcontractors from those listed with regard to the base Bid.

2. **Failure to Submit.** In accordance with RCW 39.30.060, failure of a Bidder to submit the names of such proposed heating, ventilation and air conditioning, plumbing, electrical, structural steel installation, and rebar installation Subcontractors or to name itself to perform such Work or the naming of two or more Subcontractors to perform the same Work in the time periods described above shall render the Bidder's Bid nonresponsive and, therefore, void.
3. **Requirement to Subcontract.** The Bidder, if awarded the Contract, will subcontract with the listed Subcontractor for performance of the portion of the Work designated on the Form of Proposal, subject to the provisions of the Contract for Construction and RCW 39.30.060. The Bidder shall not substitute a listed Subcontractor in furtherance of bid shopping or bid peddling.
4. **Replacement.** If a listed Subcontractor is unable to comply with any bondability, qualification, or other requirements of the Contract or Bidding Documents (including without limitation a finding of Subcontractor non-Responsibility), the Kelso School District may require the Bidder to replace the Subcontractor with a Subcontractor acceptable to the Kelso School District at no change in the Contract Sum or Contract Time.
5. **Subcontractor Standards.** Subcontractors shall meet contractual and technical qualifications standards, and provide specialized certification, licensing, and/or payment and performance bonding where specified.

C. **BID SECURITY**

1. **Purpose and procedure.** Each Bid shall be accompanied by a bid security payable to the Kelso School District in the form required in the Bidding Documents and equal to five percent (5%) of the Base Bid. The bid security constitutes a pledge that the Bidder will enter into the Contract with the Kelso School District in the form provided, in a timely manner, and on the terms stated in its Bid and will furnish in a timely manner the payment and performance bonds, certificates of insurance, Contractor's Construction Schedule, and all other documents required in the Contract Documents. Should the Bidder fail or refuse to enter into the Contract or fail to furnish such documents, the amount of the bid security shall be forfeited to the Kelso School District as liquidated damages, not as a penalty. By submitting its Bid and bid security, the Bidder agrees that any forfeiture is a reasonable prediction at the time of Bid submittal of future damages to the Kelso School District.
2. **Form.** The bid security shall be in the form of a certified or bank cashier's check payable to the Kelso School District or a bid bond executed by a bonding company acceptable to the Kelso School District and licensed in the State of Washington on the form included with the

Bidding Documents or on an acceptable and equivalent form. The Attorney-in-Fact who executes the bond on behalf of the surety shall be licensed to do business in the State of Washington and shall affix to the bond a certified and current copy of his or her Power of Attorney.

3. **Retaining Bid Security.** The Kelso School District will have the right to retain the Bid Security of Bidders to whom an award is being considered until the earliest of either (a) the Contract has been executed, and payment and performance bonds have been furnished, or (b) the specified time has elapsed so that Bids may be withdrawn, or (c) all Bids have been rejected.
4. **Return of Bid Security.** Within forty-five (45) days after the Bid Date, the Kelso School District will release or return Bid securities to Bidders whose Bids are not to be further considered in awarding the Contract. Bid securities of the three apparent low Bidders will be held until the Contract has been finally executed, after which all unforfeited Bid securities will be returned.

D. SUBMISSION OF BIDS

1. **Procedure.** The Bid, the Bid security, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party specified in the Advertisement or Invitation to Bidders and shall be identified with the Project name, the Bidder's name and address and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail the sealed envelope shall be enclosed in a separate mailing envelope with the notation "*SEALED BID ENCLOSED*" on the face thereof.
2. **Deposit.** Bids shall be deposited at the designated location prior to the time and date for receipt of Bids indicated in the Advertisement or Invitation to Bid, or any extension thereof made by Addendum. Bids received after the time and date for receipt of Bids may be opened, retained unopened, or returned (open or unopened), all at the discretion of the Kelso School District.
3. **Responsibility.** The Bidder assumes full responsibility for timely delivery at the location designated for receipt of Bids.
4. **Form.** Oral, fax, telephonic, email, electronic, or telegraphic Bids are invalid and will not be considered.

E. MODIFICATION OR WITHDRAWAL OF BID

1. **After receipt time.** A Bid may not be modified, withdrawn or canceled by the Bidder during a forty-five (45) day period following the time and date designated for the receipt of Bids, and each Bidder so agrees by virtue of submitting its Bid.
2. **Before receipt time.** Prior to the time and date designated for receipt of Bids, any Bid submitted may be modified or withdrawn only by notice to the party receiving Bids at the place designated for receipt of Bids. Such notice shall be in writing over the signature of the Bidder or by telegram or fax; if by telegram or fax, written confirmation over the signature of the Bidder shall be mailed and postmarked on or before the date and time set for receipt of Bids. The notice shall be worded so as not to reveal the amount of the original Bid. E-Mail notice will not be considered. It shall be the Bidder's sole responsibility to verify that the notice has been received by the Kelso School District in time to be withdrawn before the Bid opening.

3. **Resubmittal.** Withdrawn Bids may be resubmitted up to the time designated for the receipt of Bids provided that they are then fully in conformance with these Instructions to Bidders.
4. **Bid security with resubmission.** Bid security shall be in an amount sufficient for the Bid as modified or resubmitted.

F. NOTICE

1. Notice or a request from a Bidder under these Instructions to Bidders must be in writing over the signature of the Bidder and delivered in person or by mail, express delivery, telegram or fax. If the notice is by telegram or fax, written confirmation over the signature of the Bidder must be mailed and postmarked on or before the date and time set for the notice.

1.05 CONSIDERATION OF BIDS

- A. **OPENING OF BIDS:** Unless stated otherwise in the Advertisement or Invitation to Bid or any Addendum, the properly identified Bids received on time will be opened publicly and will be read aloud. An abstract of the Base Bids and Alternate Bids, if any, will be made available to Bidders and other interested parties.
- B. **REJECTION OF BIDS:** The Kelso School District shall have the right but not the obligation to reject any or all Bids for any reason or for no reason, to reject a Bid not accompanied by required Bid security or by other material or data required by the Bidding Documents, or to reject a Bid which is in any way incomplete or irregular.

C. ACCEPTANCE OF BID (AWARD)

1. **Owner.** The Kelso School District intends (but is not bound) to award a Contract to the lowest Responsible and Responsive Bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. The Kelso School District has the right to waive any informality or irregularity in any Bid(s) received and to accept the Bid which, in its judgment, is in its own best interests.
2. **Alternates.** The Kelso School District shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Contract Documents or Bidding Documents, and to determine the low Bidder on the basis of the sum of the Base Bid and the Alternates (if any) accepted. The Kelso School District retains the right to accept Alternate Bid items at the price bid within forty-five (45) days after the Agreement is executed.
3. **Requirements for Award.** Before the Award, the lowest Responsive Bidder shall meet the Award Requirements.

D. BID PROTEST PROCEDURES

1. **Procedure.** A Bidder protesting for any reason the Bidding Documents; a bidding procedure; the Kelso School District's objection to the Bidder or a person or entity proposed by the Bidder, including but not limited to a finding of non-Responsibility; the rejection of a Bid; the award of the Contract; or any other aspect arising from or relating in any way to the bidding and award or lack thereof, shall cause a written protest to be filed with the Kelso School District within two (2) business days of the event giving rise to the protest and, in any event, no later than two (2) business days after the date upon which Bids are opened. (Intermediate Saturdays, Sundays, and legal holidays are not counted.) The written protest shall include the name of the protesting Bidder, a detailed description of the specific factual and legal grounds

for the protest, copies of all supporting documents, and the specific relief requested. The written protest shall be delivered to:

Mary Beth Tack, Superintendent  
Kelso School District No. 458  
601 Crawford Street  
Kelso, Washington 98626

2. **Consideration.** Upon receipt of the written protest, the Kelso School District will consider the protest. The Kelso School District may, within three (3) business days of the Kelso School District's receipt of the protest, provide any other affected Bidder(s) the opportunity to respond in writing to the protest. If the protest is not resolved by mutual agreement of the protesting Bidder and the Kelso School District, the Superintendent of the Kelso School District or his or her designee will review the issues and promptly furnish a final and binding written decision to the protesting Bidder and any other affected Bidder(s) within six (6) business days of the Kelso School District's receipt of the protest. (If more than one (1) protest is filed, the Kelso School District's decision will be provided within six (6) business days of the Kelso School District's receipt of the last protest.) If no reply is received from the Kelso School District during the six (6) business-day period, the protest shall be deemed rejected.
3. **Waiver.** Failure to comply with these protest procedures will render a protest waived.
4. **Condition precedent.** Timely and proper compliance with and exhaustion of these protest procedures shall be a condition precedent to any otherwise permissible judicial consideration of a protest.

## 1.06 POST BID INFORMATION

### A. INFORMATION FROM APPARENT LOW BIDDER

1. **Submittal.** Within forty-eight (48) hours of the Architect's request, the apparent low Bidder and any other Bidders so requested shall submit the following to the Architect and the Kelso School District:
  - (a) additional information regarding the use of their own forces and the use of subcontractors and suppliers;
  - (b) a properly executed Contractor's Qualification Statement on the form provided (unless otherwise required to be submitted at the time of the Bid);
  - (c) a letter or form from the Bidder's insurance company stating that the insurance required by the Contract Documents will become effective upon execution of the Contract;
  - (d) a letter or form from the Bidder's surety stating that the bond(s) required by the Contract Documents will become effective upon execution of the Contract;
  - (e) if requested by the Kelso School District, a detailed breakdown of the Bid in a form acceptable to the Kelso School District;
  - (f) the names of the persons or entities (including a designation of the Work to be performed with the Contractor's own forces, and the names of those who are to furnish materials or equipment fabricated to a special design) proposed for each of the principal portions of the Work;

(g) the proprietary names and the suppliers of the principal items or systems of materials and equipment proposed for the Work;

(h) a State Board of Education Form D-9, if requested; and

(i) a signed statement in accordance with RCW 9A.72.085 verifying under penalty of perjury that the bidder is in compliance with the responsible bidder criteria of RCW 39.04.350(1)(g).

Failure to provide any of the above information in a timely manner may constitute an event of breach permitting forfeiture of the Bid security.

2. **Responsibility.** The Bidder will be required to establish to the satisfaction of the Architect and the Kelso School District the reliability and Responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents as well as qualifications set forth in the Sections of the Project Manual pertaining to such proposed Subcontractor's respective trades. The Responsibility of the Bidder may be judged in part by the Responsibility of these proposed entities. The following will be considered:

- The ability, capacity, and skill to perform the contract;
- The character, integrity, reputation, judgment, experience, and efficiency of the Bidder;
- Whether the Bidder can perform the contract within the time specified;
- The quality of performance of previous contracts;
- The previous and existing compliance by the Bidder with laws relating to the contract; and
- Such other information as may be secured having a bearing on the decision to award the contract.

**CONSIDERATION.** In considering a Bidder's Responsibility, a Bidder shall be deemed to be unqualified to perform the Contract if, after review and verification of the representations included upon the Contractor's Qualification Statement submitted by the Bidder, conditions such as, but not limited to, the following appear:

(a) The Bidder does not have sufficient prior experience (or an acceptable substitute thereof, as described below) with projects of a similar nature in technical, managerial, and financial requirements to that in the present Contract being bid. In addition to such established contractors, a newly established contractor may be considered qualified if it has shown on the Contractor's Qualification Statement that it is staffed with sufficient technical, managerial, and financial personnel with prior experience in the nature of construction for which the Bids are invited.

(b) The Bidder does not have sufficient capability to undertake the obligations of the Contract. A determination will be made when the Kelso School District's review of the probable cash flow needs of the Bidder for this Project (including payroll, cost of material and supplies, equipment rental costs, and any other direct or incidental costs of the Contract), concludes that the Bidder does not have sufficient financial resources to enable it to satisfy its financial obligations under the Contract.

(c) The Bidder has submitted unrealistic unit prices as determined by other Bidders' unit prices for this Project.

(d) The Bidder does not have sufficient staff, equipment, or plant available to perform the Contract. The Kelso School District's determination in this matter will be based upon that represented by Bidder in the Contractor's Qualification Statement.

- (e) The Bidder has a history of unsatisfactory performance of contracts of this or similar nature, regardless of whether such contracts existed between the Kelso School District and the Bidder, or other parties.
- A determination of this nature will be made if the Kelso School District, after review of the Bidder previous work experience, determines that the Bidder's unsatisfactory performance has resulted predominantly from the Bidder's failure rather than a failure to perform by another party. The Kelso School District will give the Contractor an opportunity to explain such nonperformance's before any final determination is reached.
  - A determination of failure to perform will be made if the Kelso School District is satisfied after review of the Bidder's prior experience, that the Bidder has failed to satisfy its obligations under past contracts and the Kelso School District cannot safely assume satisfactory performance of the Contract by the Bidder.
  - In reaching its determination, the Kelso School District may consider statements of other parties to the prior unperformed contracts, as well as the representations of the Bidder on its Contractor's Qualification Statement.
3. **Subcontractors.** The Responsibility of the Bidder may be judged in part by the Responsibility of its Subcontractors. Bidders must verify Responsibility criteria for each first-tier Subcontractor. A Subcontractor of any tier that hires other Subcontractors must verify Responsibility criteria for each of its next lower-tier Subcontractors. Verification shall include that each Subcontractor, at the time of subcontract execution, is Responsible and possesses an electrical contractor license, if required by RCW 19.28, or an elevator contractor license, if required by RCW 70.87, and can obtain any payment and performance bonds required by the Bidding or Contract Documents.
4. **Request to Modify Criteria.** No later than ten (10) days prior to the Bid Date, a potential Bidder may request in writing that the Kelso School District modify the Responsibility criteria listed in clause (2) above or elsewhere in the Contract Documents or the Bidding Documents. The Kelso School District will evaluate the information submitted by the potential Bidder and respond before the Bid Date. If the evaluation results in a change of the criteria, the Kelso School District will issue an Addendum identifying the new criteria.
5. **Objection.** Prior to the Award of the Contract, the Architect will notify the Bidder in writing if either the Kelso School District or the Architect, after due investigation, has reasonable objection to the Bidder or a person or entity proposed by the Bidder, and the Kelso School District will provide the reasons for the determination. The Bidder may appeal the determination within two (2) business days of its receipt of the objection by presenting additional information to the Kelso School District, and the Kelso School District will consider the additional information before issuing its final determination. The Bidder may, after the Kelso School District's objection or determination, and at Bidder's option, (1) withdraw the Bid, (2) submit an acceptable substitute person or entity with no change in the Contract Time and no adjustment in the Base Bid or any Alternate Bid, even if there is a cost to the Bidder occasioned by the substitution, or (3) appeal by filing a protest in accordance with paragraph 1.05.D. In the event of withdrawal, Bid security will not be forfeited.
6. **Change.** Persons and entities proposed by the Bidder and to whom the Kelso School District or the Architect have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Kelso School District and the Architect.

7. **Right to Terminate.** The Bidder's representations concerning its qualifications will be construed as a covenant under the Contract. Should it appear that the Bidder has made a material misrepresentation on its Contractor's Qualification Statement, the Kelso School District shall have the right to terminate the Contract for cause for the Contractor's breach, and the Kelso School District may then pursue such remedies as exist elsewhere under this Contract, or as otherwise are provided at law or equity.

B. **INFORMATION FROM OTHER BIDDERS:** All other Bidders designated by the Architect as under consideration for award of a Contract shall also provide a properly executed Contractor's Qualification Statement, if so requested by the Kelso School District.

C. **BIDDING MISTAKES:** The Kelso School District will not be obligated to consider notice of claimed bidding mistakes received more than three (3) business days after the Bid opening. In accordance with Washington law, a low Bidder that claims error and fails to enter into the Contract is prohibited from bidding on the Project if a subsequent call for Bids is made for the Project.

#### **1.07 PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND**

A. **BOND REQUIREMENTS:** Within forty-eight (48) hours after the issuance of the Kelso School District's notice of intent to award the Contract, and prior to the date of execution of the Contract, the Bidder shall furnish evidence satisfactory to the Kelso School District of its ability to obtain statutory bonds pursuant to RCW 39.08 covering the faithful performance of the Contract and the payment of all obligations arising thereunder in the form prescribed in the Contract Documents and in the full amount of the Contract Sum plus sales tax. The cost of such bond shall be included in the Base Bid.

B. **TIME OF DELIVERY AND FORM OF BONDS.** The Bidder shall deliver the bonds and other documents required by the Contract Documents (including but not limited to certificates of insurance) to the Kelso School District pursuant to the Contract Documents and in no event any later than three (3) days after the date of execution of the Contract and prior to commencing operations at the site. The bonds shall be written in the form approved by the Kelso School District for public work, as required by RCW 39.08. The bonds shall be written by a surety firm licensed to do business in the State of Washington, with an A.M. Best rating of at least A-/VII. The Bidder shall require the Attorney-in-Fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of his/her Power of Attorney.

#### **1.08 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR**

A. **FORM TO BE USED:** The Agreement for the Work will be written on the form(s) contained in the Bidding Documents, including any General, Supplemental or Special Conditions, and the other Contract Documents included with the Project Manual. In the event no form is enclosed, an AIA Document A101-2017, "Standard Form of Agreement Between Owner and Contractor, where the basis of payment is a Stipulated Sum," along with the General Conditions (AIA Document A201-2007), as both are revised, modified and supplemented by the Kelso School District, will be used. All references in these Instructions to Bidders to the A101 or the A201 refer to the documents as revised by the Kelso School District.

B. **CONFLICTS:** In case of conflict between the provisions of these Instructions and any other Bidding Document, these Instructions shall govern. In case of conflict between the provisions of the Bidding Documents and the Contract Documents, the Contract Documents shall govern.



## **1.09 CONTRACT DOCUMENTS**

This paragraph contains descriptions of some but not all of the provisions of the Contract Documents.

- A. **RETAINAGE:** The Contract Documents specify the statutory retainage requirements of RCW 60.28 for this Project.
- B. **CONTRACT TIME:** The Contract Documents specify the Contract Time. Timely completion of this Project is essential to the Kelso School District.
- C. **PREVAILING WAGES:** The Contract Documents contain requirements regarding the payment of prevailing wages pursuant to RCW 39.12.
- D. **WRITTEN CLAIMS AND NOTICE:** The Contract Documents contain a number of provisions that require the Contractor to provide notice of Claims and to make and support Claims, in writing, within a specified time in order to maintain the Claim. The Kelso School District is under no obligation to consider Claims that fail, in any respect, to meet these requirements.
- E. **CHANGES IN CONTRACT SUM:** The Contract Documents contain provisions specifying requirements for and pricing of changes in the Contract Sum.
- F. **DISPUTE RESOLUTION:** The Contract Documents contain provisions replacing the arbitration provisions of the form General Conditions with an alternative dispute resolution procedure which, among other things, requires non-binding mediation of all disputes.
- G. **CONTRACTOR REGISTRATION:** Pursuant to RCW 39.06, the Bidder shall be registered or licensed as required by the laws of the State of Washington, including but not limited to, RCW 18.27.
- H. **TAXES.** The Contractor shall include in its Bid and pay for all applicable taxes except Washington State Sales Tax and Local Sales Tax on the Contract Sum, which shall be excluded in the preparation of its Bid. Such State and Local Sales Taxes shall be added to the Contract Sum, paid by the Kelso School District to the Contractor, and then paid by the Contractor over the course of the Project. Refer to general, supplementary or other conditions regarding further information.
- I. **OTHER PROVISIONS:** The above paragraphs contain descriptions of some but not all of the provisions of the Contract Documents. Bidders should review in detail the Contract Documents themselves and not rely upon the above paragraphs in this article as complete or inclusive.

## **1.10 POSSIBLE TRENCH EXCAVATION SAFETY PROVISIONS**

- A. To ensure that the Bidder agrees to comply with relevant trenching safety requirements of RCW 39.04.180 and RCW 49.17, the Base Bid must include the cost of any required trench safety provisions. The Bidder shall enter in the blank provided on the Bid form the dollar amount the Bidder has included in its Base Bid for any trench safety provisions for trenching that will exceed a depth of four feet. If trench excavation safety provisions do not pertain to the Project, the Bidder may enter "N.A." or "Not Applicable" in the blank on the Bid form.

END OF SECTION

State of Washington  
Department of Labor & Industries  
Prevailing Wage Section - Telephone 360-902-5335  
PO Box 44540, Olympia, WA 98504-4540

### Washington State Prevailing Wage

The PREVAILING WAGES listed here include both the hourly wage rate and the hourly rate of fringe benefits. On public works projects, worker's wage and benefit rates must add to not less than this total. A brief description of overtime calculation requirements are provided on the Benefit Code Key.

#### Journey Level Prevailing Wage Rates for the Effective Date: 6/30/2020

<u>County</u>	<u>Trade</u>	<u>Job Classification</u>	<u>Wage</u>	<u>Holiday</u>	<u>Overtime</u>	<u>Note</u>	<u>*Risk Class</u>
Cowlitz	<a href="#">Asbestos Abatement Workers</a>	Journey Level	\$46.81	<u>6Z</u>	<u>1M</u>		<a href="#">View</a>
Cowlitz	<a href="#">Boilermakers</a>	Journey Level	\$69.29	<u>5N</u>	<u>1C</u>		<a href="#">View</a>
Cowlitz	<a href="#">Cabinet Makers (In Shop)</a>	Journey Level	\$14.84		<u>1</u>		<a href="#">View</a>
Cowlitz	<a href="#">Carpenters</a>	Acoustical Worker	\$57.19	<u>5A</u>	<u>1B</u>		<a href="#">View</a>
Cowlitz	<a href="#">Carpenters</a>	Bridge, Dock & Wharf Carpenters	\$57.75	<u>5A</u>	<u>1B</u>		<a href="#">View</a>
Cowlitz	<a href="#">Carpenters</a>	Carpenter	\$57.19	<u>5A</u>	<u>1B</u>		<a href="#">View</a>
Cowlitz	<a href="#">Carpenters</a>	Floor Layer And Floor Finishers	\$57.35	<u>5A</u>	<u>1B</u>		<a href="#">View</a>
Cowlitz	<a href="#">Carpenters</a>	Scaffold/Shoring Erecting & Dismantling	\$57.19	<u>7E</u>	<u>4X</u>	<u>8N</u>	<a href="#">View</a>
Cowlitz	<a href="#">Carpenters</a>	Stationary Power Saw	\$57.35	<u>5A</u>	<u>1B</u>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Application of all Composition Mastic	\$62.97	<u>7A</u>	<u>4U</u>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Application of all Epoxy Material	\$62.47	<u>7A</u>	<u>4U</u>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Application of all Plastic Material	\$62.97	<u>7A</u>	<u>4U</u>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Application of Sealing Compound	\$62.47	<u>7A</u>	<u>4U</u>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Application of Underlayment	\$62.97	<u>7A</u>	<u>4U</u>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Building General	\$62.47	<u>7A</u>	<u>4U</u>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Composition or Kalman Floors	\$62.97	<u>7A</u>	<u>4U</u>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Concrete Paving	\$62.47	<u>7A</u>	<u>4U</u>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Curb & Gutter Machine	\$62.97	<u>7A</u>	<u>4U</u>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Curb & Gutter, Sidewalks	\$62.47	<u>7A</u>	<u>4U</u>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Curing Concrete	\$62.47	<u>7A</u>	<u>4U</u>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Finish Colored Concrete	\$62.97	<u>7A</u>	<u>4U</u>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Floor Grinding	\$62.97	<u>7A</u>	<u>4U</u>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Floor Grinding/Polisher	\$62.47	<u>7A</u>	<u>4U</u>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Green Concrete Saw, self-powered	\$62.97	<u>7A</u>	<u>4U</u>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Grouting of all Plates	\$62.47	<u>7A</u>	<u>4U</u>		<a href="#">View</a>

Cowlitz	<a href="#">Cement Masons</a>	Grouting of all Tilt-up Panels	\$62.47	<a href="#">7A</a>	<a href="#">4U</a>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Guniting Nozzleman	\$62.97	<a href="#">7A</a>	<a href="#">4U</a>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Hand Powered Grinder	\$62.97	<a href="#">7A</a>	<a href="#">4U</a>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Journey Level	\$62.47	<a href="#">7A</a>	<a href="#">4U</a>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Patching Concrete	\$62.47	<a href="#">7A</a>	<a href="#">4U</a>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Pneumatic Power Tools	\$62.97	<a href="#">7A</a>	<a href="#">4U</a>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Power Chipping & Brushing	\$62.97	<a href="#">7A</a>	<a href="#">4U</a>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Sand Blasting Architectural Finish	\$62.97	<a href="#">7A</a>	<a href="#">4U</a>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Screed & Rodding Machine	\$62.97	<a href="#">7A</a>	<a href="#">4U</a>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Spackling or Skim Coat Concrete	\$62.47	<a href="#">7A</a>	<a href="#">4U</a>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Troweling Machine Operator	\$62.97	<a href="#">7A</a>	<a href="#">4U</a>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Troweling Machine Operator on Colored Slabs	\$62.97	<a href="#">7A</a>	<a href="#">4U</a>		<a href="#">View</a>
Cowlitz	<a href="#">Cement Masons</a>	Tunnel Workers	\$62.97	<a href="#">7A</a>	<a href="#">4U</a>		<a href="#">View</a>
Cowlitz	<a href="#">Divers &amp; Tenders</a>	Bell/Vehicle/Submersible Operator (not under pressure)	\$106.58	<a href="#">5A</a>	<a href="#">1B</a>		<a href="#">View</a>
Cowlitz	<a href="#">Divers &amp; Tenders</a>	Dive Master	\$73.31	<a href="#">5A</a>	<a href="#">1B</a>		<a href="#">View</a>
Cowlitz	<a href="#">Divers &amp; Tenders</a>	Dive Supervisor	\$73.31	<a href="#">5A</a>	<a href="#">1B</a>		<a href="#">View</a>
Cowlitz	<a href="#">Divers &amp; Tenders</a>	Diver	\$106.58	<a href="#">5A</a>	<a href="#">1B</a>	<a href="#">8V</a>	<a href="#">View</a>
Cowlitz	<a href="#">Divers &amp; Tenders</a>	Diver On Standby	\$68.81	<a href="#">5A</a>	<a href="#">1B</a>		<a href="#">View</a>
Cowlitz	<a href="#">Divers &amp; Tenders</a>	Diver Tender	\$62.58	<a href="#">5A</a>	<a href="#">1B</a>		<a href="#">View</a>
Cowlitz	<a href="#">Divers &amp; Tenders</a>	Manifold Operator	\$62.58	<a href="#">5A</a>	<a href="#">1B</a>		<a href="#">View</a>
Cowlitz	<a href="#">Divers &amp; Tenders</a>	Manifold Operator Mixed Gas	\$67.58	<a href="#">5A</a>	<a href="#">1B</a>		<a href="#">View</a>
Cowlitz	<a href="#">Divers &amp; Tenders</a>	Remote Operated Vehicle Operator/Technician	\$62.58	<a href="#">5A</a>	<a href="#">1B</a>		<a href="#">View</a>
Cowlitz	<a href="#">Divers &amp; Tenders</a>	Remote Operated Vehicle Tender	\$58.42	<a href="#">5A</a>	<a href="#">1B</a>		<a href="#">View</a>
Cowlitz	<a href="#">Drywall Applicator</a>	Journey Level	\$57.19	<a href="#">5A</a>	<a href="#">1B</a>		<a href="#">View</a>
Cowlitz	<a href="#">Drywall Tapers</a>	Journey Level	\$55.59	<a href="#">7E</a>	<a href="#">1E</a>		<a href="#">View</a>
Cowlitz	<a href="#">Electrical Fixture Maintenance Workers</a>	Journey Level	\$25.23		<a href="#">1</a>		<a href="#">View</a>
Cowlitz	<a href="#">Electricians - Inside</a>	Journey Level	\$73.76	<a href="#">5A</a>	<a href="#">1B</a>		<a href="#">View</a>
Cowlitz	<a href="#">Electricians - Inside</a>	Journeyman, Welder	\$78.69	<a href="#">5A</a>	<a href="#">1B</a>		<a href="#">View</a>
Cowlitz	<a href="#">Electricians - Powerline Construction</a>	Cable Splicer	\$82.39	<a href="#">5A</a>	<a href="#">4D</a>		<a href="#">View</a>
Cowlitz	<a href="#">Electricians - Powerline Construction</a>	Certified Line Welder	\$75.64	<a href="#">5A</a>	<a href="#">4D</a>		<a href="#">View</a>
Cowlitz	<a href="#">Electricians - Powerline Construction</a>	Groundperson	\$49.17	<a href="#">5A</a>	<a href="#">4D</a>		<a href="#">View</a>
Cowlitz	<a href="#">Electricians - Powerline Construction</a>	Heavy Line Equipment Operator	\$75.64	<a href="#">5A</a>	<a href="#">4D</a>		<a href="#">View</a>
Cowlitz	<a href="#">Electricians - Powerline Construction</a>	Journey Level Lineperson	\$75.64	<a href="#">5A</a>	<a href="#">4D</a>		<a href="#">View</a>
Cowlitz	<a href="#">Electricians - Powerline Construction</a>	Line Equipment Operator	\$64.54	<a href="#">5A</a>	<a href="#">4D</a>		<a href="#">View</a>
Cowlitz	<a href="#">Electricians - Powerline Construction</a>	Meter Installer	\$49.17	<a href="#">5A</a>	<a href="#">4D</a>	<a href="#">8W</a>	<a href="#">View</a>
Cowlitz	<a href="#">Electricians - Powerline</a>	Pole Sprayer	\$75.64	<a href="#">5A</a>	<a href="#">4D</a>		<a href="#">View</a>

	<a href="#">Construction</a>						
Cowlitz	<a href="#">Electricians - Powerline Construction</a>	Powderperson	\$56.49	<a href="#">5A</a>	<a href="#">4D</a>		<a href="#">View</a>
Cowlitz	<a href="#">Electronic Technicians</a>	Journey Level	\$60.62	<a href="#">5A</a>	<a href="#">1B</a>		<a href="#">View</a>
Cowlitz	<a href="#">Elevator Constructors</a>	Mechanic	\$97.70	<a href="#">5N</a>	<a href="#">4A</a>		<a href="#">View</a>
Cowlitz	<a href="#">Elevator Constructors</a>	Mechanic In Charge	\$105.51	<a href="#">5N</a>	<a href="#">4A</a>		<a href="#">View</a>
Cowlitz	<a href="#">Fence Erectors</a>	Fence Erector	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Fence Erectors</a>	Fence Laborer	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Flaggers</a>	Journey Level	\$42.73	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Glaziers</a>	Journey Level	\$63.47	<a href="#">7I</a>	<a href="#">1C</a>		<a href="#">View</a>
Cowlitz	<a href="#">Heat &amp; Frost Insulators And Asbestos Workers</a>	Mechanic	\$73.26	<a href="#">5N</a>	<a href="#">1F</a>		<a href="#">View</a>
Cowlitz	<a href="#">Heating Equipment Mechanics</a>	Journey Level	\$85.88	<a href="#">7F</a>	<a href="#">1E</a>		<a href="#">View</a>
Cowlitz	<a href="#">Industrial Power Vacuum Cleaner</a>	Journey Level	\$13.50		<a href="#">1</a>		<a href="#">View</a>
Cowlitz	<a href="#">Inspection/Cleaning/Sealing Of Sewer &amp; Water Systems By Remote Control</a>	Cleaner Operator, Foamer Operator	\$13.50		<a href="#">1</a>		<a href="#">View</a>
Cowlitz	<a href="#">Inspection/Cleaning/Sealing Of Sewer &amp; Water Systems By Remote Control</a>	Grout Truck Operator	\$13.50		<a href="#">1</a>		<a href="#">View</a>
Cowlitz	<a href="#">Inspection/Cleaning/Sealing Of Sewer &amp; Water Systems By Remote Control</a>	Head Operator	\$13.50		<a href="#">1</a>		<a href="#">View</a>
Cowlitz	<a href="#">Inspection/Cleaning/Sealing Of Sewer &amp; Water Systems By Remote Control</a>	Technician	\$13.50		<a href="#">1</a>		<a href="#">View</a>
Cowlitz	<a href="#">Inspection/Cleaning/Sealing Of Sewer &amp; Water Systems By Remote Control</a>	Tv Truck Operator	\$13.50		<a href="#">1</a>		<a href="#">View</a>
Cowlitz	<a href="#">Insulation Applicators</a>	Journey Level	\$57.19	<a href="#">5A</a>	<a href="#">1B</a>		<a href="#">View</a>
Cowlitz	<a href="#">Ironworkers</a>	Journey Level	\$67.11	<a href="#">7N</a>	<a href="#">1Q</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Anchor Machines	\$46.81	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Application (including Pot Power Tender For Same), Applying Protective Material By Hand Or Nozzle On Utility Lines Or Storage Tanks On Project	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Asbestos Removal	\$46.81	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Asphalt Plant Laborers	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Asphalt Raker	\$47.25	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Asphalt Spreaders	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Ballast Regulators	\$46.81	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Batch Weighman	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Bit Grinder	\$46.81	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Broomers	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Brush (power Saw)	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Brush Burners And Cutters	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Burners	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Car And Truck Loaders	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>

Cowlitz	<a href="#">Laborers</a>	Carpenter Tender	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Change-house Man Or Dry Shack Man	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Chipping Guns	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Choker Setters	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Choker Splicer	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Chuck Tender	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Clary Power Spreader And Similar Types	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Clean Up Laborers	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Clean-up Nozzleman-green-cutter (concrete Rock, Etc.)	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Concrete Crew, Bull Gang	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Concrete Laborers	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Concrete Nozzlemen	\$47.25	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Concrete Power Buggyman	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Concrete Saw Operator	\$46.81	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Concrete Saw Operator (walls)	\$47.25	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Confined Space / Hole Watch	\$42.73	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Crusher Feeder	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Curing, Concrete	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Demolition And Wrecking Charred Materials	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Demolition, Wrecking And Moving Laborers	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Drill Doctor	\$46.81	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Drill Operators, Air Tracks, Cat Drills, Wagon Drills, Rubber-mounted Drills And Other Similar Types, Including At Crusher Plants	\$47.25	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Dry Pack Machine	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Dumpers, Road Oiling Crew	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Dumpmen (for Grading Crew)	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Elevator Feeders	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Erosion Control Specialist	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Fine Graders	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Fire Watch	\$42.73	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Form Strippers (not Swinging Stages)	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	General Laborer	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Grade Checker	\$47.25	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Guard Rail, Median Rail, Reference Post Guide Post, Right-of-way Marker	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Gunitite Nozzleman	\$47.25	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Gunitite Nozzleman Tender	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Gunitite Or Sand Blasting Pot Tender	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>

Cowlitz	<a href="#">Laborers</a>	Hand Placed Sand Blasting (wet)	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Handlers Or Mixers Of All Materials Of An Irritating Nature (including Cement & Lime)	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Hazardous Waste Worker	\$46.81	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	High Scalers, Strippers And Drillers Covers Work In Swinging Stages, Chairs Or Belts, Under Extreme Conditions Unusual To Blasting, Barring Down, Or S	\$47.25	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Jackhammer	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Laser Beam	\$47.25	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Laser Beam (pipe Laying) - Applicable When Employee Assigned To Move, Set Up, Align	\$47.25	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Laser Beam (tunnel) - Applicable When Employee Assigned To Move, Set Up, Align	\$47.25	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Lead Abatement	\$46.81	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Leverman Or Aggregate Spreaders (flaherty And Similar Types)	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Loading Spotters	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Loop Installation	\$47.25	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Manhole Building	\$46.81	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Material Yard Man (including Electrical)	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Miner - Tunnel	\$47.25	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Miner - Tunnel	\$47.25	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Mold Remediation Or Removal	\$46.81	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Multiple Tampers	\$46.81	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Nippers And Timbermen	\$46.81	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Nuclear Plant Worker - Lead Shield	\$46.81	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Paving Breakers	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Pipe Doping & Wrapping	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Pipe Layer All Types	\$47.25	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Pittsburgh Chipper Operator Or Similar Types	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Post Hold Digger, Air, Gas Or Electric	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Pot Tender	\$46.29	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8S</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Powderman	\$47.25	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Powderman Tender	\$45.60	<a href="#">6Z</a>	<a href="#">1M</a>	<a href="#">8T</a>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Power Jacks	\$46.81	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Power Saw Operators (bucking & Falling)	\$46.81	<a href="#">6Z</a>	<a href="#">1M</a>		<a href="#">View</a>



Cowlitz	<a href="#">Laborers</a>	Pressure Washer	\$46.29	<u>6Z</u>	<u>1M</u>	<u>8S</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Pumpcrete Nozzleman	\$47.25	<u>6Z</u>	<u>1M</u>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Railroad Track Laborers	\$45.60	<u>6Z</u>	<u>1M</u>	<u>8T</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Ribbon Setter, Head	\$46.29	<u>6Z</u>	<u>1M</u>	<u>8S</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Ribbon Setters (including Steel Forms)	\$45.60	<u>6Z</u>	<u>1M</u>	<u>8T</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Rip Rap Man (hand Placed)	\$45.60	<u>6Z</u>	<u>1M</u>	<u>8T</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Rip Rap Man (head)	\$46.29	<u>6Z</u>	<u>1M</u>	<u>8S</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Road Pump Tender	\$45.60	<u>6Z</u>	<u>1M</u>	<u>8T</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Sand Blasting (dry)	\$46.81	<u>6Z</u>	<u>1M</u>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Scaffold Tender	\$45.60	<u>6Z</u>	<u>1M</u>	<u>8T</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Sewer Labor	\$45.60	<u>6Z</u>	<u>1M</u>	<u>8T</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Sewer Timbermen	\$46.81	<u>6Z</u>	<u>1M</u>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Signalman	\$45.60	<u>6Z</u>	<u>1M</u>	<u>8T</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Skipman	\$45.60	<u>6Z</u>	<u>1M</u>	<u>8T</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Slopers	\$45.60	<u>6Z</u>	<u>1M</u>	<u>8T</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Spraymen	\$45.60	<u>6Z</u>	<u>1M</u>	<u>8T</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Stake Chaser	\$45.60	<u>6Z</u>	<u>1M</u>	<u>8T</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Stake-setter	\$46.29	<u>6Z</u>	<u>1M</u>	<u>8S</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Stockpiler	\$45.60	<u>6Z</u>	<u>1M</u>	<u>8T</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Tampers	\$46.29	<u>6Z</u>	<u>1M</u>	<u>8S</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Tie Back Shoring	\$45.60	<u>6Z</u>	<u>1M</u>	<u>8T</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Timber Faller And Bucker (hand Labor)	\$45.60	<u>6Z</u>	<u>1M</u>	<u>8T</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Toolroom Man (at Job Site)	\$45.60	<u>6Z</u>	<u>1M</u>	<u>8T</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Track Liners	\$46.81	<u>6Z</u>	<u>1M</u>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Traffic Control Laborer	\$45.60	<u>6Z</u>	<u>1M</u>	<u>8T</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Traffic Control Supervisor	\$46.29	<u>6Z</u>	<u>1M</u>	<u>8S</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Tugger Operator	\$46.81	<u>6Z</u>	<u>1M</u>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Tunnel Bullgang (above Ground)	\$47.25	<u>6Z</u>	<u>1M</u>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Tunnel Chuck Tenders	\$47.25	<u>6Z</u>	<u>1M</u>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Tunnel Motorman - Dinky Locomotive	\$47.25	<u>6Z</u>	<u>1M</u>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Tunnel Muckers, Brakemen	\$47.25	<u>6Z</u>	<u>1M</u>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Tunnel Powderman	\$47.25	<u>6Z</u>	<u>1M</u>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Tunnel Shield Operator	\$47.25	<u>6Z</u>	<u>1M</u>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Vibrating Screed	\$46.81	<u>6Z</u>	<u>1M</u>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Vibrators (all Types)	\$46.81	<u>6Z</u>	<u>1M</u>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Water Blaster	\$46.81	<u>6Z</u>	<u>1M</u>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Weight-man-crusher (aggregate When Used)	\$45.60	<u>6Z</u>	<u>1M</u>	<u>8T</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers</a>	Welder	\$46.81	<u>6Z</u>	<u>1M</u>		<a href="#">View</a>
Cowlitz	<a href="#">Laborers - Underground Sewer &amp; Water</a>	General Laborer And Topman	\$45.60	<u>6Z</u>	<u>1M</u>	<u>8T</u>	<a href="#">View</a>
Cowlitz	<a href="#">Laborers - Underground Sewer &amp; Water</a>	Pipe Layer	\$47.25	<u>6Z</u>	<u>1M</u>		<a href="#">View</a>
Cowlitz	<a href="#">Landscape Construction</a>	Landscape Operator	\$55.12	<u>7B</u>	<u>4G</u>	<u>8U</u>	<a href="#">View</a>

Cowlitz	<a href="#">Landscape Construction</a>	Landscaping or Planting Laborers	\$45.60	<u>6Z</u>	<u>1M</u>	<u>8T</u>	<a href="#">View</a>
Cowlitz	<a href="#">Landscape Maintenance</a>	Groundskeeper	\$13.50		<u>1</u>		<a href="#">View</a>
Cowlitz	<a href="#">Metal Fabrication (In Shop)</a>	Fitter	\$25.33	<u>7S</u>	<u>1B</u>		<a href="#">View</a>
Cowlitz	<a href="#">Metal Fabrication (In Shop)</a>	Machine Operator	\$25.33	<u>7S</u>	<u>1B</u>		<a href="#">View</a>
Cowlitz	<a href="#">Metal Fabrication (In Shop)</a>	Welder	\$25.33	<u>7S</u>	<u>1B</u>		<a href="#">View</a>
Cowlitz	<a href="#">Millwright</a>	Journey Level	\$57.77	<u>5A</u>	<u>1B</u>		<a href="#">View</a>
Cowlitz	<a href="#">Painters</a>	Bridge Painter	\$43.30	<u>7E</u>	<u>2B</u>		<a href="#">View</a>
Cowlitz	<a href="#">Painters</a>	Journey Level	\$38.48	<u>7E</u>	<u>2B</u>		<a href="#">View</a>
Cowlitz	<a href="#">Playground &amp; Park Equipment Installers</a>	Journey Level	\$13.50		<u>1</u>		<a href="#">View</a>
Cowlitz	<a href="#">Plumbers &amp; Pipefitters</a>	Journey Level	\$76.22	<u>5A</u>	<u>1G</u>		<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Air Filtration Equipment(group 6)	\$51.90	<u>7B</u>	<u>4G</u>	<u>8U</u>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Asphalt Plant (any Type) (assistant Engineer Required) (group 2)	\$59.34	<u>7B</u>	<u>4G</u>	<u>8U</u>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Asphalt, Burner & Reconditioner (any Type), (asst To Engineer If Required)(group 5)	\$55.12	<u>7B</u>	<u>4G</u>	<u>8U</u>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Asphalt, Extrusion Machine Operator(group 5)	\$55.12	<u>7B</u>	<u>4G</u>	<u>8U</u>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Asphalt, Paver (screed Man Required)(group 4)	\$56.36	<u>7B</u>	<u>4G</u>	<u>8U</u>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Asphalt, Pugmill (any Type) (group 6)	\$51.90	<u>7B</u>	<u>4G</u>	<u>8U</u>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Asphalt, Raker(group 6)	\$51.90	<u>7B</u>	<u>4G</u>	<u>8U</u>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Asphalt, Roller (any Asphalt Mix)(group 5)	\$55.12	<u>7B</u>	<u>4G</u>	<u>8U</u>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Asphalt, Roto-mill, Pavement Profiler Under 8 Ft Lateral Cut(group 4)	\$56.36	<u>7B</u>	<u>4G</u>	<u>8U</u>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Asphalt, Roto-mill, Pavement Profiler, 8 Ft Lateral Cut & Over(group 2)	\$59.34	<u>7B</u>	<u>4G</u>	<u>8U</u>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Asphalt, Roto-mill, Pavement Profiler, Groundman(group 5)	\$55.12	<u>7B</u>	<u>4G</u>	<u>8U</u>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Asphalt, Screed(group 4)	\$56.36	<u>7B</u>	<u>4G</u>	<u>8U</u>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Asphalt, Truck Mounted Spreader, With Screed(group 6)	\$51.90	<u>7B</u>	<u>4G</u>	<u>8U</u>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Auger Oiler(group 6)	\$51.90	<u>7B</u>	<u>4G</u>	<u>8U</u>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Auto Grader Or "trimmer" (grade Checker Required) (group 2)	\$59.34	<u>7B</u>	<u>4G</u>	<u>8U</u>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Back Filling Machine (assistant To Engineer Required)(group 4)	\$56.36	<u>7B</u>	<u>4G</u>	<u>8U</u>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Backhoe, Robotic, Track And Wheel Type Up To And Including 20,000 Lbs. With Any Attachments(group 4)	\$56.36	<u>7B</u>	<u>4G</u>	<u>8U</u>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Band Wagons (in Conjunction	\$59.34	<u>7B</u>	<u>4G</u>	<u>8U</u>	<a href="#">View</a>



		With Whell Excavator)(group 2)					
Cowlitz	<a href="#">Power Equipment Operators</a>	Bell Man (any Type Of Communication)(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Blade Any Type(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Blade, Robotic(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Boatman(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Boatman, Licensed(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Bobcat, Skid Steer (< 1yd)(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Boom Type Lifting Device, 5 Ton Capacity Or Less(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Boring Machine (asst To Engineer Required)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Broom Self-propelled, Construction Job Site(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Bulldozer Operator, 20,000 Lbs Or Less, Or 100 Horse Or Less(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Bulldozer Operator, Over 20,000 Lbs And More Than 100 Horse Up To 70,000 Lbs(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Bulldozer Over 70,000 Lbs Up To And Including 120,000 Lbs(group 3)	\$58.19	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Bulldozer Over 120,000 Lbs And Above(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Bulldozer Robotic Equipment(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Cable-plow (any Type)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Cableway 25 Ton & Over(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Cableway Up To 25 Ton(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Canal Trimmer (grade Oiler Required)(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Cat Drill (john Henry)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Cement Pump(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Challenger(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Chip Spreading Machine(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Chippers (asst To Engineer If Required)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Churn Drill & Earth Boring Machine(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Combination Heavy Duty Mechanic-welder, When Required To Do Both(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Compactor Self Propelled Without Blade(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Compactor With Blade Self Propelled(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>

Cowlitz	<a href="#">Power Equipment Operators</a>	Compactor, Multi-engine(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Compactor, Robotic(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Compressor (any Power) 1,250 Cu Ft And Over Total Capacity(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Compressor Operator (any Power) Under 1,250 Cu Ft Total Capacity(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete Batch Plant And/or Wet Mix (3 Units Or More) (group1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete Batch Plant And/or Wet Mix Operator (1 & 2 Drums)(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete Batch Plant Quality Control(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete Breaker (assistant To Engineer Required)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete Canal Line, Assistant To Engineer Required(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete Curing Machine (riding Type)(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete Diamond Head Profiler(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete Paving Road Mixer(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete Planer(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete Saw(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete, Automatic Slip Form Paver (asst To Engineer Required)(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete, Combination Mixer & Compressor Operator, Guniting Work(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete, Curb Machine Mechanical Berm, Curb And/or Curb And Gutter(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete, Finishing Machine(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete, Grout Plant(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete, Grouting Machine(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete, Joint Machine(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete, Mixer Mobile(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete, Mixer Single Drum Any Capacity(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete, Paving Machine 8' And Less (asst To Engineer Required)(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete, Placing Boom(group	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>

		5)					
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete, Pump Truck(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete, Pump(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete, Pumpcrete Operator (any Type)(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete, Reinforced Tank Banding Machine (asst To Engineer Required)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete, Slip Form Pumps, Power Driven Hydraulic Lifting Device For Concrete Forms(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete, Spreader(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete, Telebelt(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Concrete, Treated Base Roller Operator, Oiling(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Conveyor Operator Or Assistant(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Conveyored Material Hauler(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Bridge Locomotive, Gantry And Overhead(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Carry Deck(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Chicago Boom & Similar Types(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Floating (derrick Barge) 30 Ton But Less Than 150 Ton (asst To Engineer Required) (group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Floating 150 Ton But Less Than 250 Ton (asst To Engineer Required) (group 1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Floating 250 Ton And Over (asst To Engineer And Deckhand Required)(group 1)	\$63.41	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Floating Clamshell 3 Cu. Yds. & Over (fireman Or Diesel Electric Engineer Required)(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Floating Clamshell, Dragline Etc. Operator Under 3 Cu. Yds. Or Less Than 30 Ton (diesel-electric Engineer Required)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Hydraulic 200 Ton Through 399 Ton (group 1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Hydraulic 50 Ton Through 89 Ton With Luffing Or Tower Attachment(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Hydraulic 50 Ton Through 89 Tons(group 3)	\$58.19	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Hydraulic 90 Ton Through 199 Ton With Luffing Or Tower Attachment (group 1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>

Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Hydraulic 90 Ton Through 199 Ton(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Hydraulic Crane 200 Ton Through 300 Ton With Luffing Or Tower Attachment(group 1)	\$63.41	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Hydraulic Crane 400 Ton And Over(group 1)	\$65.57	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Hydraulic Crane Over 300 Ton Through 399 Ton With Luffer Or Tower Attachment(group 1)	\$65.57	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Hydraulic Under 50 Ton(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Lattice Boom 200 Ton Through 299 Ton, With Over 200' Boom(group 1)	\$63.41	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Lattice Boom 300 Ton Through 399 Ton(group 1)	\$63.41	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Lattice Boom 300 Ton Through 399 Ton, With Over 200' Boom(group 1)	\$65.57	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Lattice Boom 50 Ton Through 89 Ton With 150' Boom Or Less(group 3)	\$58.19	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Lattice Boom 50 Ton Through 89 Ton With Over 150' Boom	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Lattice Boom 90 Ton Through 199 Ton With 150' - 200' Boom(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Lattice Boom Under 50 Ton(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Lattice Boom, 200 Ton Through 299 Ton With 200' Boom Or Less (group 1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Lattice Boom, 90 Ton Through 199 Ton With Over 200' Boom (group 1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Shovel, Dragline Or Clamshell 3 Cu. Yds. But Less Than 5 Cu. Yds. (asst To Engineer Required)(group 3)	\$58.19	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Tower Crane With 175' Tower Or Less And With Less Than 200' Jib(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Tower Crane With Over 175' Tower Or Over 200' Jib (group 1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Tugger(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Whirley 90 Ton And Over (group 1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crane, Whirley Under 90 Ton(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crusher Feederman(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>

Cowlitz	<a href="#">Power Equipment Operators</a>	Crusher Oiler(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Crusher Plant(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Deckhand(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Derrick Operator Under 100 Ton (two Operators Required When Swing Control Is Remote From Hoist)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Diesel-electric Engineer (plant Or Floating)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Directional Drill Over 20,000 Lbs Pullback(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Drill Assistant(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Drill Cat Operator(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Drill Directional Type Less Than 20,000 Lbs Pullback(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Drill Doctor And/or (bit Grinder)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Drill Mud Mixer(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Drill Oscillator(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Drill, Directional Locator(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Driller, Percussion, Diamond, Core, Cable, Rotary & Similar Type(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Elevating Grader Operator, Tractor Towed Requiring Operator Or Grader(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Elevating Loader Operator (any Type)(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Elevator To Move Personnel Or Materials(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Excavator Over 80,000 Lbs Through 130,000 Lbs(group 3)	\$58.19	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Excavator Operator, Over 20,000 Lbs Through 80,000 Lbs(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Excavator Operator, Over 130,000 Lbs(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Fireman(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Floating, Crane 350 Ton And Over (asst To Engineer And Deckhand Required)(group 1)	\$65.57	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Fork Lift(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Fork Lift, Over 10 Ton Or Robotic(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Generator Operator(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Grade Checker(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Grade Setter / Layout From Plans(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Grade-all(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Guardrail Machines, I.e.	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>



		Punch, Auger, Etc.(group 4)					
Cowlitz	<a href="#">Power Equipment Operators</a>	Guardrail Punch Oiler(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Hammer Operator (pile Driver) (group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Heavy Duty Repairman Assistant(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Heavy Equipment Robotics Operator Or Mechanic(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Helicopter Hoist(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Helicopter Radioman (ground) (group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Helicopter When Used In Erecting Workcrane(group 1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Hoist Operator, Single Drum(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Hoist, 2 Drums Or More(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Hoist, Stiff Leg, Guy Derrick Or Similar Type, 50 Ton And Over(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Hydraulic Backhoe Track Type Up To And Including 20,000 Lbs(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Hydraulic Backhoe Wheel Type (any Make)(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Hydraulic Pipe Press(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Hydro Axe (loader Mounted Or Similar Type)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Hydrographic Seeder Machine Straw, Pulp Or Seed(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Hydrostatic Pump Operator(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Internal Full Slab Vibrator Operator(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Jack Operator, Elevating Barges, Barge Operator, Self-unloading (asst To Engineer Required)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Laser Screed(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Lattice Boom Crane 400 Ton And Over(group 1)	\$65.57	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Lime Spreader, Construction Job Site(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Loaders Operator, Front End & Overhead, 25,000 Lbs And Less Than 60,000 Lbs(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Loaders, 120,000 Lbs And Above(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Loaders, 60,000 Lbs And Less Than 120,000 Lbs(group 3)	\$58.19	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Loaders, Rubber-tire Type, Less Than 25,000 Lbs(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Log Skidders(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>

Cowlitz	<a href="#">Power Equipment Operators</a>	Master Environmental Maintenance Mechanic(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Material Handler(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Mechanic, Heavy Duty(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Mixer Box (c.t.b., Dry Batch, Etc.)(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Oiler(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Parts Man (tool Room)(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Pavement Grinder And Or Grooving Machine (riding Type)(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Pile Driver Operator (not Crane Type) (asst To Engineer Required)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Pipe Bending, Cleaning, Doping And Wrapping Machines(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Pipe, Cast In Place Pipe Laying Machine(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Plant Oiler(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Pump (any Power)(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Pump Operator, More Than 5 Pumps (any Size)(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Rail, Ballast Compactor, Regulator Or Tamper Machines(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Rail, Ballast Tamper Multi-purpose(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Rail, Brakeman, Switchman, Motorman(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Rail, Car Mover(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Rail, Clip Applicator(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Rail, High Rail Self Loader Truck(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Rail, Lo-railer(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Rail, Locomotive, 40 Ton And Over (asst To Engineer Required)(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Rail, Shuttle Car Operator(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Rail, Speedswing(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Rail, Switchman(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Rail, Tamping Machine, Mechanical, Self-propelled(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Rail, Track Liner(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Remote Controlled Earth Moving Equipment(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Rigger(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Roller Grading (not Asphalt)(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>

Cowlitz	<a href="#">Power Equipment Operators</a>	Rubber-tired Dozers And Pushers(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Scraper All Types(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Service Oiler (greaser)(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Shovel, Dragline, Clamshell, 5 Yards And Over(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Side-boom(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Skip Loader, Drag Box(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Stump Grinder (loader Mounted Or Similar Type) (group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Surface Heater And Planer(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Sweeper Self-propelled, Construction Job Site(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Tar Pot Fireman (power Agitated) Or Not(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Tractor Rubber-tired, 50 Hp Flywheel & Under(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Tractor, Rubber-tired Over 50 Hp Flywheel(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Trenching Machine 3 Ft Depth And Deeper (asst To The Operator If Required)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Trenching Machine Operator, Maximum Digging Capacity 3 Ft Depth(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Truck Crane Oiler-driver(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Truck, All Terrain Or Track Type(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Truck, Barrel Type(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Truck, Boom(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Truck, Off-road Trucks, Articulated And Non-articulated Trucks(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Truck, Offroad Trucks, Articulated And Non-articulated Trucks(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Truck, Vacuum(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Truck, Water(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Tub Grinder(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Tunnel Boring Machine Mechanic(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Tunnel Boring Machine(group 1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Tunnel Segment Plant(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Tunnel Separation Plant(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Tunnel Shaef Loader(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Tunnel, Locomotive, Dinkey(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>



Cowlitz	<a href="#">Power Equipment Operators</a>	Tunnel, Micro Boring Tunnel Machine(group 1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Tunnel, Mucking Machine(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Tunnel, Power Jumbo Setting Slip Forms, Etc.(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Tunnel, Shield Operator(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Ultra High Pressure Water Jet Cutting Tool System Operator(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Underwater Equipment, Remote Or Otherwise(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Vacuum Blasting Machine Operator(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Water Pulls, Water Wagon(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Welder's Assistant(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Welder; Heavy Duty, Certified Or Not(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Welding Machine(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Wheel Excavation Any Size (grade Oiler Required)(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators</a>	Wire Mat Or Brooming Machine(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Air Filtration Equipment(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Asphalt Plant (any Type) (assistant Engineer Required) (group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Asphalt, Burner & Reconditioner (any Type), (asst To Engineer If Required)(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Asphalt, Extrusion Machine Operator(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Asphalt, Paver (screed Man Required)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Asphalt, Pugmill (any Type) (group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Asphalt, Raker(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Asphalt, Roller (any Asphalt Mix)(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Asphalt, Roto-mill, Pavement Profiler Under 8 Ft Lateral Cut(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Asphalt, Roto-mill, Pavement Profiler, 8 Ft Lateral Cut & Over(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Asphalt, Roto-mill, Pavement Profiler, Groundman(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-</a>	Asphalt, Screed(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>

	<a href="#">Underground Sewer &amp; Water</a>						
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Asphalt, Truck Mounted Spreader, With Screed(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Auger Oiler(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Auto Grader Or "trimmer" (grade Checker Required) (group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Back Filling Machine (assistant To Engineer Required)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Backhoe, Robotic, Track And Wheel Type Up To And Including 20,000 Lbs. With Any Attachments(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Band Wagons (in Conjunction With Whell Excavator)(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Bell Man (any Type Of Comunication)(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Blade Any Type(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Blade, Robotic(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Boatman(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Boatman, Licensed(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Bobcat, Skid Steer (< 1yd) (group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Boom Type Lifting Device, 5 Ton Capacity Or Less(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Boring Machine (asst To Engineer Required)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Broom Self-propelled, Construction Job Site(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Bulldozer Operator, 20,000 Lbs Or Less, Or 100 Horse Or Less(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Bulldozer Operator, Over 20,000 Lbs And More Than 100 Horse Up To 70,000 Lbs(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Bulldozer Over 70,000 Lbs Up To And Including 120,000 Lbs(group 3)	\$58.19	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Bulldozer Over 120,000 Lbs And Above(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Bulldozer Robotic Equipment(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Cable-plow (any Type)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Cableway 25 Ton & Over(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Cableway Up To 25 Ton(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>

Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Canal Trimmer (grade Oiler Required)(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Cat Drill (john Henry)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Cement Pump(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Challenger(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Chip Spreading Machine(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Chippers (asst To Engineer If Required)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Churn Drill & Earth Boring Machine(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Combination Heavy Duty Mechanic-welder, When Required To Do Both(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Compactor Self Propelled Without Blade(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Compactor With Blade Self Propelled(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Compactor, Multi-engine(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Compactor, Robotic(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Compressor (any Power) 1,250 Cu Ft And Over Total Capacity(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Compressor Operator (any Power) Under 1,250 Cu Ft Total Capacity(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete Batch Plant And/or Wet Mix (3 Units Or More) (group1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete Batch Plant And/or Wet Mix Operator (1 & 2 Drums)(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete Batch Plant Quality Control(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete Breaker (assistant To Engineer Required)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete Canal Line, Assistant To Engineer Required(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete Curing Machine (riding Type)(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete Diamond Head Profiler(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete Paving Road Mixer(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete Planer(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete Saw(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>

Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete, Automatic Slip Form Paver (asst To Engineer Required)(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete, Combination Mixer & Compressor Operator, Guniting Work(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete, Curb Machine Mechanical Berm, Curb And/or Curb And Gutter(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete, Finishing Machine(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete, Grout Plant(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete, Grouting Machine(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete, Joint Machine(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete, Mixer Mobile(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete, Mixer Single Drum Any Capacity(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete, Paving Machine 8' And Less (asst To Engineer Required)(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete, Placing Boom(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete, Pump Truck(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete, Pump(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete, Pumpcrete Operator (any Type)(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete, Reinforced Tank Banding Machine (asst To Engineer Required)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete, Slip Form Pumps, Power Driven Hydraulic Lifting Device For Concrete Forms(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete, Spreader(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete, Telebelt(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Concrete, Treated Base Roller Operator, Oiling(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Conveyor Operator Or Assistant(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Conveyored Material Hauler(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Crane, Bridge Locomotive, Gantry And Overhead(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Crane, Carry Deck(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Crane, Chicago Boom & Similar	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>

	<a href="#">Underground Sewer &amp; Water</a>	Types(group 4)					
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Crane, Floating (derrick Barge) 30 Ton But Less Than 150 Ton (asst To Engineer Required) (group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Crane, Floating 150 Ton But Less Than 250 Ton (asst To Engineer Required) (group 1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Crane, Floating 250 Ton And Over (asst To Engineer And Deckhand Required)(group 1)	\$63.41	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Crane, Floating Clamshell 3 Cu. Yds. & Over (fireman Or Diesel Electric Engineer Required)(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Crane, Floating Clamshell, Dragline Etc. Operator Under 3 Cu. Yds. Or Less Than 30 Ton (diesel-electric Engineer Required)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Crane, Hydraulic 200 Ton Through 399 Ton (group 1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Crane, Hydraulic 50 Ton Through 89 Ton With Luffing Or Tower Attachment(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Crane, Hydraulic 50 Ton Through 89 Tons(group 3)	\$58.19	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Crane, Hydraulic 90 Ton Through 199 Ton With Luffing Or Tower Attachment (group 1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Crane, Hydraulic 90 Ton Through 199 Ton(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Crane, Hydraulic Crane 200 Ton Through 300 Ton With Luffing Or Tower Attachment(group 1)	\$63.41	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Crane, Hydraulic Crane 400 Ton And Over(group 1)	\$65.57	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Crane, Hydraulic Crane Over 300 Ton Through 399 Ton With Luffer Or Tower Attachment(group 1)	\$65.57	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Crane, Hydraulic Under 50 Ton(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Crane, Lattice Boom 200 Ton Through 299 Ton, With Over 200' Boom(group 1)	\$63.41	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Crane, Lattice Boom 300 Ton Through 399 Ton(group 1)	\$63.41	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Crane, Lattice Boom 300 Ton Through 399 Ton, With Over 200' Boom(group 1)	\$65.57	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Crane, Lattice Boom 50 Ton Through 89 Ton With 150' Boom Or Less(group 3)	\$58.19	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>



Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Crane, Lattice Boom 50 Ton Through 89 Ton With Over 150' Boom	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Crane, Lattice Boom 90 Ton Through 199 Ton With 150' - 200' Boom(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Crane, Lattice Boom Under 50 Ton(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Crane, Lattice Boom, 200 Ton Through 299 Ton With 200' Boom Or Less (group 1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Crane, Lattice Boom, 90 Ton Through 199 Ton With Over 200' Boom (group 1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Crane, Shovel, Dragline Or Clamshell 3 Cu. Yds. But Less Than 5 Cu. Yds. (asst To Engineer Required)(group 3)	\$58.19	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Crane, Tower Crane With 175' Tower Or Less And With Less Than 200' Jib(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Crane, Tower Crane With Over 175' Tower Or Over 200' Jib (group 1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Crane, Tugger(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Crane, Whirley 90 Ton And Over (group 1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Crane, Whirley Under 90 Ton(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Crusher Feederman(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Crusher Oiler(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Crusher Plant(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Deckhand(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Derrick Operator Under 100 Ton (two Operators Required When Swing Control Is Remote From Hoist)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Diesel-electric Engineer (plant Or Floating)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Directional Drill Over 20,000 Lbs Pullback(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Drill Assistant(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Drill Cat Operator(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Drill Directional Type Less Than 20,000 Lbs Pullback(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-</a>	Drill Doctor And/or (bit	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>

	<a href="#">Underground Sewer &amp; Water</a>	Grinder)(group 4)					
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Drill Mud Mixer(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Drill Oscillator(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Drill, Directinal Locator(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Driller, Percussion, Diamond, Core, Cable, Rotary & Similar Type(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Elevating Grader Operator, Tractor Towed Requiring Operator Or Grader(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Elevating Loader Operator (any Type)(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Elevator To Move Personnel Or Materials(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Excavator Over 80,000 Lbs Through 130,000 Lbs(group 3)	\$58.19	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Excavator Operator, Over 20,000 Lbs Through 80,000 Lbs(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Excavator Operator, Over 130,000 Lbs(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Fireman(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Floating, Crane 350 Ton And Over (asst To Engineer And Deckhand Required)(group 1)	\$65.57	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Fork Lift(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Fork Lift, Over 10 Ton Or Robotic(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Generator Operator(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Grade Checker(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Grade Setter / Layout From Plans(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Grade-all(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Guardrail Machines, I.e. Punch, Auger, Etc.(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Guardrail Punch Oiler(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Hammer Operator (pile Driver) (group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Heavy Duty Repairman Assistant(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Heavy Equipment Robotics Operator Or Mechanic(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Helicopter Hoist(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>

Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Helicopter Radioman (ground) (group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Helicopter When Used In Erecting Workcrane(group 1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Hoist Operator, Single Drum(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Hoist, 2 Drums Or More(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Hoist, Stiff Leg, Guy Derrick Or Similar Type, 50 Ton And Over(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Hydraulic Backhoe Track Type Up To And Including 20,000 Lbs(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Hydraulic Backhoe Wheel Type (any Make)(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Hydraulic Pipe Press(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Hydro Axe (loader Mounted Or Similar Type)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Hydrographic Seeder Machine Straw, Pulp Or Seed(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Hydrostatic Pump Operator(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Internal Full Slab Vibrator Operator(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Jack Operator, Elevating Barges, Barge Operator, Self-unloading (asst To Engineer Required)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Laser Screed(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Lattice Boom Crane 400 Ton And Over(group 1)	\$65.57	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Lime Spreader, Construction Job Site(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Loaders Operator, Front End & Overhead, 25,000 Lbs And Less Than 60,000 Lbs(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Loaders, 120,000 Lbs And Above(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Loaders, 60,000 Lbs And Less Than 120,000 Lbs(group 3)	\$58.19	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Loaders, Rubber-tire Type, Less Than 25,000 Lbs(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Log Skidders(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Master Environmental Maintenance Mechanic(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Material Handler(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Mechanic, Heavy Duty(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>



Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Mixer Box (c.t.b., Dry Batch, Etc.)(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Oiler(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Parts Man (tool Room)(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Pavement Grinder And Or Grooving Machine (riding Type)(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Pile Driver Operator (not Crane Type) (asst To Engineer Required)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Pipe Bending, Cleaning, Doping And Wrapping Machines(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Pipe, Cast In Place Pipe Laying Machine(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Plant Oiler(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Pump (any Power)(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Pump Operator, More Than 5 Pumps (any Size)(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Rail, Ballast Compactor, Regulator Or Tamper Machines(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Rail, Ballast Tamper Multi-purpose(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Rail, Brakeman, Switchman, Motorman(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Rail, Car Mover(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Rail, Clip Applicator(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Rail, High Rail Self Loader Truck(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Rail, Lo-railer(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Rail, Locomotive, 40 Ton And Over (asst To Engineer Required)(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Rail, Shuttle Car Operator(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Rail, Speedswing(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Rail, Switchman(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Rail, Tamping Machine, Mechanical, Self-propelled(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Rail, Track Liner(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-</a>	Remote Controlled Earth	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>

	<a href="#">Underground Sewer &amp; Water</a>	Moving Equipment(group 2)					
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Rigger(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Roller Grading (not Asphalt) (group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Rubber-tired Dozers And Pushers(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Scraper All Types(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Service Oiler (greaser)(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Shovel, Dragline, Clamshell, 5 Yards And Over(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Side-boom(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Skip Loader, Drag Box(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Stump Grinder (loader Mounted Or Similar Type) (group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Surface Heater And Planer(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Sweeper Self-propelled, Construction Job Site(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Tar Pot Fireman (power Agitated) Or Not(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Tractor Rubber-tired, 50 Hp Flywheel & Under(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Tractor, Rubber-tired Over 50 Hp Flywheel(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Trenching Machine 3 Ft Depth And Deeper (asst To The Operator If Required)(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Trenching Machine Operator, Maximum Digging Capacity 3 Ft Depth(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Truck Crane Oiler-driver(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Truck, All Terrain Or Track Type(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Truck, Barrel Type(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Truck, Boom(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Truck, Off-road Trucks, Articulated And Non- articulated Trucks(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Truck, Offroad Trucks, Articulated And Non- articulated Trucks(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators- Underground Sewer &amp; Water</a>	Truck, Vacuum(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-</a>	Truck, Water(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>

	<a href="#">Underground Sewer &amp; Water</a>						
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Tub Grinder(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Tunnel Boring Machine Mechanic(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Tunnel Boring Machine(group 1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Tunnel Segment Plant(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Tunnel Separation Plant(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Tunnel Shaef Loader(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Tunnel, Locomotive, Dinkey(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Tunnel, Micro Boring Tunnel Machine(group 1)	\$61.25	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Tunnel, Mucking Machine(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Tunnel, Power Jumbo Setting Slip Forms, Etc.(group 5)	\$55.12	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Tunnel, Shield Operator(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Ultra High Pressure Water Jet Cutting Tool System Operator(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Underwater Equipment, Remote Or Otherwise(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Vacuum Blasting Machine Operator(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Water Pulls, Water Wagon(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Welder's Assistant(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Welder; Heavy Duty, Certified Or Not(group 4)	\$56.36	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Welding Machine(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Wheel Excavation Any Size (grade Oiler Required)(group 2)	\$59.34	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Power Equipment Operators-Underground Sewer &amp; Water</a>	Wire Mat Or Brooming Machine(group 6)	\$51.90	<a href="#">7B</a>	<a href="#">4G</a>	<a href="#">8U</a>	<a href="#">View</a>
Cowlitz	<a href="#">Refrigeration &amp; Air Conditioning Mechanics</a>	Journey Level	\$76.21	<a href="#">5A</a>	<a href="#">1G</a>		<a href="#">View</a>
Cowlitz	<a href="#">Roofers</a>	Journey Level	\$54.62	<a href="#">5A</a>	<a href="#">2O</a>		<a href="#">View</a>
Cowlitz	<a href="#">Roofers</a>	Using Irritable Bituminous Materials	\$57.62	<a href="#">5A</a>	<a href="#">2O</a>		<a href="#">View</a>
Cowlitz	<a href="#">Sheet Metal Workers</a>	Journey Level (Field or Shop)	\$85.88	<a href="#">7F</a>	<a href="#">1E</a>		<a href="#">View</a>
Cowlitz	<a href="#">Sign Makers &amp; Installers (Non-Electrical)</a>	Journey Level	\$15.10		<a href="#">1</a>		<a href="#">View</a>
Cowlitz	<a href="#">Soft Floor Layers</a>	Journey Level	\$48.93	<a href="#">7E</a>	<a href="#">4F</a>		<a href="#">View</a>
Cowlitz	<a href="#">Sprinkler Fitters (Fire</a>	Journey Level	\$56.76	<a href="#">7J</a>	<a href="#">1R</a>		<a href="#">View</a>

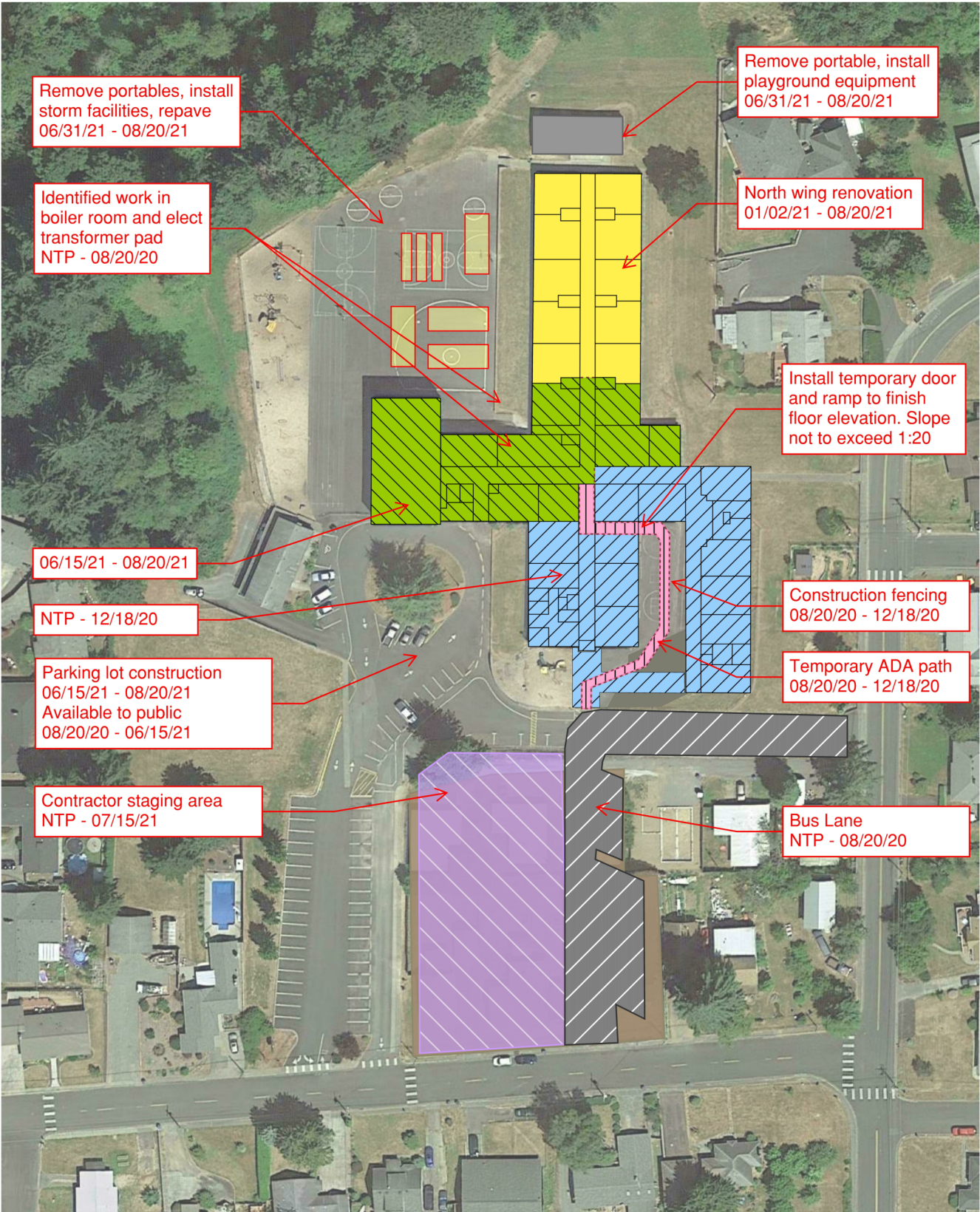
	<a href="#">Protection)</a>					
Cowlitz	<a href="#">Surveyors</a>	Chain Person	\$51.90	<a href="#">7B</a>	<a href="#">1B</a>	<a href="#">View</a>
Cowlitz	<a href="#">Surveyors</a>	Instrument Person	\$55.12	<a href="#">7B</a>	<a href="#">1B</a>	<a href="#">View</a>
Cowlitz	<a href="#">Surveyors</a>	Party Chief	\$59.34	<a href="#">7B</a>	<a href="#">1B</a>	<a href="#">View</a>
Cowlitz	<a href="#">Tile Setters</a>	Journey Level	\$54.47	<a href="#">5A</a>	<a href="#">1B</a>	<a href="#">View</a>
Cowlitz	<a href="#">Tile, Marble &amp; Terrazzo Finishers</a>	Finishers	\$40.85	<a href="#">5A</a>	<a href="#">1B</a>	<a href="#">View</a>
Cowlitz	<a href="#">Traffic Control Stripers</a>	Journey Level	\$48.12	<a href="#">7P</a>	<a href="#">1K</a>	<a href="#">View</a>
Cowlitz	<a href="#">Truck Drivers</a>	Asphalt Mix Over 10 Yards	\$44.52	<a href="#">5A</a>	<a href="#">1B</a>	<a href="#">View</a>
Cowlitz	<a href="#">Truck Drivers</a>	Asphalt Mix To 10 Yards	\$44.40	<a href="#">5A</a>	<a href="#">1B</a>	<a href="#">View</a>
Cowlitz	<a href="#">Truck Drivers</a>	Dump Truck	\$44.40	<a href="#">5A</a>	<a href="#">1B</a>	<a href="#">View</a>
Cowlitz	<a href="#">Truck Drivers</a>	Dump Truck And Trailer	\$44.52	<a href="#">5A</a>	<a href="#">1B</a>	<a href="#">View</a>
Cowlitz	<a href="#">Truck Drivers</a>	Other Trucks	\$44.52	<a href="#">5A</a>	<a href="#">1B</a>	<a href="#">View</a>
Cowlitz	<a href="#">Truck Drivers - Ready Mix</a>	Transit Mix 5 cubic yards and under	\$44.40	<a href="#">5A</a>	<a href="#">1B</a>	<a href="#">View</a>
Cowlitz	<a href="#">Truck Drivers - Ready Mix</a>	Transit Mix over 11 cubic yards up to 15 cubic yards	\$44.94	<a href="#">5A</a>	<a href="#">1B</a>	<a href="#">View</a>
Cowlitz	<a href="#">Truck Drivers - Ready Mix</a>	Transit Mix over 5 cubic yards up to 7 cubic yards	\$44.52	<a href="#">5A</a>	<a href="#">1B</a>	<a href="#">View</a>
Cowlitz	<a href="#">Truck Drivers - Ready Mix</a>	Transit Mix Over 7 cubic yards up to 11 cubic yards	\$44.66	<a href="#">5A</a>	<a href="#">1B</a>	<a href="#">View</a>



PROJECT WORK SEQUENCE

- Phase 1:
- Project Award – 8/20/2020
- HVAC equipment in boiler room, transformer and electrical service, Bus lane.
- Phase 2:
- Project Award – 12/18/2020
- New Addition, South wing of existing building.
- Phase 3:
- 6/15/2021 – 8/20/2021
- Gym, Library, Center Wing Renovation, and Front Parking lot.
- Phase 4:
- 1/02/2021 – 8/20/2021
- North wing renovation
- Phase 5:
- 6/30/2021 – 8/20/2021
- Remove portables, pave north playground, install playground equipment, remove contractor staging area and complete south parking lot.

2020										2021								
MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
				SOUTH WING, NEW ADMIN AREA, NEW ADDITION						NORTH WING								
				BOILER ROOM		TEMPORARY ADA PATH (CONSTRUCTION BARRIER)										GYM, LIBRARY, KITCHEN, LOWER LEVEL, AND ADMIN REMODEL		
				BUS LANE													PLAYGROUND, PARKING LOT, AND REMOVE PORTABLES	



Revision Schedule		
#	Date	Description

ARCHITECTURAL GROUP, P.S.  
950 12th AVE., SUITE 200  
LONGVIEW, WA 98632  
PHONE: 360-425-0000  
E-MAIL: craigc@collinsarchgroup.com

4331 REGISTERED ARCHITECT

CRAIG M. COLLINS  
STATE OF WASHINGTON

KELSO SCHOOL DISTRICT NO. 458  
BUTLER ACRES ELEM MOD & ADDITIONS

1609 BURCHAM STREET   KELSO WA 98626

BID SET

06/18/20

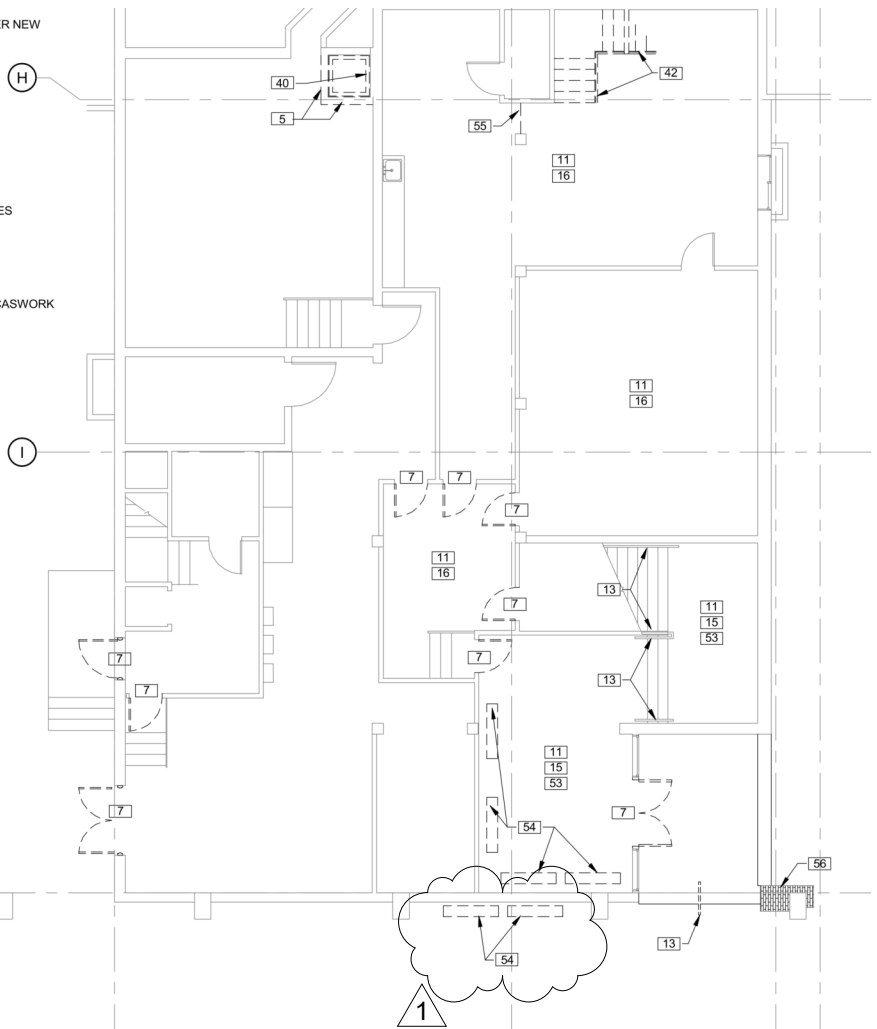
CONSTR  
PHASING  
PLAN

2019-19

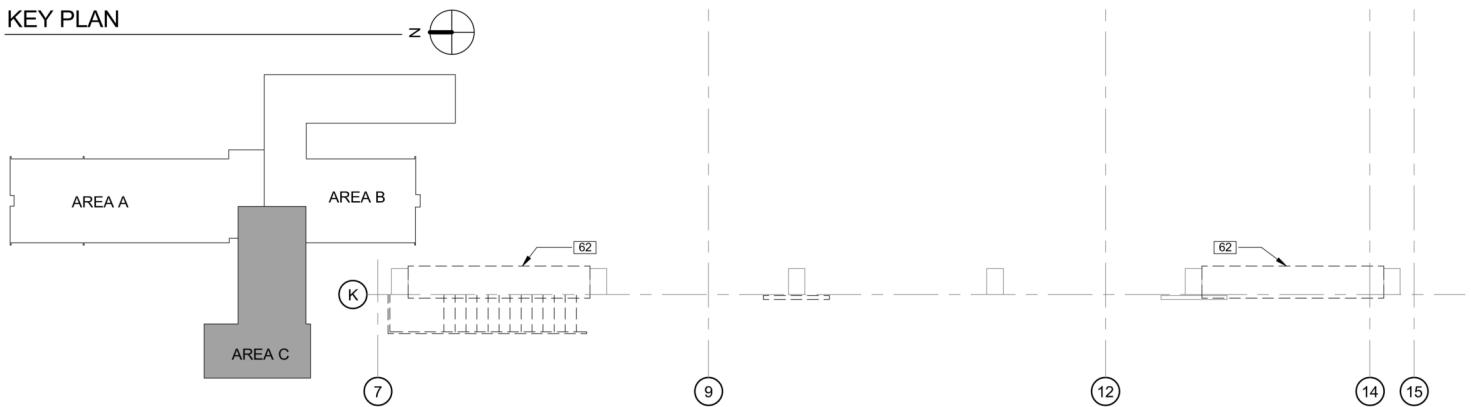
SHEET NO.

ADD 1  
A0.2  
RE-BID

- [10] REMOVE CEILING MOUNTED KITCHEN UTENSIL RACK. SALVAGE FOR REINSTALLATION AFTER NEW FINISHES ARE INSTALLED
- [11] REFER TO ELECTRICAL DRAWINGS FOR REMOVAL OF LIGHT FIXTURES AND OTHER ELECTRICAL DEVICES
- [13] REMOVE EXISTING HANDRAILS
- [15] REMOVE ADHESIVE APPLIED CLG TILE
- [16] REMOVE CARPET AND BASE (PERFORMED UNDER SECTION 02 8200)
- [24] REMOVE DOOR, FRAME & HARDWARE
- [25] REMOVE PLUMBING FIXTURE. SALVAGE FIXTURE FOR REINSTALLATION AFTER NEW FINISHES ARE INSTALLED IF REQUIRED BY PLUMBING DRAWINGS. REMOVE TOILET ACCESSORIES
- [36] REMOVE EXIST OPERABLE PARTITION AND RELATED TRACK
- [37] DEMO EXIST CASEWORK
- [38] DEMO EXIST CASEWORK FOR REINSTALLATION IN NEW LOCATION UNDER BASE BID, NEW CASWORK ALTERNATE BID NO. 6A AND 6B.
- [39] REMOVE SOFFIT
- [40] DEMO MASONRY CHIMNEY FROM LOWER LEVEL FLOOR ELEVATION TO TOP OF CHIMNEY
- [41] DEMO EXISTING WALL MOUNTED LADDER AND ROOF HATCH
- [42] DEMO CONCRETE STAIR, CONCRETE SUPPORT WALL, AND RAILINGS
- [43] REMOVE COOLER DOOR
- [44] REFRAME WALL FOR NEW DOOR OPENING
- [45] DEMO CEILING THIS ROOM. 2X6 CEILING JOISTS TO REMAIN
- [46] DEMO SUSPENDED ACOUSTICAL CEILING GRID AND TILE
- [47] DEMO STEEL STAIR
- [48] DEMO RECESSED WALL POCKET AND FOLD DOWN TABLE
- [49] REMOVE CONTINUOUS RISER GRILLE AND METAL NOSINGS
- [50] REMOVE FOLD-UP WOOD DOORS AT CHAIR CART STORAGE AREA.
- [51] EXISTING DRINK FOUNTAIN/BOTTLE FILLER TO REMAIN. PROTECT FROM DAMAGE.
- [52] REMOVE EXISTING GLASS FROM DISPLAY CASE
- [53] REMOVE RUBBER BASE
- [54] REMOVE BENCH. SALVAGE FOR REINSTALLATION AFTER NEW FINISHES ARE INSTALLED
- [55] REMOVE ACOUSTICAL TILE "WALL"
- [56] REMOVE EXISTING ROWLOCK COURSE FROM TOP OF BRICK BASE
- [57] REMOVE EXISTING TRIPLE STAINLESS STEEL SINK, COUNTERTOP AND BLACKSPASH, SALVAGE FOR REINSTALLATION. SEE PLUMBING DRAWINGS FOR NEW SINK TRIM
- [59] REMOVE EXISTING STEEL LADDER, SALVAGE TO OWNER FOR SEPARATE PROJECT
- [60] REMOVE GYM FLOORING UNDER ALTERNATE BID NO. 3
- [61] SAW CUT & REMOVE CONC. SLAB AS REQUIRED FOR NEW PLUMBING
- [62] REMOVE ASPHALT FOR INSTALLATION OF NEW FOOTINGS, SEE STRUCTURAL DRAWINGS
- [64] REMOVE EXISTING FLOOD LIGHTS AND POLE MOUNT, SALVAGE LIGHTS TO OWNER
- [66] REMOVE EXIST. BASKETBALL BACKBOARD AND SALVAGE TO OWNER
- [67] REMOVE EXIST. OVERHEAD PROJECTOR SCREEN
- [68] DOCUMENT EXIST. GYM FLOOR SPORTS STRIPING IN THE EVENT ALTERNATE BID NO. 3 IS ACCEPTED.



#### KEY PLAN



#### **B** LOWER LEVEL DEMOLITION PLAN A2.3 NTS

	<b>ML AREA C, LL DEMO</b>  <b>KELSO SCHOOL DISTRICT NO. 458</b>  <b>BUTLER ACRES ELEM MOD &amp; ADDITIONS</b>	 <b>COLLINS</b> ARCHITECTURAL GROUP, P.S. 950 12th AVE., SUITE 200 LONGVIEW, WA 98632 PHONE: 360-425-0000	Scale  Date 06/18/20  Project # 2019-19	<b>A2.3</b>  <b>ADD 1</b>  <b>RE-BID</b>



# SHEET NOTES: THIS SHEET

- 1 PATCH WALL WHERE STEEL LADDER REMOVED
- 2 CONCRETE FLOOR INFILL.
- 3 NEW MATERIAL LIFT IN EXIST. SHAFT. SEE 5/A9.2 FOR WORK AT SHAFT OPENING.
- 4 SMOOTH CONC. FLOOR AND WALLS WHERE STAIR REMOVED.
- 5 NEW STEEL SEISMIC BRACE. REFER TO STRUCT DRAWINGS
- 6 INFILL EXIST OPENING. MATCH THICKNESS AND FINISHES.
- 7 CHASE TO REMAIN FOR PIPING & CONDUITS. MINIMIZE SIZE OF CHASE.
- 8 REINSTALLED SALVAGED CASEWORK. SEE A9.3 FOR LAYOUT. NEW UNDER ALT BID 6A & 6B.
- 9 EXIST. CASEWORK UNDER BASE BID, SEE A9.4a FOR NEW CASEWORK UNDER ALT BID 6A & 6B.
- 10 NEW CASEWORK. SEE INTERIOR ELEVATIONS.
- 11 REINSTALL SALVAGED BENCHES.
- 12 INSTALL NEW LOCKING SLIDING TEMP GLASS DOORS ON EXISTING DISPLAY CASES.
- 13 FRAME NEW WALL TO 9'-0" A.F.F. FOR NEW DOOR.
- 14 INSTALL NEW RECESSED TABLE POCKET. OWNER WILL INSTALL TABLES SALVAGED FROM ANOTHER PROJECT.
- 15 NEW HANDRAIL, SEE 13/A3.5, PAINT.
- 16 REFRAME FOR NEW SINGLE DOOR OPENING, SEE 3/A9.4
- 17 SKIM COAT OVER EXIST. CERAMIC MOSAIC FLOOR TO CONCEAL GROUT JOINTS. PATCH FLOOR / WALL WHERE CERAMIC TILE BASE WAS REMOVED TO PROVIDE SUIABLE SUBSTRATE FOR NEW COVED SHT. VINYL BASE.
- 18 EXIST. WOOD FRAMED RELITE, PAINT FRAME.
- 19 NEW 5'-0"x12'-0" LMB, SEE INTERIOR ELEVATIONS.
- 20 INSTALL NEW POURED IN PLACE CONCRETE CAP ON TOP OF EXIST. BRICK.
- 21 NEW PLASTIC LAMINATE OVER EXIST. LINOLEUM WAINSCOT.
- 22 CORNER GUARD
- 23 REFRAME FOR TWO (N) OPENINGS, SEE 3/A9.4
- 24 ADD REMOVABLE CHAIN GATE INSIDE OF OPENING #38. SECURE TO HM FRAME.
- 25 SEE 4/A9.4 FOR (E) RISERS TO BE INFILLED
- 26 INFILL CONC. PLENUM DUCT OPENING WITH WD FRAMED WALL SET IN SEALANT.
- 27 DEMO CORRIDOR SIDE WALL FOR NEW POST, PATCH BACK
- 28 RESTRIPE GYM FLOOR SPORTS STRIPPING TO MATCH EXIST. LAYOUT
- 29 DISHWASHER
- 30 RELOCATE EXIST. REACH-IN FREEZER
- 31 CABINET UNIT REATER, SEE MECHANICAL DWGS
- 32 RESTRIPE COVERED PLAY SPORTS STRIPPING TO MATCH EXIST. LAYOUT. ALL STRIPPING TO BE 3 INCHES WIDE AND WHITE IN COLOR.

AREA A

AREA B

AREA C

KEY PLAN

**B** LOWER LEVEL AREA C - FLOOR PLAN  
A3.3 NTS

ML AREA C, LL FLOOR

KELSO SCHOOL DISTRICT NO.  
458  
BUTLER ACRES ELEM MOD &  
ADDITIONS

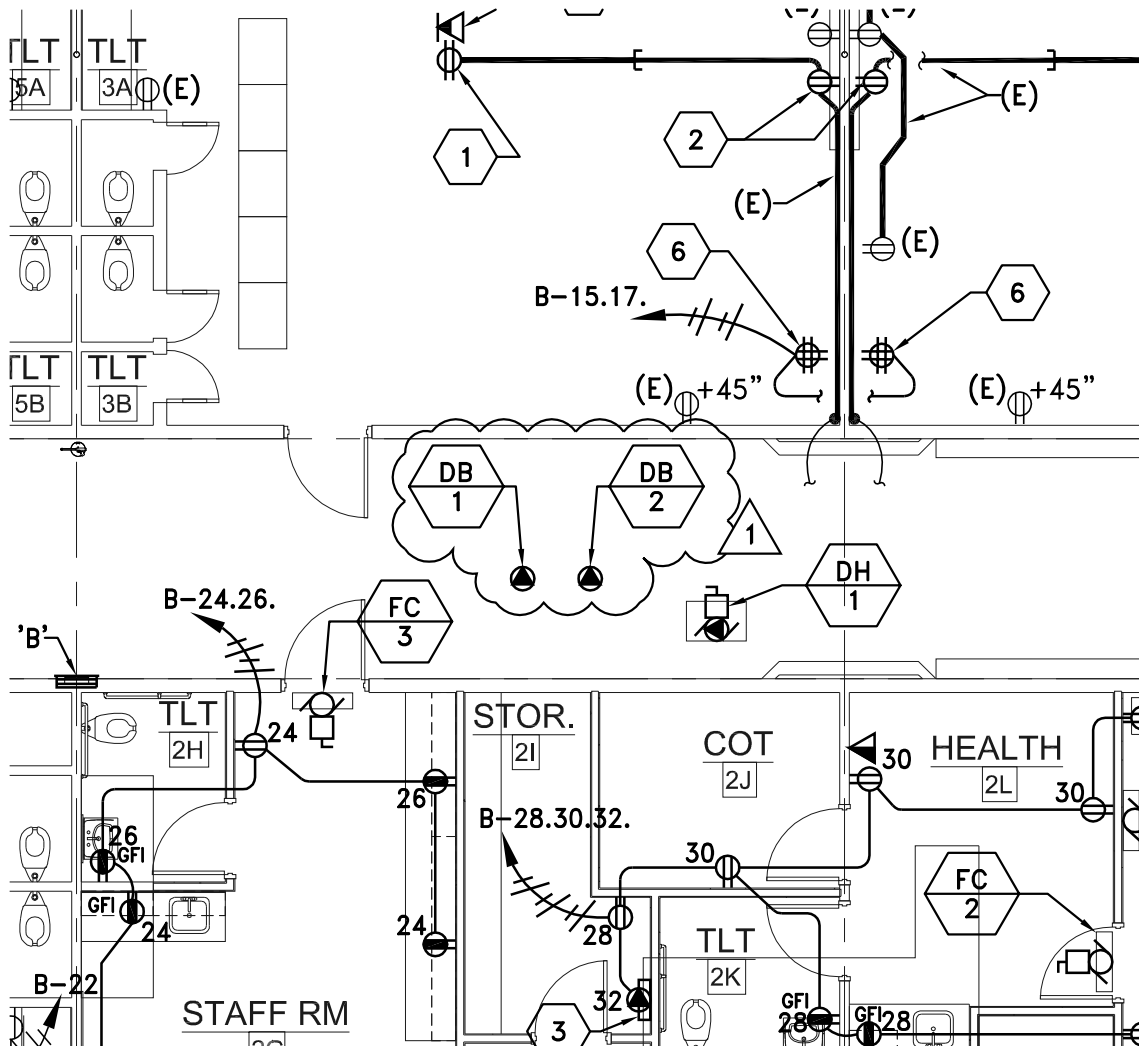
**COLLINS**  
ARCHITECTURAL GROUP, P.S.  
950 12th AVE., SUITE 200  
LONGVIEW, WA 98632  
PHONE: 360-425-0000

Scale

Date  
06/18/20

Project #  
2019-19

**A3.3**  
**ADD 1**  
**RE-BID**



## AREA-B POWER & DATA

KELSO SCHOOL DISTRICT  
NO. 458  
BUTLER ACRES ELEMENTARY  
MOD & ADDITIONS



950 12th AVE., SUITE 200  
LONGVIEW, WA 98632  
PHONE: 360-425-0000

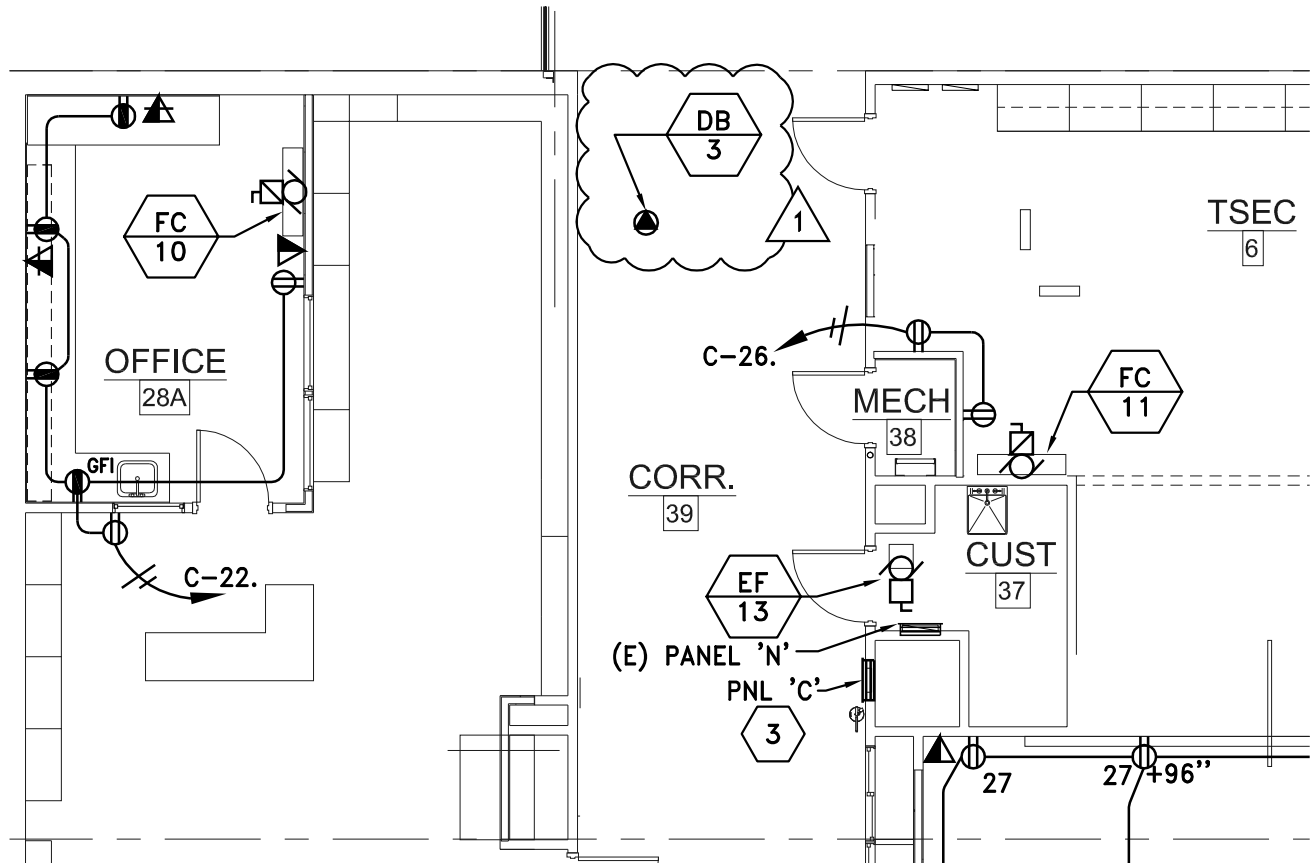
Scale  
NTS  
Date  
06/18/20  
Project #  
2019-19

E3.2  
ADD 1  
RE-BID



6/18/20





6/18/20

## AREA-C POWER & DATA

KELSO SCHOOL DISTRICT  
NO. 458  
BUTLER ACRES ELEMENTARY  
MOD & ADDITIONS



950 12th AVE., SUITE 200  
LONGVIEW, WA 98632  
PHONE: 360-425-0000

Scale

NTS

Date

06/18/20

Project #

2019-19

E3.3  
ADD 1  
RE-BID

## LOAD SUMMARY - MSP

LOAD TYPE	LOAD AMOUNT		DEMAND FACTOR		POWER FACTOR (0.9)			TOTAL
(E) 13 mo. DEMAND	80,000 W		X 1.25		X 1.11			111,000 VA
ADDED LOAD	LIGHTS	RECEPT	HEATING	KITCHEN	EQUIP	MOTORS	MISC.	
PANEL A	0	5,040	0	0	720	4,742	0	10,502 VA
PANEL B	0	4,500	3,000	0	25,834	6,123	0	39,457 VA
PANEL C	0	4,140	4,000	0	200	4,944	0	13,284 VA
PANEL D	2,452	0	5,000	0	1,500	156	0	9,108 VA
PANEL F	0	0	0	0	3,804	11,546	0	15,350 VA
PANEL G	0	0	0	0	1,500	108	0	1,608 VA
PANEL G1	0	5,580	0	0	0	18,917	0	24,497 VA
PANEL H (NEW PANEL)	4,780	8,730	0	0	18,500	7,342	0	39,352 VA
PANEL K	0	0	0	1,500	0	2,160	0	3,660 VA
PANEL M (NEW PANEL)	0	0	0	0	19,548	97,416	0	116,964 VA
PANEL N	0	0	0	0	5,760	0	0	5,760 VA
DISHWASHER				16344				
TOTAL ADDED	7,232	27,990	12,000	17,844	77,366	153,454	0	279,542 VA
CODE FACTOR	1.25	*	1.00	0.65	1	**	1	
TOTAL CODE LOAD	9,040	18,995	12,000	11,599	77,366	164,299	0	404,299 VA
LARGEST MOTOR	LOCATED ON PANEL: M					14,460		
* 10 KVA + 50% OF BALANCE ** 125% OF LARGEST MOTOR + 100% OF BALANCE *** ALTERNATE BID, SEE SPECIFICATIONS					1,123 A 120/208V, 3 PH, 4 WIRE			



6/18/20

### ONE LINE DIAGRAMS

KELSO SCHOOL DISTRICT  
NO. 458  
BUTLER ACRES ELEMENTARY  
MOD & ADDITIONS



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LONGVIEW, WA 98632  
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Scale  
NTS  
Date  
06/18/20  
Project #  
2019-19

E4.1  
ADD 1  
RE-BID

PANEL SCHEDULE										
PANEL: B (REPLACED)			MKE & ASSOCIATES, INC.			MOUNTING: FLUSH				
FED BY: MSP			BUS/MAIN: 200A MLO							
LOC: CORRIDOR 44 (AREA B)			VOLTS 120/208		PHASE 3		WIRE 4			
C	DESCRIPTION	VA	A/P	No.	A B C	No.	A/P	VA	DESCRIPTION	C
1	LIGHTS - CLASSROOM	174	20/1	1	*	2	20/1	174	LIGHTS - CLASSROOM	1
1	LIGHTS - CLASSROOM	348	20/1	3	*	4	20/1	348	LIGHTS - CLASSROOM	1
1	LIGHTS - CLASSROOM	174	20/1	5	*	6	20/1	203	LIGHTS - STAFF RM	1
1	LIGHTS - CLASSROOM	348	20/1	7	*	8	20/1	609	LIGHTS - OFFICE AREA	1
1	LIGHTS - CLASSROOM	174	20/1	9	*	10	20/1	576	LIGHTS - EXT. CANOPY	1
1	LIGHTS - CLASSROOM	348	20/1	11	*	12	20/1		SPARE	
5	RECEPT CLASSROOM	360	20/1	13	*	14	20/1		SPARE	
5	RECEPT. CALSSROOM	360	20/1	15	*	16	20/1		SPARE	
5	RECEPT. CLASSROOM	360	20/1	17	*	18	20/1		SPARE	
1	LIGHTS - TLT ROOMS		20/1	19	*	20	20/1	507	EF-10, 11,12,& 13	6
1	LIGHTS - CORRIDOR		20/1	21	*	22	20/1	720	DRINKING FOUNTAIN (GF)	5
2	(E) REC - CORRIDOR	360	20/1	23	*	24	20/1	540	REC. STAFF RM	2
5	RECEPT. CLASSROOM	360	20/1	25	*	26	20/1	900	REC. STAFF RM	2
6	UV-1, 3, 5	1149	20/2	27	*	28	20/1	900	OFFICE RECEPT	2
6	*	1149	*	29	*	30	20/1	900	HEALTH RECEPT. & COMP	5
6	UV-4, 21	795	20/2	31	*	32	20/1	500	FIRE ALARM PANEL ^	5
6	*	795	*	33	*	34	20/1	1080	OFFICE RECEPT.	2
6	CUH-2	108	20/1	35	*	36	20/1	1440	OFFICE COMP.	5
	SPARE		20/1	37	*	38	20/1	540	OFFICE RECEPT.	2
6	FC-1 THRU 7	166	15/2	39	*	40	20/1	1080	PRINCIP. OFF COMP.	5
	*	166	*	41	*	42	20/1	1080	RECEPTION COMP.	5
5	HP-1	2907	35/3	43	*	44	20/1		SPARE	
5	*	2907	*	45	*	46	15/2	644	ERV-1	6
	SPACE			47	*	48	*	644	*	6
5	HP-2	1930	25/3	49	*	50	30/3	3240	RTU-3	5
5	*	1930	*	51	*	52	*	3240	*	5
	SPACE			53	*	54	*	3240	*	5
	SPACE			55	*	56	30/2	1500	DH-1	3
	SPACE			57	*	58	*	1500	*	3
	SPACE			59	*	60	20/1	540	ROOF RECEPT	2
	SPACE			61	*	62	20/1		SPARE	
	SPACE			63	*	64	20/1		SPARE	
	SPACE			65	*	66	20/1		SPARE	
LOAD CODE (VA)		PH A	PH B	PH C	TOTAL (VA)		FACTOR		CODE LOAD	
1. LIGHTS:		1,305	1,446	725	3,476		1.25		4,345	
2. RECEPTACLE:		1,440	1,980	1,440	4,860		*		4,860	
3. HEATING:		1,500	1,500	0	3,000		1.00		3,000	
4. KITCHEN:		0	0	0	0		1.00		0	
5. EQUIPMENT:		9,297	10,237	7,020	26,554		1.00		26,554	



## ELEC. PANEL SCHEDULES

KELSO SCHOOL DISTRICT  
NO. 458  
BUTLER ACRES ELEMENTARY  
MOD & ADDITIONS



950 12th AVE., SUITE 200  
LONGVIEW, WA 98632  
PHONE: 360-425-0000

Scale	NTS
Date	06/18/20
Project #	2019-19

E4.2  
ADD 1  
RE-BID

6/18/20

# **PANEL SCHEDULE**

**PANEL:** M (NEW)

MKE & ASSOCIATES, INC.

**MOUNTING:** FLUSH

**FED BY:** MSP

**BUS/MAIN:** 400A MLO

**LOC:** BOILER ROOM

**VOLTS**  
120/208

**PHASE**  
3

**WIRE**  
4

C	DESCRIPTION	VA	A/P	No.	A B C	No.	A/P	VA	DESCRIPTION	C
6	P-1	5040	70/3	1	*	2	35/3	2907	HP-3	5
6	*	5040	*	3	*	4	*	2907	*	5
6	*	5040	*	5	*	6			SPACE	
6	P-2	5040	70/3	7	*	8	20/3	2160	HP-4, PG-11	5
6	*	5040	*	9	*	10	*	2160	*	5
6	*	5040	*	11	*	12	*	2160	*	5
6	P-3	720	15/3	13	*	14	30/3	2880	RTU-2	6
6	*	720	*	15	*	16	*	2880	*	6
6	*	720	*	17	*	18	*	2880	*	6
6	P-4	720	15/3	19	*	20	15/3	528	MAU-1	6
6	*	720	*	21	*	22	*	528	*	6
6	*	720	*	23	*	24	*	528	*	6
6	P-5 ^	2640	50/3	25	*	26	15/3	444	HFC-1	6
6	*	2640	*	27	*	28	*	444	*	6
6	*	2640	*	29	*	30	*	444	*	6
	SPACE			31	*	32	125/3	14460	RTU-1	6
	SPACE			33	*	34	*	14460	*	6
	SPACE			35	*	36	*	14460	*	6
	SPACE			37	*	38			SPACE	
	SPACE			39	*	40			SPACE	
	SPACE			41	*	42			SPACE	

## **LOAD CODE (VA)**

	PH A	PH B	PH C	TOTAL (VA)
1. LIGHTS:	0	0	0	0
2. RECEPTACLE:	0	0	0	0
3. HEATING:	0	0	0	0
4. KITCHEN:	0	0	0	0
5. EQUIPMENT:	5,067	5,067	2,160	12,294
6. MOTORS:	32,472	32,472	32,472	97,416
7. MISC.	0	0	0	0
<b>TOTAL (VA):</b>	<b>37,539</b>	<b>37,539</b>	<b>34,632</b>	<b>109,710</b>

## **FACTOR**

	FACTOR
1. LIGHTS:	1.25
2. RECEPTACLE:	*
3. HEATING:	1.00
4. KITCHEN:	1.00
5. EQUIPMENT:	1.00
6. MOTORS:	**
7. MISC.	1.00
<b>TOTAL (VA):</b>	<b>120,555</b>

## **CODE LOAD**

	CODE LOAD
1. LIGHTS:	0
2. RECEPTACLE:	0
3. HEATING:	0
4. KITCHEN:	0
5. EQUIPMENT:	12,294
6. MOTORS:	108,261
7. MISC.	0
<b>TOTAL (VA):</b>	<b>335 A</b>

**LARGEST MOTOR:**

14,460 VA

**TOTAL LOAD:**

305 A

**CODE DEMAND:**

335 A

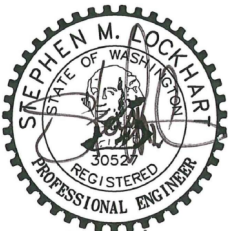
# KITCHEN EQUIPMENT

0

NOTES: ^ PUMP P-5 PROVIDED AS PART OF ALTERNATE #001. DELETE CONNECTION AND BREAKER. LEAVE AS SPACE.

\* FIRST 10 KVA + 50% OF THE BALANCE

\*\* 125% OF THE LARGEST MOTOR + THE BALANCE



6/18/20

## **ELEC. PANEL SCHEDULES**

KELSO SCHOOL DISTRICT  
NO. 458  
BUTLER ACRES ELEMENTARY  
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Scale

NTS

Date

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Project #

2019-19

E4.5  
ADD 1  
RE-BID

MECHANICAL EQUIPMENT SCHEDULE											
MARK	DESCRIPTION	VOLTAGE	PH	HP	FLA	MCA	CONDUIT	WIRE	PANEL	CIRCUIT	COMMENTS
B-1	HOT WATER BOILER	120	1			13.1	1/2"	2#12, #12G	F	3	
B-2	HOT WATER BOILER	120	1			13.1	1/2"	2#12, #12G	F	5	
CUH-1	CABINET UNIT HEATER & COND. PUMP	120	1		0.7+0.2		1/2"	2#12, #12G	G1	34	1
CUH-2	CABINET UNIT HEATER & COND. PUMP	120	1		0.7+0.2		1/2"	2#12, #12G	B	35	1
CUH-3	CABINET UNIT HEATER & COND. PUMP	120	1		0.7+0.2		1/2"	2#12, #12G	G	4	1
CUH-4	CABINET UNIT HEATER & COND. PUMP	120	1		0.7+0.2		1/2"	2#12, #12G	G1	32	1
CUH-5	CABINET UNIT HEATER & COND. PUMP	120	1		0.7+0.2		1/2"	2#12, #12G	H	43	1
CUH-6	CABINET UNIT HEATER & COND. PUMP	120	1		0.7+0.2		1/2"	2#12, #12G	H	45	1
EF-1	EXHAUST FAN	120	1	1/10	2.6		1/2"	2#12, #12G	G1	40	4
EF-2	EXHAUST FAN	120	1	1/10	2.6		1/2"	2#12, #12G	G1	40	4
EF-3	EXHAUST FAN	120	1	1/10	2.6		1/2"	2#12, #12G	G1	40	4
EF-4	EXHAUST FAN	120	1	1/10	2.6		1/2"	2#12, #12G	G1	40	4
EF-5	EXHAUST FAN	120	1	1/10	2.6		1/2"	2#12, #12G	G1	42	4
EF-6	EXHAUST FAN	120	1	1/10	2.6		1/2"	2#12, #12G	G1	42	4
EF-7	EXHAUST FAN	120	1	1/15	1.3		1/2"	2#12, #12G	G1	42	4
EF-8	EXHAUST FAN	120	1	1/6	4.4		1/2"	2#12, #12G	H	23	4
EF-9	EXHAUST FAN	120	1	1/10	2.6		1/2"	2#12, #12G	H	23	4
EF-10	EXHAUST FAN	120	1	1/15	1.3		1/2"	2#12, #12G	B	20	4
EF-11	EXHAUST FAN	120	1	1/15	1.3		1/2"	2#12, #12G	B	20	4
EF-12	EXHAUST FAN	120	1	1/15	1.3		1/2"	2#12, #12G	B	20	4
EF-13	EXHAUST FAN	120	1	1/15	1.3		1/2"	2#12, #12G	B	20	4
EF-14	EXHAUST FAN	120	1	1/15	1.3		1/2"	2#12, #12G	C	18	4
EF-15	EXHAUST FAN	120	1	1/10	2.6		1/2"	2#12, #12G	C	42	4
EF-16	EXHAUST FAN	120	1	1/4	3.7		1/2"	2#12, #12G	C	42	2
EF-17	EXHAUST FAN	120	1	1/6	4.4		1/2"	2#12, #12G	C	42	4
EF-18	EXHAUST FAN	120	1	1/15	1.3		1/2"	2#12, #12G	D	27	4
EF-19	DISHWASH EXHAUST FAN	120	1	1/6	4.4		1/2"	2#12, #12G	K	10	4, 8
EF-20	EXHAUST FAN	120	1	1/10	2.6		1/2"	2#12, #12G	K	12	4
ERV-1	ENERGY RECOVERY VENTILATOR	208	1	2 @ 1	2 @ 5.2		1/2"	2#12, #12G	B	46, 48	
ERV-2	ENERGY RECOVERY VENTILATOR	208	1	2 @ 1	2 @ 5.2		1/2"	2#12, #12G	C	39, 41	
FC-1	FAN COIL UNIT	208	1		0.50	1/2"	2#12, #12G	VIA HP-1			3
FC-2	FAN COIL UNIT	208	1		0.30	1/2"	2#12, #12G	VIA HP-1			3
FC-3	FAN COIL UNIT	208	1		0.50	1/2"	2#12, #12G	VIA HP-1			3
FC-4	FAN COIL UNIT	208	1		0.30	1/2"	2#12, #12G	VIA HP-2			3
FC-5	FAN COIL UNIT	208	1		0.30	1/2"	2#12, #12G	VIA HP-2			3
FC-6	FAN COIL UNIT	208	1		0.30	1/2"	2#12, #12G	VIA HP-2			3
FC-7	FAN COIL UNIT	208	1		0.30	1/2"	2#12, #12G	VIA HP-2			3
FC-8	FAN COIL UNIT	208	1		0.50	1/2"	2#12, #12G	VIA HP-3			3
FC-9	FAN COIL UNIT	208	1		0.50	1/2"	2#12, #12G	VIA HP-3			3
FC-10	FAN COIL UNIT	208	1		0.30	1/2"	2#12, #12G	VIA HP-3			3
FC-11	FAN COIL UNIT	208	1		0.50	1/2"	2#12, #12G	FED FROM HP-4			3
FC-12	FAN COIL UNIT	208	1		0.25	1/2"	2#12, #12G	FED FROM COIL			
DB-1	DISTRIBUTION BOX	208	1		0.16	1/2"	2#12, #12G	VIA HP-1			
DB-2	DISTRIBUTION BOX	208	1		0.16	1/2"	2#12, #12G	VIA HP-2			
DB-3	DISTRIBUTION BOX	208	1		0.16	1/2"	2#12, #12G	VIA HP-3			
CU-1	SPLIT SYSTEM HEAT PUMP	208	3	1 1/2	4.4		1/2"	3#12, #12G	M	20, 22, 24	2
HP-1	HEAT PUMP	208	1		27.3	1/2"	2#10, #10G	B		43, 45	
HP-2	HEAT PUMP	208	1		17.9	1/2"	2#12, #12G	B		49, 51	
HP-3	HEAT PUMP	208	1		27.3	1/2"	2#10, #10G	M		2, 4	
HP-4	HEAT PUMP	208	3	1 1/2	4.4		1/2"	3#12, #12G	M	20, 22, 24	
P-1	PUMP HEATING/CHILLED WATER	208	3	15		1"		3#4, #8G	M	1, 3, 5	
P-2	PUMP HEATING/CHILLED WATER	208	3	15		1"		3#4, #8G	M	7, 9, 11	
P-3	BOILER #1	208	3	1 1/2		1/2"		3#12, #12G	M	13, 15, 17	
P-4	BOILER #2	208	3	1 1/2		1/2"		3#12, #12G	M	19, 21, 23	
SP-1	SUMP PUMP	208	1	(2) 1/2		1/2"		3#12, #12G	F	9, 11	
MAU-1	MAKEUP AIR UNIT	208	3	1 1/2	4.4		1/2"	3#12, #12G	M	20, 22, 24	2
RTU-1	ROOFTOP UNIT HEAT PUMP	208	3		120.5	1-1/2"		3#1, #8G	M	32, 34, 36	6
RTU-2	ROOFTOP UNIT HEAT PUMP	208	3		24.0	1/2"		3#10, #10G	M	14, 16, 18	
RTU-3	ROOFTOP UNIT HEAT PUMP	208	3		27.0	1/2"		3#10, #10G	B	50, 52, 54	
RTU-4	ROOFTOP UNIT HEAT PUMP	208	3		27.0	1/2"		3#10, #10G	H	25, 27, 29	
RTU-5	ROOFTOP UNIT HEAT PUMP	208	3		31.0	3/4"		3#8, #10G	G1	14, 16, 18	6
DH-1	DUCT HEATER	208	1		14.4	1/2"		2#10, #10G	B	56, 58	
DH-2	DUCT HEATER	208	1		19.2	1/2"		2#10, #10G	D	38, 40	
CP-1	CIRCULATION PUMP	120	1	1/6	9.1	1/2"		2#12, #12G	F	3	
CP-2	CIRCULATION PUMP	120	1	1/6	9.1	1/2"		2#12, #12G	F	3	
WH-1	GAS WATER HEATER IGNITER	120	1	2		1/2"		2#12, #12G	F	1	
WH-2	GAS WATER HEATER IGNITER	120	1	2		1/2"		2#12, #12G	F	1	
CH-1	CHILLER	208	3		384.8			SEE ONE-LINE DIAGRAM			ALTERNATE BID ITEM. SEE SPECS
P-5	BASE MOUNT CHILLER #C-1	208	3	7 1/2		3/4"		3#6, #10G	M	25, 27, 29	ALTERNATE BID ITEM. SEE SPECS
NOTES: 1. PROVIDE 120V CONNECTION TO CUH FAN & CONDENSATE PUMP MOUNTED IN CABINET. 2. INTERLOCK SWITCH FOR HOOD EXHAUST FAN (EF-16) WITH ON/OFF CONTROL OF MAKE-UP AIR UNIT (MAU-1). PROVIDE CONTROL CONTACTORS, CONDUCTOR AND RACEWAY NECESSARY. 3. EXTEND SAME CIRCUIT TO POWER CONDENSATE PUMP SERVING FAN COIL UNIT. 4. CONNECT EXHAUST FAN AND IN-LINE MOTORIZED DAMPER ON SAME CIRCUIT. INTERLOCK DAMPER TO OPEN WHEN FAN TURNS ON. COORDINATE WITH DIVISION 23. 5. CONNECT FAN COIL UNIT AND IN-LINE MOTORIZED DAMPER ON SAME CIRCUIT. INTERLOCK DAMPER TO OPEN WHEN FAN TURNS ON. COORDINATE WITH DIVISION 23. 6. PROVIDE DUCT SMOKE DETECTOR. COORDINATE WITH DIVISION 23 AND FIRE ALARM DESIGN / BUILD SPECIFICATIONS DIVISION 28. 7. BOILER "B-2" AND PUMP "P-4" TO BE INSTALLED IN TWO PHASES. COORDINATE INITIAL TEMPORARY AND FINAL LOCATIONS WITH MECHANICAL DRAWINGS. PROVIDE TEMPORARY AND FINAL ELECTRICAL CONNECTION LOCATIONS, INCLUDE NECESSARY RACEWAY AND CONDUCTOR. 8. INTERLOCK EXHAUST FAN WITH DISHWASHER. PROVIDE NECESSARY CONTACTOR / RELAY AND ASSOCIATED CONNECTIONS FOR COMPLETE AND OPERABLE INSTALLATION.											

## ELECTRICAL SCHEDULES

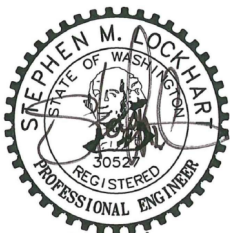
KELSO SCHOOL DISTRICT  
NO. 458  
BUTLER ACRES ELEMENTARY  
MOD & ADDITIONS



950 12th AVE., SUITE 200  
LONGVIEW, WA 98632  
PHONE: 360-425-0000

Scale  
NTS  
Date  
06/18/20  
Project #  
2019-19

E5.1  
ADD 1  
RE-BID



6/18/20

**AVC**

FRONT ROW A/V CABINET. PROVIDE (1) DUPLEX RECEPTACLE (NOT SHOWN), AND ONE TERMINATED CAT 6 CABLE FOR CONNECTION TO EQUIPMENT. COORDINATE OUTLET LOCATIONS WITH CABINET KNOCK-OUTS PRIOR TO ROUGH-IN. FOR CLASSROOMS WITH SUSPENDED ACOUSTICAL CEILING AVC SHALL BE FLUSH MOUNTED IN CEILING SYSTEM. PROVIDE NECESSARY MOUNTING HARDWARE.

**AV**

FRONT ROW A/V INPUT. PROVIDE DOUBLE GANG, DOUBLE DEEP J-BOX FOR DEVICES.

**CS**

FRONT ROW A/V CONTROL STATION PROVIDE DOUBLE GANG, DOUBLE DEEP J-BOX FOR DEVICES.

**PO**

A/V PROJECTOR OUTLET. PROVIDE DOUBLE GANG, DOUBLE DEEP J-BOX AND COVER PLATE WITH 2" GROMMETED OPENING. PROVIDE (1) TERMINATED CAT 6 CABLE FOR CONNECTION TO PROJECTOR.

\*CABLING: PROVIDE LOW VOLTAGE A/V CABLING PER DRAWING E5.5 AND PROJECT SPECIFICATIONS FOR A COMPLETE AND OPERABLE SYSTEM.

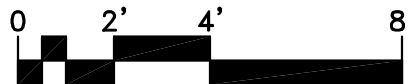
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3

E5.3

## CLASSROOM A/V CABLING—TYPICAL

SCALE: 1/4"=1'-0"



6/18/20

### ELECTRICAL DETAILS

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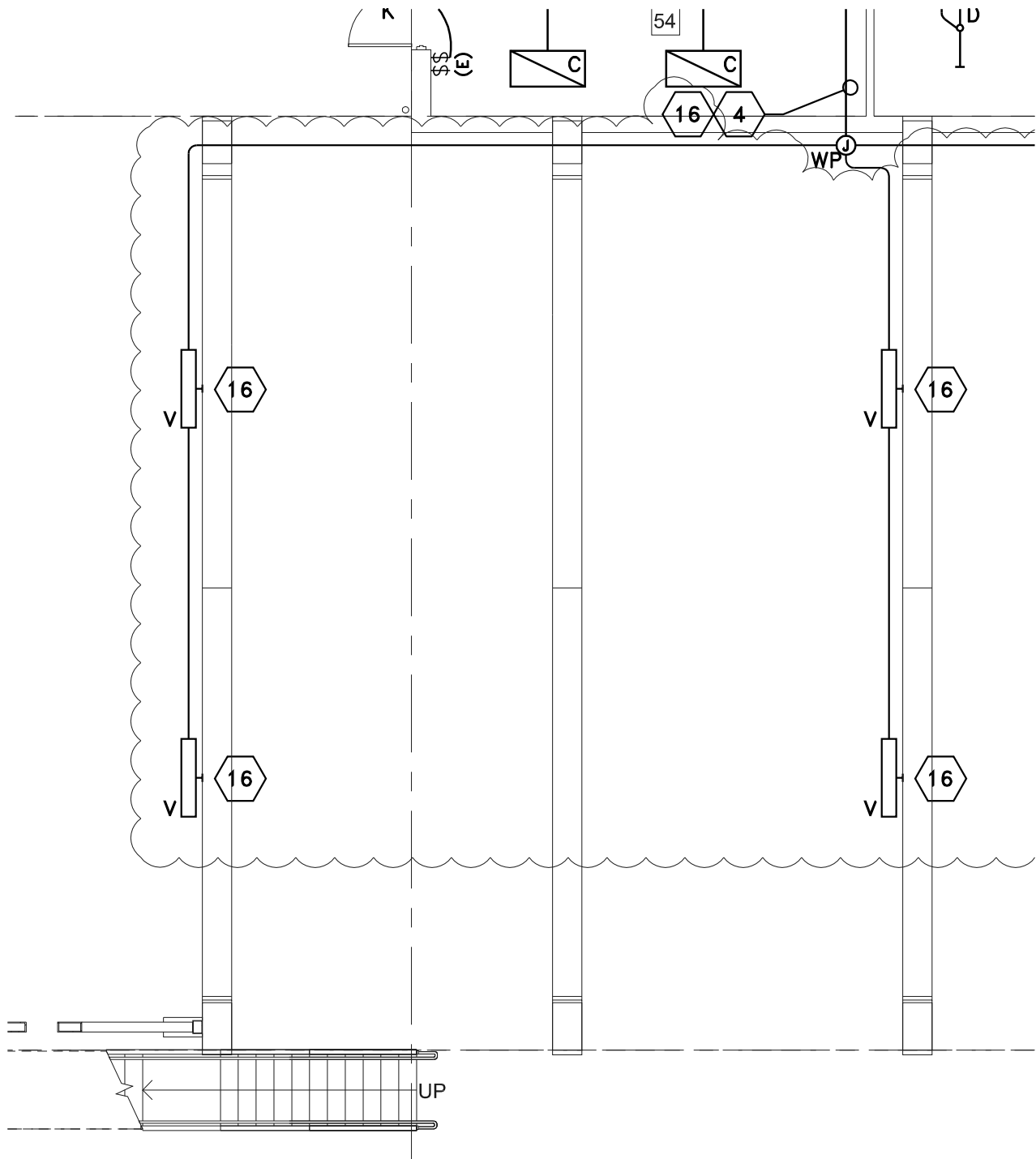
Date

06/18/20

Project #

2019-19

E5.3  
ADD 1  
RE-BID



# AREA-C LIGHTING PLAN

KELSO SCHOOL DISTRICT  
NO. 458  
BUTLER ACRES ELEMENTARY  
MOD & ADDITIONS



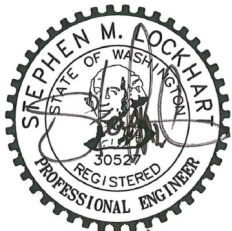
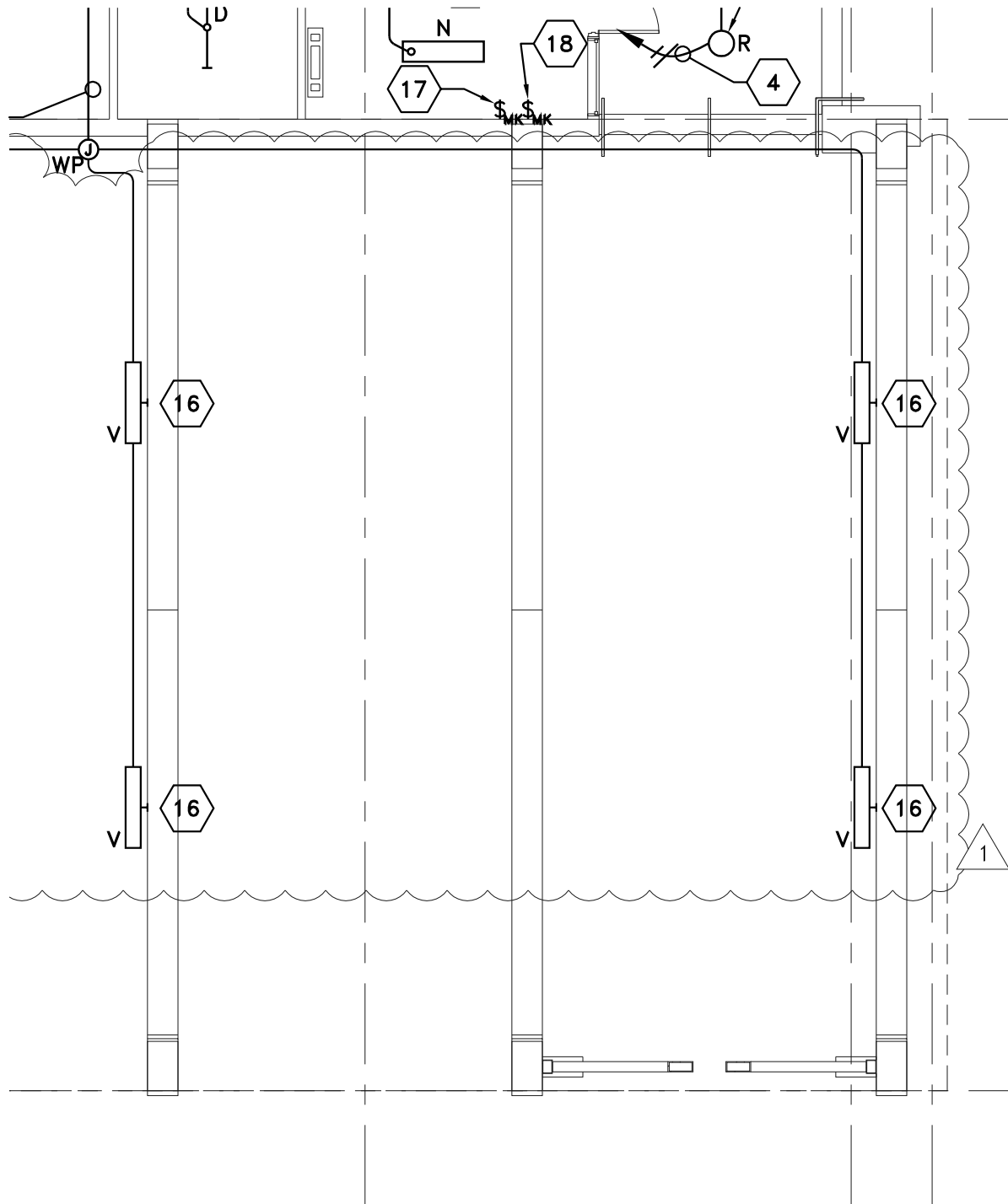
950 12th AVE., SUITE 200  
LONGVIEW, WA 98632  
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Scale  
NTS  
Date  
06/18/20  
Project #  
2019-19

E10.3  
ADD 1  
RE-BID



6/18/20



6/18/20

## AREA-C LIGHTING PLAN

KELSO SCHOOL DISTRICT  
NO. 458  
BUTLER ACRES ELEMENTARY  
MOD & ADDITIONS



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2019-19

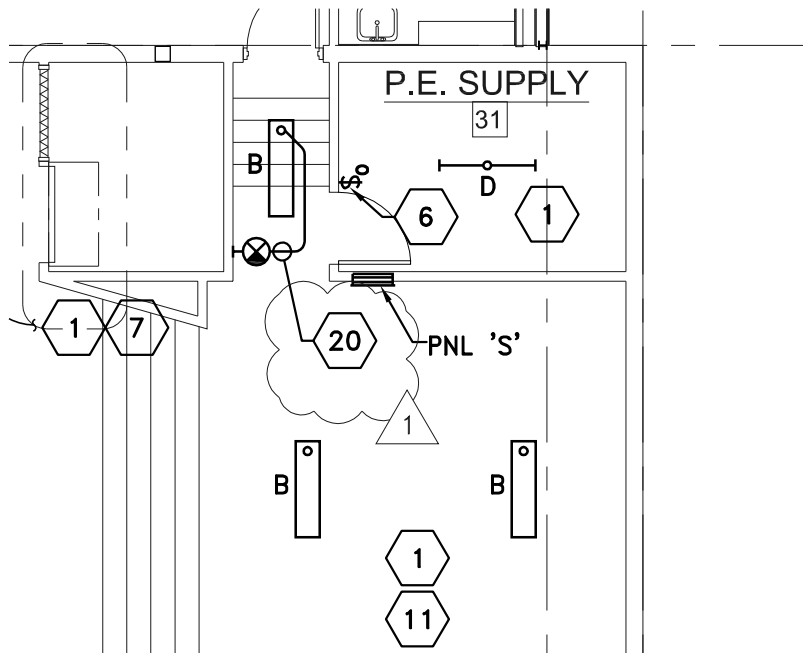
E10.3  
ADD 1  
RE-BID



# KEYED NOTES:

16. CONNECT LIGHT FIXTURES TO COMMON ROOM CONTROL RELAY DEVICE. PROGRAM FOR ON/OFF CONTROL VIA NETWORKED RELAY PANEL TIME CLOCK AND BY MOMENTARY KEYED SWITCH.
17. LOCATION OF MOMENTARY LOW-VOLTAGE KEYED SWITCH FOR CONTROL OF OUTDOOR COVERED PLAY AREA.
18. LOCATION OF MOMENTARY LOW-VOLTAGE KEYED SWITCH FOR CONTROL OF ENTRY, STAIR & CORRIDOR LIGHTING.
19. PROVIDE ROOM CONTROL RELAY DEVICES FOR CONTROL OF EXTERIOR LIGHTING. INCLUDE MIN. OF (6) 120V, 1P RELAYS AND (1) 208V, 1P RELAY.
20. CONNECT TO UNSWITCHED LEG OF LOCAL LIGHTING CIRCUIT.

1



6/18/20

## AREA-C LIGHTING PLAN

KELSO SCHOOL DISTRICT  
NO. 458  
BUTLER ACRES ELEMENTARY  
MOD & ADDITIONS



950 12th AVE., SUITE 200  
LONGVIEW, WA 98632  
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Scale  
NTS  
Date  
06/18/20  
Project #  
2019-19

E10.3  
ADD 1  
RE-BID

**SECTION 23 3423**  
**HVAC POWER VENTILATORS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Make-up air units.
- B. Roof exhausters.
- C. Cabinet exhaust fans.
- D. Ceiling exhaust fans.

**1.02 RELATED REQUIREMENTS**

- A. Section 22 0513 - Common Motor Requirements for Plumbing Equipment.
- B. Section 23 0548 - Vibration and Seismic Controls for HVAC Piping and Equipment.
- C. Section 23 3300 - Air Duct Accessories: Backdraft dampers.
- D. Section 26 2717 - Equipment Wiring: Electrical characteristics and wiring connections.

**1.03 REFERENCE STANDARDS**

- A. AMCA 99 - Standards Handbook; 2016.
- B. AMCA 204 - Balance Quality and Vibration Levels for Fans; 2005.
- C. AMCA 210 - Laboratory Methods of Testing Fans for Certified Aerodynamic Performance Rating; 2016.
- D. AMCA (DIR) - [Directory of] Products Licensed Under AMCA International Certified Ratings Program; Air Movement and Control Association International, Inc.; <http://www.amca.org/certified/search/company.aspx>.
- E. AMCA 300 - Reverberant Room Method for Sound Testing of Fans; 2014.
- F. AMCA 301 - Methods for Calculating Fan Sound Ratings from Laboratory Test Data; 2014.
- G. UL 705 - Power Ventilators; Current Edition, Including All Revisions.

**1.04 SUBMITTALS**

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on fans and accessories including fan curves with specified operating point clearly plotted, power, RPM, sound power levels at rated capacity, and electrical characteristics and connection requirements.
- C. Manufacturer's Instructions: Indicate installation instructions.
- D. Maintenance Data: Include instructions for lubrication, motor and drive replacement, spare parts list, and wiring diagrams.
- E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  - 1. See Section 01 6000 - Product Requirements, for additional provisions.
  - 2. Extra Fan Belts: Two sets for each individual fan.

**1.05 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.
- B. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

## **PART 2 PRODUCTS**

### **2.01 MAKE-UP AIR UNITS**

- A. Manufacturers:
  - 1. CaptiveAire.
  - 2. Greenheck Fan Corporation.
  - 3. Reznor.
- B. Manufactures Units:
  - 1. Units with Integral Heating shall be fully assembled at the factory and consist of an insulated metal cabinet, a curb assembly, an outdoor air intake weatherhood with bird screen, a motorized intake damper, supply air blower assembly, electrical control center. All specified components and internal accessories factory installed and tested and prepared for single-point high voltage connection.
- C. Cabinet:
  - 1. Materials: Formed, double wall insulated metal cabinet, fabricated to permit access to internal components for maintenance.
    - a. Outside casing: 18 gauge, galvanized (G90) steel meeting ASTM A653 for components that do not receive a painted finish. Pre-painted components as supplied by the factory shall have polyester urethane paint on 18 gauge G60 galvanized steel. Base rail is 12 gauge, galvanized (G90) steel. Components that receive a painted finish per A/E specification shall be painted with a polyester urethane powder coat.
    - b. Internal Assemblies: 24 gauge galvanized (G90) steel except for motor supports which shall be minimum 14 gauge galvanized (G90) steel.
  - 2. Cabinet Insulation: Comply with NFPA 90A and NFPA 90B and erosion requirements of UL 181.
    - a. Materials: Fiberglass insulation. If insulation other than fiberglass is used, it must also meet the Fire Hazard Classification shown below.
      - 1) Thickness: 1 inch (25 mm)
      - 2) Fire Hazard Classification: Maximum flame spread of 25 and smoke developed of 50, when tested in accordance with ASTM C 411.
      - 3) Location and application: Floor of each unit shall be insulated with fiberglass insulation. Full interior coverage from "Heating on".
      - 4) Access panels: Unit shall be equipped with insulated hinged access panels to provide easy access to all major components. Access panels shall be fabricated of 18 gauge galvanized G90 steel.
      - 5) Supply Air blower assembly options:
        - (a) Forward curve blower: Blower assembly consists of an electric motor and a belt driven, double width, and double inlet forward curve blower. Assembly shall be mounted on heavy gauge galvanized rails and further mounted on spring isolation devices.
  - 3. Control center / connections:
    - a. Unit shall have an electrical control center where all high and low voltage connections are made. Control center shall be constructed to permit single-point high voltage power supply connections.
  - 4. Direct Gas-Fired Furnace:
    - a. Unit shall be factory assembled, piped, and wired. Direct gas-fired system will be 92% efficient while supplying a burner that is capable of providing 25:1 turndown. Unit will utilize a draw through design and incorporate adjustable burner baffles plates for field adjustments. Unit will have a Pilot ignition system.
    - b. Burner construction shall consist of a cast aluminum burner manifold and 400 series stainless steel mixing plates. No air from inside the space shall be allowed to pass across the burner at any time. Flame sensing shall be provided by a flame rod. Burner control shall have a digital coded fault indicator capable of storing the last five faults.

- c. Shall be equipped for operation on Natural gas with a maximum rated inlet gas pressure of 1/2 PSI.
- d. Burner control option to include the following: Discharge temperature.
- e. Shall include the following safety controls:
  - 1) Manual Reset, High Limit Switch: Main gas valve closes if high-limit temperature is exceeded.
  - 2) Dual safety shutoff valves shall be provided that do not exceed 120 VAC control signals.
- 5. Motorized Inlet Air Dampers: to be of low leakage type and shall be factory installed.
- 6. Sensors are considered to be part of various optional operational modes or device controllers and are to be factory supplied and installed as specified by the A/E.
- 7. Curb Assembly: A curb assembly shall be made of galvanized steel provided by the factory for field assembly and installation as part of this division. The curb shall include a duct adapter for supply air if bottom discharge is indicated on schedule. The installing contractor shall be responsible for coordinating with roofing contractor to ensure curb unit is properly flashed to provide protection against weather/moisture penetration. Contractor shall provide and install appropriate insulation for the curb assembly.
- D. Blower-FC:
  - 1. Blower section construction, Supply Air: Direct drive motor and blower shall be assembled onto a minimum 14 gauge galvanized steel platform and must have helical coil spring vibration devices.
  - 2. Blower assemblies: Shall be statically and dynamically balanced and designed for continuous operation at maximum rated fan speed and horsepower.
  - 3. Centrifugal blower housing: Formed and reinforced steel panels to make curved scroll housing with shaped cutoff.
  - 4. Forward curved blower (fan) wheels: Galvanized or aluminum construction with inlet flange and shallow blades curved forward in direction of airflow. Mechanically attached to shaft with set screws.
  - 5. Blower section motor source quality control: Blower performance shall be factory tested for flow rate, pressure, power, air density, rotation speed and efficiency. Ratings are to be established in accordance with AMCA 210, "Laboratory Methods of Testing Fans for Rating".
- E. Motors:
  - 1. General: Blower motors greater than 3/4 horsepower shall be "NEMA Premium" unless otherwise indicated. Compliance with EPA's minimum energy-efficiency standards for single speed ODP and TE enclosures is not acceptable. Motors shall be heavy-duty, permanently lubricated type to match the fan load and furnished at the specified voltage, phase, and enclosure.
- F. Unit Controls:
  - 1. The unit shall be constructed so that it can function as a stand-alone heating system controlled by a factory-supplied remote panel, thermostats and sensors or it can be operated as a heating system controlled by a Building Management System (BMS).
  - 2. Remote Panel: Manufacturer shall provide and contractor shall install an Industrial type remote panel that functions as a remote indicator of owner-selected operating parameters and also permits remote inputting of new operating parameters.
  - 3. Sensors to be provided with the unit:
    - a. Heating Inlet Air Sensor
- G. Filters:
  - 1. Unit shall have 2" thick MERV 13 disposable pleated filters following the outdoor air intake in a V-bank arrangement and shall be accessible from the exterior of the unit.

## **2.02 POWER VENTILATORS - GENERAL**

- A. Static and Dynamically Balanced: AMCA 204 - Balance Quality and Vibration Levels for Fans.

- B. Performance Ratings: Determined in accordance with AMCA 210 and bearing the AMCA Certified Rating Seal.
- C. Sound Ratings: AMCA 301, tested to AMCA 300, and bearing AMCA Certified Sound Rating Seal.
- D. Fabrication: Conform to AMCA 99.
- E. UL Compliance: UL listed and labeled, designed, manufactured, and tested in accordance with UL 705.
- F. Electrical Components: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

**2.03 ROOF EXHAUSTERS (EF- )**

- A. Manufacturers:
  - 1. Greenheck; Model G or GB: [www.greenheck.com](http://www.greenheck.com).
  - 2. Carnes; Model Series VE: [www.carnes.com](http://www.carnes.com).
  - 3. Loren Cook Company; Model Series AC: [www.lorencook.com](http://www.lorencook.com).
  - 4. JenCoFan; Model RED or DB: [www.jencofan.com](http://www.jencofan.com).
  - 5. PennBarry; Model Domex: [www.pennbarry.com](http://www.pennbarry.com).
  - 6. Twin City Fan Company; Model DCRD/BCRD or DCRU/BCRU: [www.tcf.com](http://www.tcf.com).
  - 7. Acme; Model PV or PRN: [www.acmefan.com](http://www.acmefan.com).
  - 8. Substitutions: See Section 01 6000 - Product Requirements.
- B. Fan Unit: V-belt or direct driven as indicated, with spun aluminum housing; resilient mounted motor; 1/2 inch mesh, 0.62 inch thick aluminum wire birdscreen; square base to suit roof curb with continuous curb gaskets.
- C. Fan Unit: V-belt or direct driven as indicated, with spun aluminum housing; resilient mounted motor; 1/2 inch mesh, 0.62 inch thick aluminum wire birdscreen; square base to suit roof curb with continuous curb gaskets.
- D. Roof Curb: 12 inch high self-flashing of galvanized steel with continuously welded seams, built-in cant strips, insulation and curb bottom, interior baffle with acoustic insulation, curb bottom, and factory installed nailer strip.
- E. Disconnect Switch: Factory wired, non-fusible, in housing for thermal overload protected motor and wall mounted multiple speed switch.
- F. Backdraft Damper: Gravity actuated, aluminum multiple blade construction, felt edged with offset hinge pin, nylon bearings, blades linked, and line voltage motor drive, power open, spring return.
- G. Sheaves: Cast iron or steel, dynamically balanced, bored to fit shafts and keyed; variable and adjustable pitch motor sheave selected so required rpm is obtained with sheaves set at mid-position; fan shaft with self-aligning pre-lubricated ball bearings.

**2.04 ROOF EXHAUSTERS (KITCHEN)**

- A. Manufacturers:
  - 1. Greenheck; Model CUE/CUBE: [www.greenheck.com](http://www.greenheck.com).
  - 2. Carnes; Model Series VR: [www.carnes.com](http://www.carnes.com).
  - 3. Loren Cook Company; Model Series ACRU: [www.lorencook.com](http://www.lorencook.com).
  - 4. JenCoFan; Model NBRTD: [www.jencofan.com](http://www.jencofan.com).
  - 5. PennBarry; Model Fumex: [www.pennbarry.com](http://www.pennbarry.com).
  - 6. Twin City Fan Company; Model DCRUR/BCRUR: [www.tcf.com](http://www.tcf.com).
  - 7. Acme; Model PDURF/PNURF: [www.acmefan.com](http://www.acmefan.com).
  - 8. Substitutions: See Section 01 6000 - Product Requirements.
- B. Product Requirements:

1. Performance Ratings: Determined in accordance with AMCA 210 and bearing the AMCA Certified Rating Seal.
  2. Sound Ratings: AMCA 301, tested to AMCA 300, and bearing AMCA Certified Sound Rating Seal.
  3. Fabrication: Conform to AMCA 99.
  4. UL Compliance: UL listed and labeled, designed, manufactured, and tested in accordance with UL 705.
- C. Performance
1. Air Flow: As indicated in the Drawing Schedule.
  2. Electrical Characteristics:
    - a. Refer to Division 26.
  3. Motor: NEMA MG 1, 2006.
- D. Fan Unit: V-belt or direct driven as indicated, with spun aluminum housing; resilient mounted motor; 1/2 inch mesh, 0.62 inch thick aluminum wire birdscreen; square base to suit roof curb with continuous curb gaskets.
- E. Roof Curb: 12 inch high self-flashing of galvanized steel with continuously welded seams, built-in cant strips, insulation and curb bottom, interior baffle with acoustic insulation, curb bottom, ventilated double wall, hinged curb adapter, and factory installed nailer strip.
- F. Disconnect Switch: Factory wired, non-fusible, in housing for thermal overload protected motor and wall mounted multiple speed switch.
- G. Backdraft Damper: Gravity actuated, aluminum multiple blade construction, felt edged with offset hinge pin, nylon bearings, blades linked, and line voltage motor drive, power open, spring return.
- H. Sheaves: Cast iron or steel, dynamically balanced, bored to fit shafts and keyed; variable and adjustable pitch motor sheave selected so required rpm is obtained with sheaves set at mid-position; fan shaft with self-aligning pre-lubricated ball bearings.

**2.05 CABINET AND CEILING EXHAUST FANS (EF-18, 19)**

- A. Manufacturers:
1. Greenheck; Model Series SP/CSP: [www.greenheck.com](http://www.greenheck.com).
  2. Carnes; Model Series VCDD: [www.carnes.com](http://www.carnes.com).
  3. Loren Cook Company; Model Series GC/GN: [www.lorencook.com](http://www.lorencook.com).
  4. JenCoFan; Model Series FF/FFC: [www.jencofan.com](http://www.jencofan.com).
  5. PennBarry; Model Zephyr: [www.pennbarry.com](http://www.pennbarry.com).
  6. Twin City Fan Company; Type T and TL: [www.tcf.com](http://www.tcf.com).
  7. Acme; Model Series VQ/VQL: [www.acmefan.com](http://www.acmefan.com).
  8. Substitutions: See Section 01 6000 - Product Requirements.
- B. Construction:
1. Centrifugal Fan Unit: V-belt or direct driven with galvanized steel housing , resilient mounted motor, gravity backdraft damper in discharge.
  2. Disconnect Switch: Cord and plug in housing for thermal overload protected motor and wall mounted switch.
  3. Grille: Aluminum with baked white enamel finish.
  4. Sheaves: Cast iron or steel, dynamically balanced, bored to fit shafts and keyed; variable and adjustable pitch motor sheaves selected so required rpm is obtained with sheaves set at mid-position; fan shaft with self-aligning pre-lubricated ball bearings.
- C. Performance:
1. As indicated on the Drawing Schedule.
- D. Electrical Characteristics and Components:
1. Electrical Characteristics: In accordance with Division 26.
  2. Motors: In accordance with Section 22 05 13/23 05 13. Type: NEMA MG1.

3. Controls: As indicated in equipment schedule.
4. Disconnect Switch: Factory mount disconnect switch on equipment.

### **PART 3 EXECUTION**

#### **3.01 INSTALLATION**

- A. Install in accordance with manufacturer's instructions.
- B. Secure roof exhausters with stainless steel lag screws to roof curb.
- C. Extend ducts to roof exhausters into roof curb. Counterflash duct to roof opening.
- D. Hung Cabinet Fans:
  1. Install fans with resilient mountings and flexible electrical leads. Refer to Section 23 0548.
  2. Install flexible connections specified in Section 23 3300 between fan and ductwork.  
Ensure metal bands of connectors are parallel with minimum one inch flex between ductwork and fan while running.
- E. Provide sheaves required for final air balance.
- F. Install backdraft dampers on inlet to roof and wall exhausters.
- G. Provide backdraft dampers on outlet from cabinet and ceiling exhauster fans and as indicated.

**END OF SECTION 23 3423**

**SECTION 23 8127**  
**SMALL SPLIT-SYSTEM HEATING AND COOLING**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Split system heat pumps.
- B. Indoor ductless fan coil units.
- C. Outdoor VRF heat pumps.
- D. Refrigerant piping
- E. Controls.

**1.02 RELATED REQUIREMENTS**

- A. Division 26: Electrical characteristics and wiring connections and installation and wiring of thermostats and other controls components.

**1.03 REFERENCE STANDARDS**

- A. AHRI 210/240 - Standard for Performance Rating of Unitary Air-Conditioning and Air-Source Heat Pump Equipment; 2008, Including All Addenda.
- B. ASHRAE Std 15 - Safety Standard for Refrigeration Systems; 2013.
- C. ASHRAE Std 90.1 I-P - Energy Standard for Buildings Except Low-Rise Residential Buildings; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- D. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems; 2018.
- E. UL 207 - Standard for Refrigerant-Containing Components and Accessories, Nonelectrical; Current Edition, Including All Revisions.

**1.04 SUBMITTALS**

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide rated capacities, weights, accessories, electrical nameplate data, and wiring diagrams.
- C. Shop Drawings: Indicate assembly, required clearances, and location and size of field connections.
- D. Design Data: Indicate refrigerant pipe sizing.
- E. Manufacturer's Instructions: Indicate rigging, assembly, and installation instructions.
- F. Project Record Documents: Record actual locations of components and connections.
- G. Operation and Maintenance Data: Include manufacturer's descriptive literature, operating instructions, installation instructions, maintenance and repair data, and parts listing.
- H. Warranty: Submit manufacturers warranty and ensure forms have been filled out in Owner's name and registered with manufacturer.

**1.05 QUALITY ASSURANCE**

- A. Units shall be listed by ETL (Engineering Testing Laboratory) and be evaluated in accordance with UL standard 1995, 4th. edition.
- B. Units shall be listed in the AHRI directory.
- C. All units shall meet the Federal minimum efficiency standards and be tested per AHRI 210/240 Standard.



**1.06 DELIVERY, STORAGE, AND HANDLING**

- A. Units shall be shipped in one piece and shall be stored and handled per unit manufacturer's recommendations.

**1.07 WARRANTY**

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Provide five year manufacturers warranty for heat exchangers, condensing units, and compressors.

**PART 2 PRODUCTS**

**2.01 OUTDOOR UNITS - HEAT PUMPS (MINI-VRF)**

- A. The heat pump variable refrigerant flow system is a two-pipe system consisting of a single outdoor units, multiple indoor units of various types and capacities, individual or central indoor unit controls with on/off temperature settings, all connected by fully insulated refrigerant lines utilizing factory supplied, fully insulated, branching kits. Indoor units are connected to condensate piping that shall be terminated to the nearest drain point.
- B. The system shall be fully capable of providing heating or cooling as requested by the individual indoor zones that can consist of single or multiple indoor units. The heating priority shall be the default factory setting and can be changed to cooling, majority or a single zone priority.
- C. The maximum number of connected indoor units shall not exceed 9.
- D. The total connected indoor unit capacity shall range between 50 and 135% of the outdoor unit capacity based on indoor unit type & size selected.
- E. Manufacturers:
  - 1. LG: [www.lghvac.com](http://www.lghvac.com).
- F. The outdoor unit shall be specifically matched to the corresponding indoor unit size. The outdoor unit shall be complete factory assembled and pre-wired with all necessary electronic and refrigerant controls.
  - 1. Comply with AHRI 210 and AHRI 520.
    - a. Refrigerant: R-410A
    - b. Construction and ratings: In accordance with AHRI 210/240 with testing is accordance with ASHRAE Std 23 and UL 207 listed
    - c. Sound ratings as scheduled when measured in accordance with AHRI 270.
    - d. The outdoor unit shall include an oversized accumulator and a liquid tank for proper heating performance while allowing the indoor unit PMV (pulse modulating valve) metering device to shut off completely when a zone is satisfied.
    - e. The outdoor unit shall be protected by a high-pressure switch, high-pressure sensor, low-pressure sensor, fusible plugs, PC board, and inverter overload protector.
    - f. The outdoor unit shall be capable of operating in cooling mode down to 23 F dry bulb ambient air temperature, and down to -13 F wet bulb ambient air temperature in heating.
- G. Unit Cabinet:
  - 1. Unit cabinet shall be constructed of pre-coated steel, finished on both inside and outside.
  - 2. Unit access panels shall be removable with minimal screws and shall provide full access to the compressor, fans, and control components.
  - 3. Compressor shall be isolated in a compartment and have an acoustic wrap to assure quiet operation.
  - 4. The outdoor unit control panel shall include a sliding window to access adjustable controls and an LED display for setup and diagnostics.
  - 5. Unit cabinet shall be capable of withstanding 500-hour salt spray test per Federal Test Standard No. 141 (method 6061).

- H. Fan:
  - 1. The fan shall be a direct drive, propeller type fan, statically and dynamically balanced.
    - a. The motor shall be inverter driven, permanently lubricated type bearings, inherent.
    - b. A fan guard is provided on the outdoor unit to prevent contact with fan operation.
    - c. Airflow shall be horizontal discharge.
- I. Coil:
  - 1. Coil shall be constructed of aluminum fins mechanically bonded to seamless copper tubes, which are cleaned, dehydrated, and sealed.
  - 2. The coil configuration shall be 2-sided.
  - 3. The coil fins shall have a factory-applied corrosion resistant blue-fin finish.
- J. Compressor:
  - 1. Each outdoor unit shall be equipped with a single inverter-driven twin rotary compressor with full range control to an accuracy of  $\pm 0.1$ Hz.
  - 2. Compressor shall be totally enclosed in the machine compartment.
  - 3. Internal overloads shall protect the compressor from over-temperature operation.
  - 4. Motor shall be suitable for operation in an R-410A refrigerant atmosphere.
  - 5. Compressor assembly shall be installed on rubber vibration isolators.
- K. Controls and Safeties:
  - 1. Operating controls and safeties shall be factory selected, assembled, and tested. The minimum control functions shall include the following:
    - a. Controls:
      - 1) Compressor speed to match the refrigerant flow and capacity with the system requirements.
      - 2) Outdoor fan motor speed for higher efficiency and lower sound.
      - 3) Oil control for improved system reliability and comfort.
      - 4) Pulse modulating valve control for precise control of the refrigerant distribution and accurate capacity management to avoid starving any units.
    - b. Safeties:
      - 1) The following safety devices shall be part of the condensing unit:
      - 2) High-pressure switch
      - 3) Fuses
      - 4) Fusible plug
      - 5) Overcurrent relay for the compressor
      - 6) Thermal protectors for compressor and fan motor
      - 7) Compressor time delay
      - 8) Overcurrent sensor
      - 9) Compressor suction and discharge temperature sensor
      - 10) Compressor suction and discharge pressure sensor
- L. Electrical:
  - 1. All sizes shall utilize 208/230-1-60 field power supply.
  - 2. Two-core, stranded, shielded low voltage cable shall be required for communication between outdoor and indoor units.
  - 3. All power and control wiring must be installed per NEC and all local electrical codes.
- M. Low Ambient Kit: Provide refrigerant pressure switch to cycle condenser fan on when condenser refrigerant pressure is above 285 psig and off when pressure drops below 140 psig for operation to 20 degrees F.
- N. Mounting: Manufactured Equipment Platform.
  - 1. Manufacturer
    - a. PHP System Designs: [www.phpsd.com](http://www.phpsd.com)
    - b. Substitutions: See contract and Division 1 requirements.
  - 2. Materials:

- a. Bases are high density polypropylene with UV inhibitors and anti-oxidants conforming to following:
- b. Color: Black color are molded.
- c. Moisture Content: negligible
- d. Shrinking/Swelling due to moisture: Negligible.
- e. Resistant to oil, gasoline, antifreeze, battery acid and sulfuric acid.
- f. Do not use bases that are made of pressed rubber, steel, stainless steel, recycled tires or carbonated plastics.
- g. Base Dimensions:
  - 1) 18-inches wide by 18-inches long by 3-inches tall (18x18)
  - 2) 12-inches wide by 12-nches long by 3-inches tall (12x12)
  - 3) 10-inches wide by 16-inches long by 3-inches tall (PP10)
  - 4) 8-inches wide by 10-inches long by 2.5inches tall (SS8)
  - 5) 18-inches round by 3-inches tall (18 round).
- 3. Steel frame: Steel, 12ga 1-5/8" or 1-7/8" strut galvanized per ASTM A123 or 14ga 13/16" strut galvanized per ASTM A653 for PP10 and SS8.
- 4. Attaching hardware: HDG threaded rod, nuts and attaching hardware per ASTM A153.

## **2.02 DUCTLESS OUTDOOR HEAT PUMP UNITS - UP TO 3 TONS**

- A. Manufacturers:
  - 1. LG.
- B. Compressor: ARI 520; hermetic, 3600 rpm, resiliently mounted integral with condenser, with positive lubrication, crankcase heater, high-pressure control, motor overload protection, service valves and drier. Furnish time delay control to prevent short cycling.
- C. Refrigeration Accessories: Filter Drier, high-pressure switch (manual reset), low-pressure switch (automatic reset), service valves and gage ports and thermometer well (in liquid line), reversing valve, suction line accumulator, flow control check valve, and solid state defrost control. Furnish thermostatic expansion valves. Furnish refrigerant piping, factory cleaned, dried, pressurized and sealed, with insulated suction line.
- D. Air Cooled Condenser: ARI 520; aluminum fin and copper tube coil, with direct drive axial propeller fan resiliently mounted, galvanized fan guard.
  - 1. Rated cooling output: As indicated on the Drawing Schedules.
- E. Refrigeration Operating Controls:
  - 1. Room Thermostat: Cycles condensing unit and supply fan to maintain room temperature setting.

## **2.03 INDOOR UNITS FOR DUCTED SYSTEMS**

- A. Manufacturers:
  - 1. LG.
- B. Indoor Units: Self-contained, packaged, factory assembled, pre-wired unit consisting of cabinet, supply fan, heating and cooling element(s), controls, and accessories; wired for single power connection with control transformer.
  - 1. Air Flow Configuration: Counterflow, with additional steel base.
  - 2. Cabinet: Steel with baked enamel finish, easily removed and secured access doors with safety interlock switches, glass fiber insulation with reflective liner.
- C. Supply Fan: Centrifugal type rubber mounted with direct or belt drive with adjustable variable pitch motor pulley.
  - 1. Motor: NEMA MG 1; 1750 rpm single speed, permanently lubricated, hinge mounted.
  - 2. Motor Electrical Characteristics:
    - a. Refer to Division 26.
- D. Air Filters: 1 inch thick urethane, washable type arranged for easy replacement.

- E. Evaporator Coils: Copper tube aluminum fin assembly, galvanized or polymer drain pan sloped in all directions to drain, drain connection, refrigerant piping connections, restricted distributor or thermostatic expansion valve.
  - 1. Construction and Ratings: In accordance with AHRI 210/240 and UL 207.

#### **2.04 HIGHWALL INDOOR UNITS FOR DUCTLESS SYSTEMS**

- A. Manufacturer:
  - 1. LG: [www.lghvac.com](http://www.lghvac.com)
- B. Indoor Units:
  - 1. The indoor unit shall be factory assembled and pre-wired with all necessary electronic and refrigerant controls. Both liquid and suction lines must be individually insulated between the outdoor and indoor units.
  - 2. Unit Cabinet:
    - a. The indoor unit shall have a white, "flat screen" finish.
    - b. The drain and refrigerant piping shall be accessible from six (6) positions for flexible installation (right side, right back, and right bottom; and left side, left back, and left bottom).
    - c. The cabinet shall be supplied with a mounting plate to be installed onto a wall for securely mounting the cabinet.
    - d. Provide with zero-position EEV for systems with variable flow/multiple indoor units.
  - 3. Fan:
    - a. The evaporator fan shall be an assembly consisting of a direct-driven fan by a single motor.
    - b. The fan shall be statically and dynamically balanced and operate on a motor with permanent lubricated bearings.
  - 4. Filter:
    - a. The return air filter provided will be a mildew proof, removable and washable filter. Titanium apatite, photocatalytic air purifying filters are included as standard.
  - 5. Coil:
    - a. The evaporator coil shall be a nonferrous, aluminum fin on copper tube heat exchanger.
    - b. All tube joints shall be brazed with silver alloy or phoscopper.
    - c. All coils will be factory pressure tested.
    - d. A condensate pan shall be provided under the coil with a drain connection.
  - 6. Electrical:
    - a. The outdoor unit shall be powered with 208-230 volts, 1 phase, and 60 hertz power. The indoor unit shall receive 208-230 volt, 1 phase, 60 hertz power from the outdoor unit.
  - 7. Control:
    - a. The unit shall have a backlit, wired controller. 7-day programmable with auto change over, independent heating and cooling setpoints.
    - b. Provide BACnet interface or manufacturer's central controller as required to allow setpoint control and monitoring through BMS

#### **2.05 HEATING PUMP AIR HANDLING UNITS - UP TO 5 TONS**

- A. Manufacturers:
  - 1. LG.
- B. Coils: Evenly spaced aluminum fins mechanically bonded to copper tubes, designed for 200 psi and 200 degrees F. Provide drain pan under cooling coil, easily removable for cleaning, with drain connection. Provide electric coils where indicated.
- C. Cabinet: 0.0598 inch steel with exposed corners and edges rounded, easily removed panels, glass fiber insulation.

- D. Finish: Factory apply based primer coat on visible surfaces of enclosure or cabinet.
- E. Fans: Centrifugal forward-curved double-width wheels, statically and dynamically balanced, direct driven.
- F. Motor: Tap would multiple speed permanent split capacitor with sleeve bearings, resiliently mounted.
- G. Control: Multiple speed switch, factory wired, located in cabinet.
- H. Filter: Easily removed 1 inch thick glass fiber throw-away type, located to filter air before coil.
- I. Mixing Dampers: Where needed, mixing sections with dampers.

## **2.06 SYSTEM REFRIGERANT PIPING**

- A. Comply with requirements in Section 23 2300 - Refrigerant Piping for system piping requirements.
- B. Refrigerant Piping:
  - 1. Copper Tube: ASTM B 280, Type ACR.
  - 2. Wrought-Copper Fittings: ASME B16.22.
  - 3. Brazing Filler Metals: AWS A5.8/A5.8M.
  - 4. Insulation: Insulate both heat pump refrigerant lines. Insulate all three refrigerant lines from heat recovery outdoor units to MCU.
- C. Refrigerant Tubing Kits:
  - 1. Factory-rolled and -bundled, soft-copper tubing with tubing termination fittings at each end.
  - 2. Modular systems require outdoor refrigerant kits for module connections.
  - 3. Standard one-piece length for connecting to indoor units.
  - 4. Pre-insulated with flexible elastomeric insulation of thickness to comply with governing energy code and sufficient to eliminate condensation.
  - 5. Factory Charge: Dehydrated air or nitrogen.
- D. Divided-Flow Specialty Fittings: Where required by VRF HVAC system manufacturer for proper system operation, VRF HVAC system manufacturer shall furnish specialty fittings with identification and instructions for proper installation by Installer.
  - 1. Indoor Y-Joint Fittings: Piping to multiple indoor units requires additional piping components. Use VRF HVAC system manufacturer's Y-joint fittings to branch the main refrigerant lines.
  - 2. Outdoor Y-Joint Fittings: VRF HVAC system manufacturer's Y-joint fittings must be used to connect outdoor units when multiple module systems are being installed (systems with more than one outdoor unit).
- E. Refrigerant Isolation Ball Valves:
  - 1. Description: Uni-body full port design, rated for maximum system temperature and pressure, and factory tested under pressure to ensure tight shutoff. Designed for valve operation without removing seal cap.
  - 2. Seals: Compatible with system refrigerant and oil. Seal service life of at least 20 years.
  - 3. Valve Connections: Flare or sweat depending on size.

## **2.07 PIPING AND TUBING INSULATION**

- A. Comply with requirements in Section 23 0719 - HVAC Piping Insulation for system piping insulation requirements.
- B. Condensate Drain Piping and Tubing Insulation and Jacket Requirements:
  - 1. Flexible Elastomeric Insulation:
    - a. Closed-cell, sponge- or expanded-rubber materials, complying with ASTM C 534, Type I for tubular materials.
    - b. Thickness: Per Code.
- C. Refrigerant Tubing Insulation and Jacket Requirements:

1. Flexible Elastomeric Insulation:
  - a. Closed-cell, sponge- or expanded-rubber materials, complying with ASTM C 534, Type I for tubular materials.
  - b. Thickness: Per Code.

### **PART 3 EXECUTION**

#### **3.01 EXAMINATION**

- A. Verify that substrates are ready for installation of units and openings are as indicated on shop drawings.
- B. Verify that proper power supply is available and in correct location.

#### **3.02 INSTALLATION**

- A. Install in accordance with manufacturer's instructions and requirements of local authorities having jurisdiction.
- B. Install in accordance with NFPA 90A and NFPA 90B.
- C. Install refrigeration systems in accordance with ASHRAE Std 15.
- D. Pipe drain from cooling coils to hub drain per drawings.
- E. Consult with roofing manufacturer prior to installation of equipment base. Provide roofing material or rubber pads to protect roof as required by roofing manufacturers/

**END OF SECTION 23 8127**

**SECTION 23 8129**  
**VARIABLE REFRIGERANT FLOW SYSTEM**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. Section includes:
  - 1. Variable Refrigerant Flow (VRF) System
    - a. Heat Pumps (Condensing Units)
    - b. Fan Coils/Accessories
    - c. Controls
    - d. Refrigerant Piping

**1.02 SYSTEM DESCRIPTION**

- A. The variable capacity, air conditioning system shall consist of condensing units, multiple fan coils, Y-branch fittings, or two pipe refrigeration distribution system (heat pump only) and VRF controls system.
- B. Variable Refrigerant Temperature – Each condensing unit shall use high efficiency, variable speed all “inverter” compressor(s) coupled with inverter fan motors to optimize part load performance. The system capacity and refrigerant temperatures shall be modulated automatically to set suction and condensing pressures while varying the refrigerant volume and temperatures for the needs of the cooling or heating loads. The refrigerant temperature control will be automatic and customizable depending on load and weather conditions.
- C. The VRF Controls Network is made up of local remote controllers, multi-zone controllers, advanced multi-zone controllers, and open protocol software devices that transmit information via the high-speed communication bus and can also be controlled via a network PC. The VRF Controls Network supports operation monitoring, scheduling, error e-mail distribution, general user software, tenant billing, maintenance support, and integration with Building Management Systems (BMS) using open protocol via BACnet® or Lonworks® interfaces.

**1.03 RELATED SECTIONS**

- A. Section 23 05 49 - HVAC Seismic Restraint.
- B. Section 23 05 55 - HVAC Motors: Product requirements for motors for placement by this section.
- C. Section 23 3100 - HVAC Ducts and Casings: Execution requirements for ducts specified by this section.
- D. Division 26 - Equipment Wiring Connections: Execution requirements for electric connection to units specified by this section.

**1.04 REFERENCE STANDARDS**

- A. Air-Conditioning and Refrigeration Institute:
  - 1. ARI 410 - Forced-Circulation Air-Cooling and Air-Heating Coils.
- B. Sheet Metal and Air Conditioning Contractors:
  - 1. SMACNA - HVAC Duct Construction Standard - Metal and Flexible.
- C. AHRI 210/240 - Standard for Performance Rating of Unitary Air-Conditioning and Air-Source Heat Pump Equipment; 2008, Including All Addenda.
- D. ASHRAE Std. 90.1 I-P - Energy Standard for Buildings Except Low-Rise Residential Buildings; 2013, Including All Amendments and Errata.
- E. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

- F. UL 1995 - Heating and Cooling Equipment; Current Edition, Including All Revisions.
- G. ASHRAE Std. 135 - BACnet, A data communication protocol for building automation and control. For control network protocol with remote communication.

**1.05 SUBMITTALS**

- A. Submit the following:
  - 1. Equipment Data Sheets: Equipment data sheets indicating nominal performance and efficiency data, standard and accessory items, operating weights, and electrical data.
  - 2. Detailed Selection Software Reports: Selection software reports including capacities and performance based on actual design conditions. Reports to include de-rates associated with line length losses.
  - 3. Refrigerant Piping Diagrams: Refrigerant piping diagrams indicating general system architecture, line sizes and lengths.
  - 4. Controls Diagrams: Controls diagrams shall include all VRV controls components and layout, DI/DO/AI/AO controls schematics, BACnet client points, and BMS integration points if applicable.
  - 5. Manufacturers Equipment Warranty certificate

**1.06 QUALITY ASSURANCE**

- A. The units shall be tested by a Nationally Recognized Testing Laboratory (NRTL), in accordance with ANSI/UL 1995 – Heating and Cooling Equipment and bear the Listed Mark.
- B. All wiring shall be in accordance with the National Electric Code (NEC).
- C. The system will be produced in an ISO 9001 and ISO 14001 facility, which are standards set by the International Standard Organization (ISO). The system shall be factory tested for safety and function.
- D. Mechanical equipment for wind-born debris regions shall be designed in accordance with ASCE 7-2010 and installed to resist the wind pressures on the equipment and the supports.
- E. AHRI Compliance: System and equipment performance certified according to AHRI 1230 and products listed in AHRI directory.
- F. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by VRF HVAC system manufacturer.
  - 1. Each employee shall be certified by manufacturer for proper installation of systems, including, but not limited to, equipment, piping, controls, and accessories indicated and furnished for installation.
  - 2. Installer certification shall be valid and current for duration of Project.
  - 3. The installing contractor shall have attended VRF HVAC system manufacturer's installation training prior to installing the system.

**1.07 WARRANTY**

- A. VRV system: Manufacturers standard (10) year compressor/parts only warranty. See manufacturer's warranty certificate for details.
- B. Duct Zoning Kit: The units shall have a manufacturer's warranty for a period of one (1) year from date of installation. See manufacturer's warranty certificate for details.

**1.08 DELIVERY, STORAGE AND HANDLING**

- A. Unit shall be stored and handled according to the manufacturer's recommendations.
- B. Deliver and store products in a clean and dry place.
- C. Comply with manufacturer's written rigging and installation instructions for unloading and moving to final installed location.
- D. Protect products from weather, dirt, dust, water, construction debris, and physical damage.



1. Retain factory-applied coverings on equipment to protect finishes during construction and remove just prior to operating unit.
  2. Cover unit openings before installation to prevent dirt and dust from entering inside of units. If required to remove coverings during unit installation, reapply coverings over openings after unit installation and remove just prior to operating unit.
- E. Replace installed products damaged during construction.

## **PART 2 PRODUCTS**

### **2.01 APPROVED MANUFACTURERS**

- A. The basis of design is LG. If a different manufacturer is used, the contractor shall be financially responsible for any changes required from basis of design such as: pipe quantity and routing, additional controls required to meet design intent, electrical coordination and additional power required, architectural coordination of access panels for VRF equipment, and warranty differences from basis of design

### **2.02 OUTDOOR UNIT (NON HEAT RECOVERY)**

- A. Manufacturer:
1. LG.
- B. General:
1. Outdoor unit with manufacturer components. Multiple circuit boards that interface to controls system to perform functions necessary for operation. Factory assembled, piped, wired and run tested.
  2. Outdoor unit will have a sound rating no higher than 60 dB(A) individually or 65 dB(A) twinned. Units to have a sound rating no higher than 50 dB(A) individually or 55 dB(A) twinned while in night mode operation.
  3. Refrigerant lines from outdoor unit to indoor units insulated.
  4. Outdoor unit have an accumulator with refrigerant level sensors and controls.
  5. Outdoor unit have a high pressure safety switch, over-current protection and DC bus protection.
  6. Heating mode operation down to minus 13 degrees F ambient temperature or cooling mode down to 5 degrees F ambient temperature, without additional low ambient controls.
  7. High efficiency oil separator plus additional logic controls to maintain adequate oil volume in compressor.
  8. The system will automatically restart operation after a power failure and will not cause any settings to be lost. System not to require re-programming in the event of power failure.
  9. The outdoor unit to be modular in design and to allow for side-by-side installation following manufacturer's recommended clearances.
- C. Unit Cabinet:
1. Casings to be completely weatherproof and fabricated of galvanized steel, bonderized and finished. Withstand 960 hours per ASTM B117 criteria for seacoast protected models.
- D. Fan:
1. Direct drive, variable speed propeller type fan.
  2. Fan motor inherent protection, permanently lubricated bearings, and completely variable speed operation via a DC inverter.
  3. Fan factory set for operation under 0-inch WG external static pressure, but capable of normal operation under a maximum of 0.32-inch WG external static pressure via dipswitch.
  4. Fan motor mounted for quiet operation.
  5. Raised guard to prevent contact with moving parts.
  6. Outdoor unit to have vertical discharge airflow.
- E. Refrigerant:
1. R410A refrigerant.

- F. Outdoor Coil:
  - 1. Nonferrous construction with lanced or corrugated plate fins on copper tubing.
  - 2. Factory applied corrosion resistant finish.
  - 3. Integral metal coil guard.
  - 4. Inverter driven compressor refrigerant flow control.
- G. Compressor:
  - 1. Inverter driven scroll hermetic compressor.
  - 2. Crankcase heater.
  - 3. Outdoor unit compressor have inverter to modulate capacity. Variable capacity turndown of 18-4 percent of rated capacity, depending upon unit size.
  - 4. Internal thermal overload.
  - 5. The compressor(s) to be mounted on rubber-in-shear isolators to avoid the transmission of vibration.
- H. Electrical:
  - 1. The power supply to the outdoor unit to be as scheduled on the drawings.
  - 2. The control circuit between the indoor units, heat recovery units, and outdoor unit is a variable low voltage DC communication completed using a two-conductor, stranded, and shielded cable for the RS-485 daisy chain communication wiring.

**2.03 INDOOR UNIT - CEILING CONCEALED DUCTED (HIGH STATIC) (FC-1)**

- A. Manufactutrer:
  - 1. LG.
- B. General
  - 1. Ceiling concealed, ducted indoor fan coil with fixed rear return and a horizontal discharge supply. Modulating electronic expansion valve. External static pressure settings up to 0.89-inch WC.
  - 2. Factory assembled, wired and run tested. Factory wiring, piping electronic modulating electronic expansion device, control circuit board and fan motor. Self-diagnostic function, 3-minute time delay mechanism, and auto restart function.
  - 3. Indoor unit and refrigerant pipes precharged with dehydrated air before shipment from factory.
- C. Unit Cabinet:
  - 1. Ceiling-concealed, ducted.
- D. Fan:
  - 1. One or two fans direct driven by single motor.
  - 2. Statically and dynamically balanced, motor with permanently lubricated bearings.
  - 3. Minimum of two speed settings.
  - 4. Fan motor to be thermally protected.
- E. Filter:
  - 1. Field-supplied return air filter.
  - 2. Filter box with high efficiency filter as scheduled
- F. Evaporator Coil:
  - 1. Nonferrous construction with smooth plate fins on copper tubing with inner grooves for high efficiency heat exchange.
  - 2. Brazed tube joints with phos-copper or silver alloy.
  - 3. Pressure tested at factory.
  - 4. Condensate pan and drain under coil. Provide with integral condensate pump.
  - 5. Integral condensate lift mechanism able to raise drain water 27-inches above the bottom of the indoor unit.
- G. Provide with factory option economizer mixing box with low leak dampers, actuators, and controls.

- H. Controls:
  - 1. The unit to have PID controls provided by manufacturer to perform input functions necessary to operate the system. No third party building management system to be required, however, VRF system to be capable of communicating with third party BMS.
  - 2. The unit to be compatible with interfacing with connection to LonWorks networks.

**2.04 INDOOR UNIT - VERTICAL AIR HANDLER (FC-2)**

- A. Manufacturer:
  - 1. LG.
- B. General:
  - 1. Vertical ducted indoor fan coil design with fixed bottom return, fixed vertical discharge supply, and modulating electronic expansion device. Either vertical mounting.
  - 2. Factory assembled, wired and run tested. Factory wiring, piping electronic modulating electronic expansion device, control circuit board and fan motor. Self-diagnostic function, 3-minute time delay mechanism, and auto restart function.
  - 3. Indoor unit and refrigerant pipes precharged with dehydrated air before shipment from factory.
- C. Unit Cabinet:
  - 1. Prepainted, preinsulated, 22 gauge galvanized steel.
- D. Fan:
  - 1. Single direct drive fan with high efficiency DC motor.
  - 2. Statically and dynamically balanced; motor with permanently lubricated bearings.
  - 3. Ducted air outlet system and ducted return air system.
  - 4. Three selectable speeds with capability to operate between 0.1 and 1-inch WC.
  - 5. Fan motor to be thermally protected.
- E. Filter:
  - 1. Available 1-inch access panel for field supplied air filter.
- F. Evaporator Coil:
  - 1. Nonferrous construction with smooth plate fins on copper tubing with inner grooves for high efficiency heat exchange.
  - 2. Brazed tube joints with phos-copper or silver alloy.
  - 3. Pressure tested at factory.
  - 4. Condensate pan and drain under coil. Provide with integral condensate pump.
  - 5. Condensate gravity drained insulated.
  - 6. Insulated refrigerant lines.
  - 7. Provide with factory electric resistance heater insulated nickel chromium, spiral wound elements.

**2.05 CONTROL SYSTEMS FOR VRF SYSTEMS**

- A. General:
  - 1. Provide devices required for fully operating system including but not limited to: Remote controllers, schedule timers, system controllers, economizer and auxiliary electric heat.
  - 2. General Electrical: 24 VDC controller power and communications via common, non-polar communications bus: Main system controller capable of being networked with other system controllers for web based control.
  - 3. Wiring type: Wiring 2-conductor (16 AWG), twisted shielded pair, and stranded wire.
  - 4. Install controls in accordance with manufacturing recommendations.
  - 5. Daikin Navigation Remote Controller #BRC1E73.
  - 6. See drawings for MicroMetl mixing box and JADE controller.
  - 7. Provide BACnet interface or manufacturer's central controller as required to allow setpoint control and monitoring through BMS.

- B. Controls Network:
  - 1. Simple Remote Controller: Simple Remote Controller capable of controlling up to a minimum of 12 indoor units (defined as 1 group). Controller supports temperature display selection of Fahrenheit or Celsius. Controller will allow user to change on/off, mode (cool, heat, auto, dry, and fan), temperature setting, and fan speed setting. Controller able to limit set temperature range from Simple remote controller. Room temperature sensed at either Controller or Indoor Unit dependent on indoor unit dipswitch setting. Controller will display a four-digit error code in event of system abnormality/error.
- C. System Integration
  - 1. Operation and monitoring points include, but are not limited to:
    - a. ON/OFF (setting).
    - b. ON/OFF (status).
    - c. Alarm Sign.
    - d. Error Code.
    - e. Operation Mode (setting).
    - f. Operation Mode (status).
    - g. Fan Speed (setting).
    - h. Fan Speed (status).
    - i. Measured Room Temperature.
    - j. Set Room Temperature.
    - k. Filter Limit Sign.
    - l. Filter Limit Sign Reset.
    - m. Remote Control Operation (ON/OFF).
    - n. Remote Control Operation (Operation Mode).
    - o. Remote Control Operation (Set Temperature).
    - p. Electrical Total Power.
    - q. Communication Status.
    - r. System Forced OFF.
    - s. Forced Thermostat OFF (setting).
    - t. Forced Thermostat OFF (status).
    - u. Compressor Status.
    - v. Indoor Fan Status.
    - w. Heater Operation Status.
    - x. Economizer Control.

## **2.06 SYSTEM REFRIGERANT PIPING**

- A. Refrigerant Piping:
  - 1. Copper Tube: ASTM B 280, Type ACR.
  - 2. Wrought-Copper Fittings: ASME B16.22.
  - 3. Brazing Filler Metals: AWS A5.8/A5.8M.
  - 4. Insulation: Insulate both heat pump refrigerant lines. Insulate all three refrigerant lines from heat recovery outdoor units to MCU.
- B. Refrigerant Tubing Kits:
  - 1. Factory-rolled and -bundled, soft-copper tubing with tubing termination fittings at each end.
  - 2. Modular systems require outdoor refrigerant kits for module connections.
  - 3. Standard one-piece length for connecting to indoor units.
  - 4. Pre-insulated with flexible elastomeric insulation of thickness to comply with governing energy code and sufficient to eliminate condensation.
  - 5. Factory Charge: Dehydrated air or nitrogen.
- C. Divided-Flow Specialty Fittings: Where required by VRF HVAC system manufacturer for proper system operation, VRF HVAC system manufacturer shall furnish specialty fittings with identification and instructions for proper installation by Installer.

1. Indoor Y-Joint Fittings: Piping to multiple indoor units requires additional piping components. Use VRF HVAC system manufacturer's Y-joint fittings to branch the main refrigerant lines.
  2. Outdoor Y-Joint Fittings: VRF HVAC system manufacturer's Y-joint fittings must be used to connect outdoor units when multiple module systems are being installed (systems with more than one outdoor unit).
- D. Refrigerant Isolation Ball Valves:
1. Description: Uni-body full port design, rated for maximum system temperature and pressure, and factory tested under pressure to ensure tight shutoff. Designed for valve operation without removing seal cap.
  2. Seals: Compatible with system refrigerant and oil. Seal service life of at least 20 years.
  3. Valve Connections: Flare or sweat depending on size.

## **2.07 PIPING AND TUBING INSULATION**

- A. Condensate Drain Piping and Tubing Insulation and Jacket Requirements:
1. Flexible Elastomeric Insulation:
    - a. Closed-cell, sponge- or expanded-rubber materials, complying with ASTM C 534, Type I for tubular materials.
    - b. Thickness: Per Code.
- B. Refrigerant Tubing Insulation and Jacket Requirements:
1. Flexible Elastomeric Insulation:
    - a. Closed-cell, sponge- or expanded-rubber materials, complying with ASTM C 534, Type I for tubular materials.
    - b. Thickness: Per Code.

## **PART 3 EXECUTION**

### **3.01 EQUIPMENT INSTALLATION:**

- A. Install in location shown on Drawings. Level unit and secure to structure. Provide secondary structural base where required to attach to structure. Provide vibration isolators where indicated.
- B. Make piping connections and unit installation per manufacturer's recommendations and installation guidelines.
- C. Size and run refrigerant piping between fan coil unit(s), condensing units(s) and branch selectors(s) per manufacturer's recommendations.
- D. Insulate refrigerant piping per manufacturer's recommendations.
- E. Install, test, and charge refrigeration piping system per manufacturer's recommendations.
- F. Install VRV control network and control components per manufacturer's recommendations.

### **3.02 CLEARANCE:**

- A. Maintain manufacturer's recommended clearances for service and maintenance.
- B. Maintain clearances required by governing code.
- C. Equipment Restraint Installation: Install equipment with seismic-restraint device. Comply with requirements for seismic-restraint devices specified in Section 23 0548 Vibration and Seismic Controls for HVAC."

### **3.03 INSTALLATION OF INDOOR UNITS**

- A. Install units to be level and plumb while providing a neat and finished appearance.
- B. Unless otherwise required by VRF HVAC system manufacturer, support ceiling-mounted units from structure above using threaded rods; minimum rod size of 3/8 inch.

- C. Adjust supports of exposed and recessed units to draw units tight to adjoining surfaces.
- D. Protect finished surfaces of ceilings, floors, and walls that come in direct contact with units. Refinish or replaced damaged areas after units are installed.
- E. In rooms with ceilings, conceal piping and tubing, controls, and electrical power serving units above ceilings.
- F. In rooms without ceiling, arrange piping and tubing, controls, and electrical power serving units to provide a neat and finished appearance.
- G. Provide lateral bracing if needed to limit movement of suspended units to not more than 1 inch
- H. For floor- and wall-mounted units that are exposed, conceal piping and tubing, controls, and electrical power serving units within walls.
- I. Attachment: Install hardware for proper attachment to supported equipment.

### **3.04 INSTALLATION OF OUTDOOR UNITS**

- A. Install units to be level and plumb while providing a neat and finished appearance.
- B. Install outdoor units on support structures indicated on Drawings.
- C. Install units to clear average snow pack and snow drifts.
- D. Pad-Mounted Installations: Install outdoor units on cast-in-place concrete equipment bases. Comply with requirements for equipment bases and foundations specified in Section 03 3000 - Cast-in-Place Concrete.
  - 1. Attachment: Install anchor bolts to elevations required for proper attachment to supported equipment.
  - 2. Grouting: Place grout under equipment supports and make bearing surface smooth.

### **3.05 GENERAL REQUIREMENTS FOR PIPING INSTALLATION**

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping and tubing systems. Install piping and tubing as indicated unless deviations to layout are approved on coordination drawings.
- B. Install piping and tubing in concealed locations unless otherwise indicated and except in equipment rooms and service areas.
- C. Install piping and tubing at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- D. Install piping and tubing above accessible ceilings to allow sufficient space for ceiling panel removal.
- E. Install piping and tubing to permit valve servicing.
- F. Install piping and tubing at indicated slopes.
- G. Install piping and tubing free of sags.
- H. Install fittings for changes in direction and branch connections.
- I. Install piping and tubing to allow application of insulation.
- J. Install groups of pipes and tubing parallel to each other, spaced to permit applying insulation with service access between insulated piping and tubing.
- K. Install sleeves for piping and tubing penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Section 23 0517 - Sleeve and Sleeve Seals for HVAC Piping.
- L. Install escutcheons for piping and tubing penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Section 23 05 18 - Escutcheons for HVAC Piping.

### **3.06 INSTALLATION OF SYSTEM CONDENSATE DRAIN PIPING**

- A. General Requirements for Drain Piping and Tubing:
  - 1. Install a union in piping at each threaded unit connection.
  - 2. Install an adjustable stainless-steel hose clamp with adjustable gear operator on unit hose connections. Tighten clamp to provide a leak-free installation.
  - 3. If required for unit installation, provide a trap assembly in drain piping to prevent air circulated through unit from passing through drain piping. Comply with more stringent of the following:
    - a. Details indicated on Drawings.
    - b. Manufacturer's requirements.
    - c. Governing codes.
    - d. In the absence of requirements, comply with requirements of ASHRAE handbooks.
  - 4. Extend drain piping from units with drain connections to drain receptors as indicated on Drawings. If not indicated on Drawings, terminate drain connection at nearest accessible location that is not exposed to view by occupants.
  - 5. Provide each 90-degree change in direction with a Y- or T-fitting. Install a threaded plug connection in the dormant side of fitting or future use as a service cleanout.
- B. Slope piping from unit connection toward drain termination at a constant slope of not less than one percent.

### **3.07 INSTALLATION OF REFRIGERANT PIPING**

- A. Refrigerant Tubing Kits:
  - 1. Unroll and straighten tubing to suit installation. Deviations in straightness of exposed tubing shall be unnoticeable to observer.
  - 2. Support tubing using hangers and supports indicated at intervals not to exceed 5 feet.
  - 3. Prepare tubing ends and make mating connections to provide a pressure tight and leak-free installation.
- B. Install refrigerant piping according to ASHRAE 15 and governing codes.
- C. Select system components with pressure rating equal to or greater than system operating pressure.
- D. Install piping as short and direct as possible, with a minimum number of joints and fittings.
- E. Arrange piping to allow inspection and service of equipment. Install valves and specialties in accessible locations to allow for service and inspection. Install access doors or panels as specified if valves or equipment requiring maintenance is concealed behind finished surfaces.
- F. Install refrigerant piping and tubing in protective conduit where installed belowground.
- G. Install refrigerant piping and tubing in rigid or flexible conduit in locations where exposed to mechanical damage.
- H. When brazing, remove or protect components that could be damaged by heat.
- I. Before installation, clean piping, tubing, and fittings to cleanliness level required by VRF HVAC system manufacturer.
- J. Joint Construction:
  - 1. Ream ends of tubes and remove burrs.
  - 2. Remove scale, slag, dirt, and debris from inside and outside of tube and fittings before assembly.
  - 3. Construct joints according to AWS's "Brazing Handbook," "Pipe and Tube" Chapter.
    - a. Use Type BCuP (copper-phosphorus) alloy for joining copper fittings with copper tubing.
    - b. Use Type BAg (cadmium-free silver) alloy for joining copper with bronze.



**3.08 FIELD QUALITY CONTROL**

- A. System Refrigerant Charge:
  - 1. Using information collected from the refrigerant tubing evacuation testing, system Installer shall consult variable refrigerant system manufacturer to determine the correct system refrigerant charge.
  - 2. Installer shall charge system following VRF HVAC system manufacturer's written instructions.
  - 3. Total refrigerant charge shall be recorded and permanently displayed at the system's outdoor unit.

**3.09 CONTROLS**

- A. Install controls. Provide all devices, materials, equipment, software, wiring, interconnecting power, labor and engineering necessary to achieve the Sequence of Operation described in Section 23 0593.

**3.10 START-UP:**

- A. Comply with manufacturer's start-up and commissioning instructions.

**END OF SECTION 23 8129**



950 12th AVE., SUITE 200  
LONGVIEW, WA 98632  
PHONE: 360-425-0000



M1.2  
ADD 1  
RE-BID

## HVAC SCHEDULES

## FAN COIL UNIT

OUTDOOR UNIT	SYMBOL MARK	DESCRIPTION	SERVICE	NOMINAL TONNAGE	CFM	VOLTAGE	PH	HP	MCA	FLA	ESP (IN WC)	RPM	DRIVE	COOLING CAPACITY (MBH)	HP HEATING OUTPUT @ 47°F (MBH)	REFRIGERANT TYPE	SOUND (dBA) L/MH	MINIMUM OSA CFM	WEIGHT (UNIT ONLY) (LBS.)	COMMENTS
HP-1	FC-1	DUCTLESS, HIGH WALL, VRF	RECEPTION 2B, WAITING 2A	1.50	680	208	1	-	0.40	0.00			DIRECT	18.0	18.0	R-410A	33 / 40 / 48	NOTE 1	30	NOTE 1.2
	FC-2	DUCTLESS, HIGH WALL, VRF	HEALTH 2L	1.00	380	208	1	-	0.40	0.00			DIRECT	12.0	13.5	R-410A	27 / 34 / 42	NOTE 1	30	NOTE 1.2
	FC-3	DUCTLESS, HIGH WALL, VRF	STAFF ROOM 2G	1.50	680	208	1	-	0.40	0.00			DIRECT	18.0	18.0	R-410A	33 / 40 / 48	NOTE 1	30	NOTE 1.2
HP-2	FC-4	DUCTLESS, HIGH WALL, VRF	PRINCIPAL 2C	0.75	380	208	1	-	0.40	0.00			DIRECT	9.5	10.5	R-410A	27 / 34 / 42	NOTE 1	25	NOTE 1.2
	FC-5	DUCTLESS, HIGH WALL, VRF	STUDENT AREA 2D	0.58	250	208	1	-	0.40	0.00			DIRECT	7.0	8.1	R-410A	27 / 34 / 42	NOTE 1	25	NOTE 1.2
	FC-6	DUCTLESS, HIGH WALL, VRF	ASSISTANT PRINCIPAL 2E	0.75	380	208	1	-	0.40	0.00			DIRECT	9.5	10.5	R-410A	27 / 34 / 42	NOTE 1	25	NOTE 1.2
	FC-7	DUCTLESS, HIGH WALL, VRF	CONFERENCE ROOM 2F	1.00	380	208	1	-	0.40	0.00			DIRECT	12.0	13.5	R-410A	27 / 34 / 42	NOTE 1	25	NOTE 1.2
	FC-8	DUCTLESS, HIGH WALL, VRF	LIBRARY 2B	1.50	680	208	1	-	0.40	0.00			DIRECT	18.0	27.0	R-410A	33 / 40 / 48	NOTE 1	30	NOTE 1.2
HP-3	FC-9	DUCTLESS, HIGH WALL, VRF	LIBRARY 2B	2.00	870	208	1	-	0.40	0.00			DIRECT	24.0	27.0	R-410A	39 / 45 / 50	NOTE 1	45	NOTE 1.2
	FC-10	DUCTLESS, HIGH WALL, VRF	LIBRARY OFFICE 2BA	0.58	250	208	1	-	0.40	0.00			DIRECT	7.0	8.1	R-410A	27 / 34 / 42	NOTE 1	25	NOTE 1.2
	FC-11	DUCTLESS, HIGH WALL	TSEC 6	1.50	926	208	1	0.50	-	0.00			DIRECT	18.0	18.0	R-410A	33 / 40 / 48	NOTE 1	30	NOTE 1.2
CU-1	FC-12	DUCTLESS, HIGH WALL, AC	MDF 49	1.00	305	208	1	0.25	-	0.00			DIRECT	11.5	-	R-410A	28 TO 42	NOTE 3	20	NOTE 2

NOTES:

1 OUTSIDE AIR IS PROVIDED TO SPACE/ZONE BY ERV. SEE VENTILATION SCHEDULE FOR OUTSIDE AIR QUANTITIES PROVIDED.

2 INDOOR UNIT RECEIVES POWER FROM OUTDOOR UNIT. COORDINATE WITH DIVISION 26.

3 UNIT SERVES AN UNOCCUPIED COMPUTER ROOM. VENTILATION IS NOT REQUIRED

## HEAT PUMP - AIR TO AIR

SYMBOL MARK	DESCRIPTION	SERVICE	CAPACITY (TONS)	VOLTAGE	PH.	MCA	COOLING					HEATING				SOUND RATING (DBA)	WEIGHT (LBS)	COMMENTS
							TOTAL CAPACITY (M/H)	E/W (°F)	AMBIENT AIR (°F)	SEER	EER	CAPACITY 47° F (M/H)	HSPF 47° F	CAPACITY 17° F (M/H)	HSPF 17° F			
HP-1	SPLIT SYSTEM - MINI VRF	FC-1, 2, 3	4.0	208	1	27.3	48.0	67	95	21.0	-	54.0	11.50	54.0	11.50	57.0	350	
HP-2	SPLIT SYSTEM - MINI VRF	FC-4, 5, 6, 7	3.0	208	1	17.9	34.0	67	95	22.7	-	41.0	11.50	40.0	11.50	56.0	350	
HP-3	SPLIT SYSTEM - MINI VRF	FC-8, 9, 10	4.0	208	1	27.3	48.0	67	95	21.0	-	54.0	11.50	54.0	11.50	57.0	350	
HP-4	SPLIT SYSTEM - ONE TO ONE	FC-11	1.5	208	1	13.0	18.0	67	95	28.2	14.5	18.0	4.12	18.0	2.20	61.5	150	

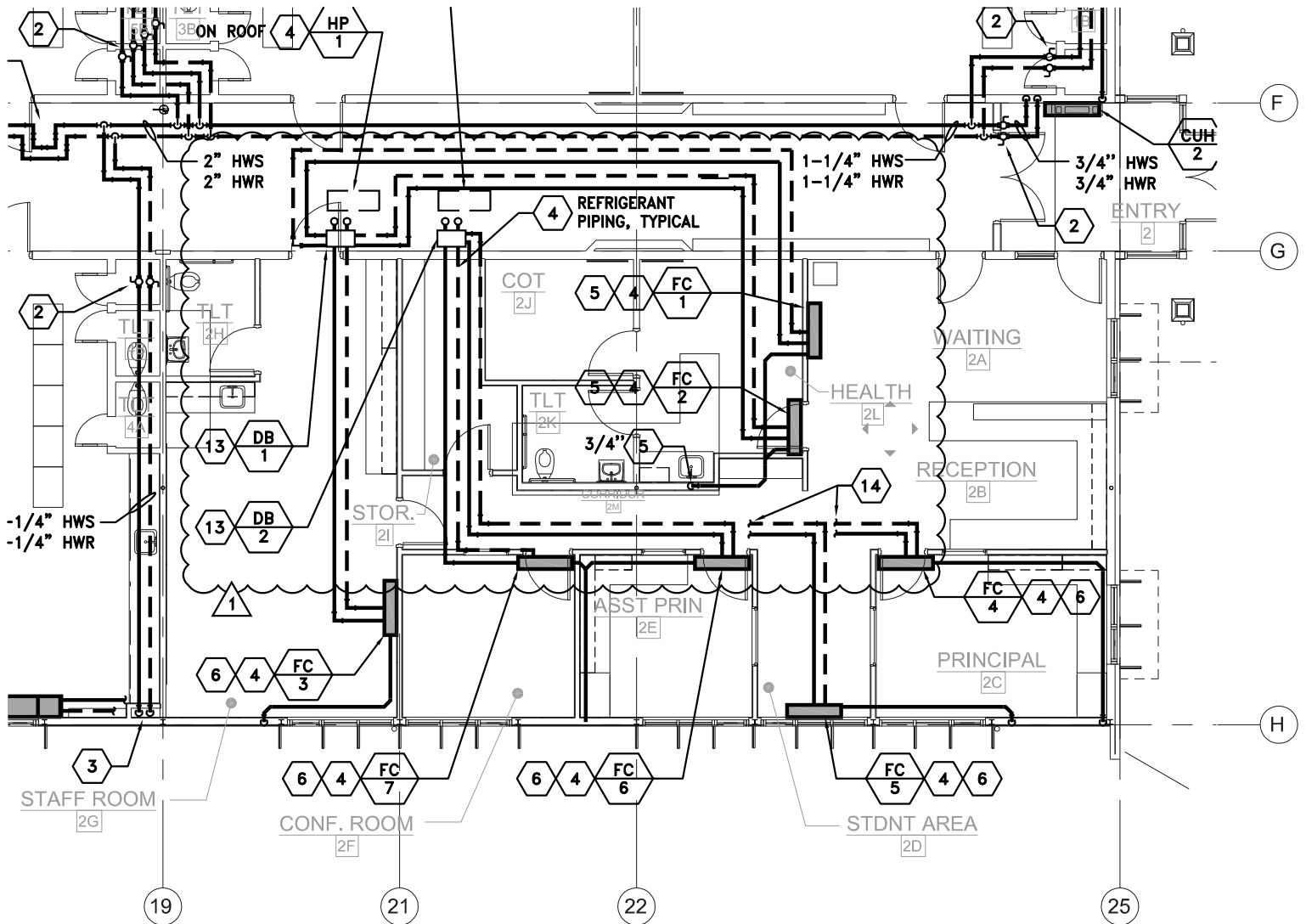
**NOTES:**

### BRANCH DISTRIBUTION BOX

SYMBOL MARK	DESCRIPTION	SERVICE	NUMBER OF BRANCHES	VOLTAGE	PH.	WATTS	MCA	FLA	WEIGHT (LBS)	COMMENTS
DB-1	MULTI-PORT DISTRIBUTION BOX	HP-1	3	208	1	24	-	0.12	15	
DB-2	MULTI-PORT DISTRIBUTION BOX	HP-2	4	208	1	32	-	0.2	15	
DB-3	MULTI-PORT DISTRIBUTION BOX	HP-3	3	208	1	24	-	0.12	15	

NOTES:

13. PROVIDE BRANCH DISTRIBUTION BOX ABOVE CEILING. PROVIDE ACCESS PANEL.
14. ROUTE PIPING ALONG BEAM TO BRANCH DISTRIBUTION BOX. INSTALL PER MANUFACTURER'S INSTRUCTIONS. COORDINATE ROUTING WITH DUCTWORK.

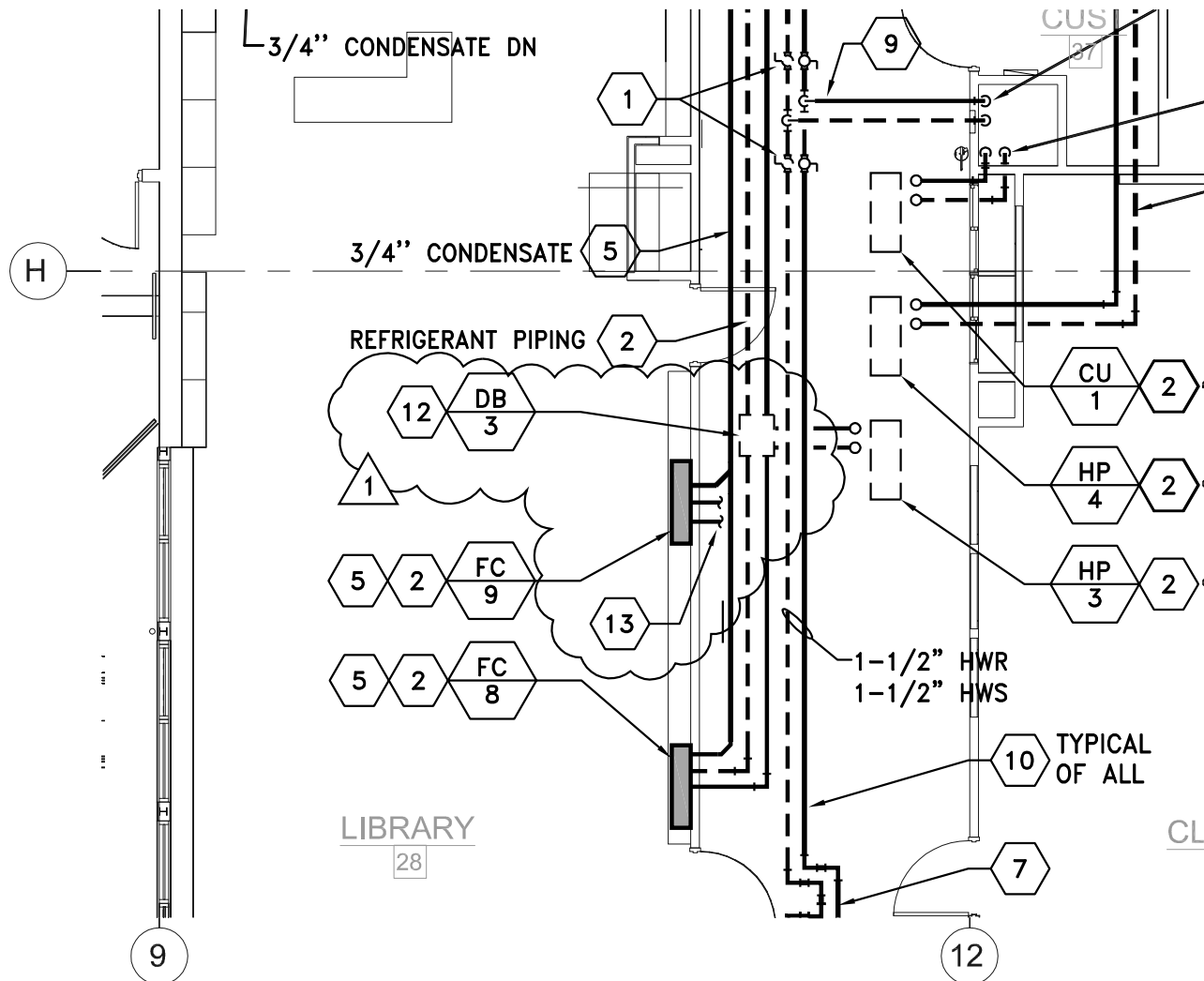


1 PARTIAL UPPER LEVEL – AREA B – HVAC PIPING  
M4.5 SCALE: N.T.S.

	<p>PARTIAL PLAN - AREA B - HVAC PIPING</p> <p>KELSO SCHOOL DISTRICT NO. 458 BUTLER ACRES ELEMENTARY MOD &amp; ADDITIONS</p>	<p>950 12th AVE., SUITE 200 LONGVIEW, WA 98632 PHONE: 360-425-0000</p>	<p>Scale NTS</p> <p>Date 06/18/20</p> <p>Project # 2019-19</p>	<p>M4.5 ADD 1 RE-BID</p>
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ROUTING WITH OTHER TRADES.

12. PROVIDE BRANCH DISTRIBUTION BOX ABOVE CEILING. PROVIDE ACCESS PANEL.
13. ROUTE PIPING TO BRANCH DISTRIBUTION BOX. INSTALL PER MANUFACTURER'S INSTRUCTIONS.



1 PARTIAL UPPER LEVEL - AREA C - HVAC PIPING  
M4.6 SCALE: 1/8" = 1'-0"

<p>6/18/2020</p>	<p>PARTIAL PLAN - AREA C - HVAC PIPING</p>			
<p>KELSO SCHOOL DISTRICT NO. 458 BUTLER ACRES ELEMENTARY MOD &amp; ADDITIONS</p>	<p>950 12th AVE., SUITE 200 LONGVIEW, WA 98632 PHONE: 360-425-0000</p>	<p>Scale 1/8"=1'-0"</p> <p>Date 06/18/20</p> <p>Project # 2019-19</p>	<p>M4.6 ADD 1 RE-BID</p>	

# BUTLER ACRES ELEMENTARY MODERNIZATION AND ADDITION - REBID

PRE-BID WALK ATTENDANCE SIGN-IN

6/17/2020

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# BUTLER ACRES ELEMENTARY MODERNIZATION AND ADDITION - REBID

PRE-BID WALK ATTENDANCE SIGN-IN

6/17/2020

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