BID AND CONTRACT DOCUMENTS

VOLUME I

BIDDING FORMS, AGREEMENT FORMS, AND TECHNICAL SPECIFICATIONS

for

City of Walla Walla
Walla Walla, Washington

Sudbury Road Landfill
Remedial Action

January 2016

Volume I	Bidding Forms, Agreement Forms, and Technical Specifications
Volume II	Plans
Volume III	Construction Quality Assurance (CQA) Manual

Engineers

J-U-B ENGINEERS, Inc.
2810 W. Clearwater Ave., Ste. 201
Kennewick, WA 99336
(509)783-2144

Owner

City of Walla Walla
55 W. Moore St.
Walla Walla, WA 99362
(509) 524-4510

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CITY OF WALLA WALLA

PROJECT MANUAL

SUDBURY ROAD LANDFILL REMEDIAL ACTION

LF09010

JANUARY 2016

Prepared By:

Schwyn Environmental Services

J·U·B ENGINEERS, INC.

HERRERA

CB&I

City of Walla Walla
Walla Walla, Washington

Sudbury Road Landfill Remedial Action

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BIDDING FORMS

CITY OF WALLA WALLA
Public Works Department

NOTICE:
REQUEST FOR BIDS

The City of Walla Walla, Washington invites bids for the Sudbury Road Landfill Remedial Action project. Sealed bids plainly marked **"SUDBURY ROAD LANDFILL REMEDIAL ACTION"** will be received at the office of the City Clerk, 15 North Third Avenue, Walla Walla, Washington 99362 until **2:00 p.m.**, local time, Tuesday, February 16, 2016, then publicly opened and read aloud.

Project Summary:

The work includes, but is not limited to, City of Walla Walla Area 2 and Area 5 Closure - Sudbury Road Landfill, including borrow excavation, placement and compaction of soil cover, storm drainage collection system, concrete storm ditch, concrete crushing, seeding, and roadway improvements. Work will also include installation of gas extraction wells and landfill gas collection and leachate system.

Bidders are strongly urged to attend a pre-bid site visit. The site visit will be conducted jointly by the Owner and Engineer, and will start at 1:30 pm, Wednesday, February 10, 2016, at the City of Walla Walla Sudbury Road Landfill, 414 Landfill Road, Walla Walla, Washington.

A CD containing PDF files of the Contract Documents for bidding purposes may be obtained from J-U-B Engineers, Inc., 2810 W. Clearwater Ave., Suite 201, Kennewick, WA, 99336 for **$2.00** per CD. The current Planholder's List and any addendums will be posted on the City's website at www.wallawallawa.gov.

All communications relative to this work and bid are to be directed to the Engineer prior to opening of Bids. For information concerning the proposed work, contact Alex Fazzari, P.E., J-U-B Engineers, Inc., 2810 W. Clearwater Avenue, Suite 201, Kennewick, WA 99336, Telephone 509-783-2144.

Advertised February 1, 2016 in:
Walla Walla Union Bulletin
Seattle Daily Journal of Commerce

Bidder's Checklist

The following items must be completed and accompany the PROPOSAL at the time of the bid opening:

____ 1. ALL ADDENDA must be completed and signed and accompany the PROPOSAL.

____ 2. The BID must be signed with name and address of the Bidder typed or clearly printed.

____ 3. The BID amounts must be complete.

____ 4. The NON-COLLUSION AFFIDAVIT must be signed, certified, and included. [Documents 00410].

____ 5. The NAMING OF SUBCONTRACTORS FORMS must be completed and included. [Documents 00420-1 and 00420-2].

____ 6. STATEMENT OF BIDDER'S QUALIFICATIONS must be completed and included. [Document 00430].

____ 7. A BID BOND, CERTIFIED CHECK, CASHIER'S CHECK, or CASH in the amount of five percent (5%) of the BIDDER'S MAXIMUM BID PRICE must be included. [Document 00440].

Each bid shall be submitted in a sealed envelope, addressed to the City Clerk, City of Walla Walla, and plainly marked on the outside of the envelope: "Bid on Sudbury Road Landfill Remedial Action". The envelope shall show the name and address of the Bidder. If mailed to the City, the bid envelope shall be enclosed in another envelope addressed to the City Clerk.

All bids must contain the items listed above in complete form. Complete all items within the form. If items do not apply, mark them as not applicable. Although desired to have the volume submitted intact, the City of Walla Walla reserves the right to consider this requirement an informality, provided that all parts of the bid proposal items listed above are submitted and are acceptable to City of Walla Walla.

Instructions to Bidders

City of Walla Walla, Washington

Sudbury Road Landfill Remedial Action

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ARTICLE 1 - DEFINED TERMS

1.01 Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof:

A. *Bidder*--The individual or entity who submits a Bid directly to OWNER.

B. *Issuing Office*--The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

C. Successful Bidder--The lowest responsible Bidder submitting a responsive Bid to whom OWNER (on the basis of OWNER's evaluation as hereinafter provided) makes an award.

ARTICLE 2 - COPIES OF BIDDING DOCUMENTS

2.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Advertisement or Invitation to Bid may be obtained from the Issuing Office. Return of the documents is not required, and the amount paid for the documents is non-refundable.

2.02 Complete purchased sets of Bidding Documents shall be used in preparing Bids; neither OWNER nor ENGINEER assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

For information regarding the project contact:

OWNER	**ENGINEER**
Frank Nicholson, P.E.	Alex J. Fazzari, P.E.
City of Walla Walla	J-U-B ENGINEERS, Inc.
City Service Center, 55 Moore Street	2810 W. Clearwater Ave., Ste 201
Walla Walla, WA 99362	Kennewick, WA 99336
(509) 524-4510	(509) 783-2144

2.03 OWNER and ENGINEER in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

2.04 **Bids will only be accepted from those plan holders who have purchased a set of Plans and Specifications from the issuing Office (JUB Engineers), and are on the City's Planholders List.**

ARTICLE 3 - QUALIFICATIONS OF BIDDERS

3.01 To demonstrate Bidder's qualifications to perform the Work, after submitting its Bid and within two (2) days of OWNER's request, Bidder shall submit (a) written evidence establishing its qualifications such as financial data, previous experience, and present commitments, and (b) the following additional information:

Bidders must:

A. Have a current certificate of registration as a contractor in compliance with chapter 18.27 RCW, which must have been in effect at the time of bid submittal;

B. Have a current Washington Unified Business Identifier (UBI) number;

C. If applicable:

1. Have Industrial Insurance (workers' compensation) coverage for the bidder's employees working in Washington, as required in Title 51 RCW;

2. Have a Washington Employment Security Department number, as required in Title 50 RCW;

3. Have a Washington Department of Revenue state excise tax registration number, as required in Title 82 RCW;

D. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065(3).

3.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.

3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

3.04 In addition to the bidder responsibility criteria above in 3.01 and 3.02 the bidder must also meet the following relevant supplemental bidder responsibility criteria applicable to the project:

A. Contractor or Subcontractor have successfully completed within the past five years 3 similar type projects which included a minimum of 100,000 cubic yards of excavation/placement of soil materials meeting specific compaction criteria.

B. Contractor or Subcontractor have successfully drilled gas extraction wells of similar construction on at least three (3) operating landfills within the past six (6) years and:

1. Be a driller licensed in the State of Washington;
2. Have an onsite drilling superintendent with direct experience drilling at refuse landfills to direct extraction well construction;
3. Be certified to perform HDPE fusion welds.

C. Contractor or Subcontractor have completed a minimum of three successful operating gas collection and control systems with flares in the past six (6) years.

3.05 As evidence that the bidder meets the bidder responsibility criteria in paragraph 3.04 above, the Low Bidder and Second Low Bidder will be notified in writing or verbally by the OWNER to *submit the documentation defined below. The documentation shall be submitted within 2 working days of being notified by the OWNER. Failure to submit the supplemental bidder responsibility qualifications information within 2 working days of being notified by the Owner will have the Bidder's proposal determined as non-responsible with no further consideration given for award action.*

A. For evaluation of meeting 3.04.A, 3.04.B, and 3.04.C above, submit:

1. Project Name (include size of structure and general description of method of construction);
2. Contracting Agency;
3. Contract Amount;
4. Start and Finish Date of Contract, including key milestones;
5. Contracting Agency Representative with a working knowledge of the project and Contractor's performance. Provide:
    a. Contact Name;
    b. Contact's Affiliation with Project;

c. Address and Telephone Number.

B. For evaluation of meeting of 3.04.B.1 above, submit a copy of the proposed gas extraction well drillers license.

C. For evaluation of meeting of 3.04.B.2 above, submit a copy of the well driller's on site superintendant qualifications. It shall be resume style and shall list project names, locations, brief description of the work scope and contact information as specified in 3.05.A.5 above.

D. For evaluation of meeting of 3.04.B.3 above, submit a copy of certifications for those employees who will be performing the HDPE fusion wells.

3.06 If the OWNER determines the bidder does not meet the bidder responsibility criteria in paragraph 3.04 above and is therefore not a responsible bidder, the OWNER shall notify the bidder in writing with the reasons for its determination. If the bidder disagrees with this determination, it may appeal in writing the determination within 24 hours of receipt of the Owner's determination by presenting additional information in writing to the OWNER. The OWNER will consider the additional information before issuing its final determination. If the final determination affirms that the bidder is not responsible, the OWNER will not execute a contract with any other bidder until two business days after the bidder determined to be not responsible has received the final determination.

ARTICLE 4 – SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

4.01 *Site and Other Areas*

A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by OWNER for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

4.02 *Existing Site Conditions*

A. Subsurface and Physical Conditions; Hazardous Environmental Conditions

1. The Supplementary Conditions identify:

a. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site.

b. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

c. reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.

d. Technical Data contained in such reports and drawings.

2. OWNER will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion

Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

3. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.

B. Underground Facilities: Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site are set forth in the Contract Documents and are based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including OWNER, or others.

C. Adequacy of Data: Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 5.03, 5.04, and 5.05 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 5.06 of the General Conditions.

D. On request, and to the extent OWNER has control over the Site, and schedule permitting, the OWNER will provide Bidder access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. OWNER will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site.

E. Bidder shall comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by OWNER or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.

F. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

4.03 *Site Visit and Testing by Bidders*

A. Bidder shall conduct the required Site visit during normal working hours, and shall not disturb any ongoing operations at the Site.

B. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.

4.04 *OWNER'S Safety Program*

A. Site visits and work at the Site may be governed by an OWNER safety program. As the General Conditions indicate, if an Owner safety program exists, it will be noted in the Supplementary Conditions.

4.05 *Other Work at the Site*

A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which OWNER is aware (if any) that is to be performed at the

Site by OWNER or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If OWENR is party to a written contract for such other work, then on request, OWNER will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

4.06 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by ENGINEER are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

4.09 The OWNER does hereby incorporate by reference, the "Standard Specifications for Road, Bridge, and Municipal Construction – 2016," or most current edition in its entirety, published by the Washington State Department of Transportation. These Standard Specifications shall apply except to the extent that they conflict with the: Advertisement for Bids, Instructions to Bidders, Addenda thereto, General Conditions, Supplementary Conditions, Contract Plans, and Technical Specifications.

ARTICLE 5 – BIDDER'S REPRESENTATIONS

5.01 It is the responsibility of each Bidder before submitting a Bid to:

A. examine and carefully study the Bidding Documents, and any data and reference items identified in the Bidding Documents;

B. visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;

C. become familiar with and satisfy itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work;

D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings;

E. consider the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs;

F. agree, based on the information and observations referred to in the preceding paragraph, that at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;

G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;

H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;

I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work; and

J. agree that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 6 - PRE-BID CONFERENCE

6.01 A pre-Bid conference will be held at the time and location stated in the invitation or advertisement to bid. Representatives of OWNER and ENGINEER will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference. ENGINEER will transmit to all prospective Bidders of record such Addenda as ENGINEER considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 7 - INTERPRETATIONS AND ADDENDA

7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to ENGINEER in writing. Interpretations or clarifications considered necessary by ENGINEER in response to such questions will be issued by Addenda delivered to all parties recorded as having received the Bidding Documents. Questions received less than seven days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.02 Addenda may be issued to clarify, correct, supplement, or change the Bidding Documents.

ARTICLE 8 - BID SECURITY

8.01 A Bid must be accompanied by Bid security made payable to OWNER in an amount of 5 percent of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of

a certified check, bank money order, or a Bid bond (on the form included in the Bidding Documents) issued by a surety meeting the requirements of Paragraphs 6.01 and 6.02 of the General Conditions.

8.02 The Bid security of the apparent Successful Bidder will be retained until OWNER awards the contract to such Bidder, and such Bidder has executed the Contract Documents, furnished the required contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults.

8.03 The Bid security of other Bidders that OWNER believes to have a reasonable chance of receiving the award may be retained by OWNER until the earlier of seven days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.

8.04 Bid security of other Bidders that OWNER believes do not have a reasonable chance of receiving the award will be released within seven days after the Bid opening.

ARTICLE 9 - CONTRACT TIMES

9.01 The number of days within which, or the dates by which, the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 - LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

ARTICLE 11 – SUBSTITUTE AND "OR-EQUAL" ITEMS

11.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or "or-equal" items. In cases in which the Contract allows the Contractor to request that ENGINEER authorize the use of a substitute or "or-equal" item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.

11.02 All prices that Bidder sets forth in its Bid shall be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of "or-equal" or substitution requests are made at Bidder's sole risk.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS

12.01 A Bidder shall be prepared to retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of the Work if required by the Bidding Documents (most commonly in the Specifications) to do so. If a prospective Bidder objects to retaining any such Subcontractor, Supplier, or other individual or entity, and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.

12.02 Subsequent to the submittal of the Bid, OWNER may not require the Successful Bidder or Contractor to retain any Subcontractor, Supplier, or other individual or entity against which Contractor has reasonable objection.

12.03 The apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to OWNER a list of the Subcontractors or Suppliers proposed for the following portions of the Work: ***gas system, and earthwork.***

If requested by OWNER, such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, or other individual or entity. If OWNER or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder shall submit a substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

12.04 If apparent Successful Bidder declines to make any such substitution, OWNER may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, or other individuals or entities. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which OWNER or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to OWNER and ENGINEER subject to subsequent revocation of such acceptance as provided in Paragraph 7.06 of the General Conditions.

ARTICLE 13 – PREPARATION OF BID

13.01 The Bid Form is included with the Bidding Documents.

A. All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.

B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words "No Bid" or "Not Applicable."

13.02 A Bid by a corporation shall be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation shall be shown.

13.03 A Bid by a limited liability company shall be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.

13.03 A Bid by an individual shall show the Bidder's name and official address.

13.04 A Bid by a joint venture shall be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.

13.05 All names shall be printed in ink below the signatures.

13.06 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.

13.07 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.

13.08 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 14 – BASIS OF BID

14.01 *Lump Sum*

A. Bidders shall submit a Bid on a lump sum basis as set forth in the Bid Form.

14.02 *Unit Price*

A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.

B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity" (which Owner or its representative has set forth in the Bid Form) for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.

C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

14.03 *Allowances*

D. For cash allowances the Bid price shall include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 13.02.B of the General Conditions.

ARTICLE 15 – SUBMITTAL OF BID

15.01 With each copy of the Bidding Documents, a Bidder is furnished one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 7 of the Bid Form.

15.02 A Bid shall be received no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall be enclosed in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to City of Walla Walla, Third and Rose, PO Box 478, Walla Walla, WA 99362.

15.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID

16.01 A Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.

16.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 16.01 and submit a new Bid prior to the date and time for the opening of Bids.

16.03 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with OWNEER and promptly thereafter demonstrates to the reasonable satisfaction of OWNER that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 17 – OPENING OF BID

17.01 Bids will be opened at the time and place indicated in the advertisement or invitation to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT

19.01 OWNER reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. OWNER will reject the Bid of any Bidder that OWNER finds, after reasonable inquiry and evaluation, to not be responsible. If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, then the OWNER will reject the Bid as nonresponsive; provided that OWNER also reserves the right to waive all minor informalities not involving price, time, or changes in the Work.

19.02 If OWNER awards the contract for the Work, such award shall be to the responsible Bidder submitting the lowest responsive Bid.

19.03 Evaluation of Bids

A. In evaluating Bids, OWNER will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.

B. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.

19.04 In evaluating whether a Bidder is responsible, OWNER will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.

19.05 OWNER may conduct such investigations as OWNER deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

ARTICLE 20 – BONDS AND INSURANCE

20.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth OWNER'S requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the Agreement (executed by Successful Bidder) to OWNER, it shall be accompanied by required bonds and insurance documentation.

ARTICLE 21 – SIGNING OF AGREEMENT

21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 10 days thereafter, Successful Bidder shall execute and deliver the required number of counterparts of the Agreement (and any bonds and insurance documentation required to be delivered by the Contract Documents) to Owner. Within ten days thereafter, OWNER shall deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

ARTICLE 22 - SALES TAX

22.01 Retail sales tax to be collected from the OWNER on the Contract Price shall be stated separately in the spaces provided, as applicable, and shall not be included in the amount bid for lump sum work or unit price work stated in the Bid. Washington State Department of Revenue Rule 170 and its related rules apply to this Contract.

ARTICLE 23 - RETAINAGE

23.01 Provisions for retainage are as established in Article 6 of the Agreement.

ARTICLE 24 – WAGE RATES

24.01 The work under these Bidding Documents is to be paid for by public funds; therefore, minimum prevailing wage rates published by the Washington State Department of Labor and Industries are to be paid on this project. Approval fees paid to the State Department of Labor and Industries shall be included in the unit prices, lump sum price, or other prices stated in the Bid.

24.02 The prevailing rate of wage to be paid to all workmen, laborers, or mechanics employed in the performance of any part of this contract shall be in accordance with the provisions of Chapter 39.12 RCW, as amended, and the rules and regulations of the Department of Labor and Industries of the State of Washington. The prevailing wage rates for the locality or localities where this contract will be performed shall be determined by the Industrial Statistician of the State Department of Labor and Industries, and are by reference made a part of this contract as though fully set forth herein.

BID FORM

Sudbury Road Landfill

Remedial Action

Walla Walla, WA

City Project Number LF09010

TABLE OF CONTENTS

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

City of Walla Walla
City Clerk, City Hall
15th N. 3rd
PO Box 478
Walla Walla, WA 99362

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with OWNER in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of OWNER.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

Addendum No.	Addendum, Date

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2)

the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.

F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.

J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of OWNER, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive OWNER of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of OWNER, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the e execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

Base Bid Schedule 1

Item No.	Description	Unit	Est. Quantity	Bid Unit Price	Bid Price
1	MOBILIZATION	LS	1		$
2	EROSION AND SEDIMENT CONTROL	LS	1		$
3	SPCC PLAN	LS	1		$
4	HEALTH AND SAFETY PLAN	LS	1		
5	CONSTRUCTION SURVEYING	LS	1		$
6	MATERIALS TESTING	LS	1		$
7	TRAFFIC CONTROL	LS	1		$
8	CLEARING AND GRUBBING	LS	1		$
9	IMPORTED FILL	CY	32,121		$
10	AREA 2 AND AREA 5 EARTHWORK & SITE GRADING	LS	1		$
11	AREA 2 AND AREA 5 FINAL COVER	LS	1		$
12	SHORING-TRENCH SAFETY SYSTEM	LS	1		$
13	COMPOST ACCESS ROAD & DRAINAGE	LS	1		$
14	NORTH DITCH IMPROVEMENTS	LS	1		$
15	ECOLOGY BLOCK WALL	LF	240		$
16	CONCRETE BARRIER WALL	LS	1		$
17	CONCRETE CRUSHING	TON	16,421		$
18	HAUL ROAD DEVELOPMENT AND RESTORATION	CY	2,551		$
19	COMPOST ≤ 10 CY	CY	10	$38.80	$ 388.00
20	COMPOST > 10 CY, BUT ≤ 200 CY	CY	200	$24.70	$ 4,940.00
21	COMPOST > 200 CY, BUT ≤ 500 CY	CY	500	$18.40	$ 9,200.00
22	COMPOST > 500 CY	CY	1,730	$16.10	$ 27,853.00
23	AREA 2 AND AREA 5 MULCH, TACKIFIER AND DRYLAND SEED	AC	19		$
24	SITE RESTORATION	LS	1		$
25	EROSION CONTROL DITCH	LF	1,802		$
26	EXTRACTION WELL	VF	537		$
27	CONTROL VALVE STATIONS	EA	10		$
28	4-INCH LFG PIPE, TRENCHING AND BACKFILL	LF	3,123		$
29	8-INCH LFG PIPE, TRENCHING AND BACKFILL	LF	1,154		$
30	FLOW METERS, VAULTS, PANELS	LS	1		$
31	POWER SUPPLY FOR FLOW METER	LF	965		$
32	4-INCH HEADER VALVE	EA	2		$

Item No.	Description	Unit	Est. Quantity	Bid Unit Price	Bid Price
33	8-INCH HEADER VALVE	EA	2		$
34	CONNECTION TO EXISTING HEADERS	LS	1		$
35	CONNECTION TO EXISTING FORCEMAIN/AIR	LS	1		$
36	CONDENSATE SUMP AND PUMP STATION	EA	1		$
37	FORCEMAIN AND AIRLINE PIPES	LF	2,996		$
38	DECOMMISION GAS VENT	EA	1		$
39	ROAD CROSSINGS	EA	2		$
40	FROST PREVENTION	LS	1		$
41	AS-BUILT RECORD DRAWINGS	LS	1	$2,000	$ 2,000.00
42	MINOR CHANGE	EST	EST	-	$ 25,000.00
Subtotal Base Bid Schedule 1					$
Sales Tax @ 8.9%					$
Base Bid Schedule 1 Total					$

Bidder acknowledges that (1) each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and (2) estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

Total of Lump Sum and Unit Price Bids = Total Bid Price $ _____

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid:

A. Required Bid security in the form of cash, cashier's check or bond;

B. List of Proposed Subcontractors;

C. List of Project References;

D. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;

E. Contractor's License No. or Evidence of Bidder's ability to obtain a State Contractor's License and a covenant by Bidder to obtain said license within the time for acceptance of Bids;

F. Required Bidder Qualification Statement with supporting data; and

G. Non-Collusion Affidavit

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

BIDDER: *[Indicate correct name of bidding entity]*

_____

By:
[Signature] _____

[Printed name] _____
(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:
[Signature] _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices:

_____

_____

_____

Telephone Number: _____

Fax Number: _____

Contact Name and e-mail address: _____

_____

Bidder's License No.: _____

Non-Collusion Affidavit

STATE OF WASHINGTON

COUNTY OF WALLA WALLA

I, the undersigned, an authorized representative of _____ (CONTRACTOR), being first duly sworn, on his oath says that the Bid above submitted is genuine and not a sham or collusive Bid, or made in the interest or on behalf of any person not therein made; and he further says that the said Bidder has not directly or indirectly induced or solicited any Bidder on the above work or supplies to put in a sham Bid, or any other person or corporation to refrain from bidding; and that said Bidder has not in any manner sought by collusion to secure to itself an advantage over other Bidder or Bidders.

_____

Contractor's Signature

Subscribed and sworn to before me this ____ day of _____, 2016.

_____

NOTARY PUBLIC in and for the State
of Washington, residing at

_____

_____

NAMING OF SUBCONTRACTORS FORM

CONTRACTOR shall comply fully with RCW 39.30.060. Per RCW 39.30.060:

Every invitation to bid on a prime contract that is expected to cost one million dollars or more for the construction, alteration, or repair of any public building or public work of the state or a state agency or municipality as defined under RCW 39.04.010 or an institution of higher education as defined under RCW 28B.10.016 shall require each prime contract bidder to submit as part of the bid, or within one hour after the published bid submittal time, the names of the subcontractors with whom the bidder, if awarded the contract, will subcontract for performance of the work of: HVAC (heating, ventilation, and air conditioning); plumbing as described in chapter 18.106 RCW; and electrical as described in chapter 19.28 RCW, or to name itself for the work. The prime contract bidder shall not list more than one subcontractor for each category of work identified, unless subcontractors vary with bid alternates, in which case the prime contract bidder must indicate which subcontractor will be used for which alternate. Failure of the prime contract bidder to submit as part of the bid the names of such subcontractors or to name itself to perform such work or the naming of two or more subcontractors to perform the same work shall render the prime contract bidder's bid non-responsive and, therefore, void.*

1. HVAC Subcontractor Name: _____

   License or Contractor's Registration Number: _____

2. Plumbing Subcontractor Name: _____

   License or Contractor's Registration Number: _____

3. Electrical Subcontractor Name: _____

   License or Contractor's Registration Number: _____

SUBCONTRACTOR LIST

In addition to supplying the list of subcontractors as required by RCW 39.30.060 the Bidder shall provide the names of all other subcontractors that will be performing work on the project.

All subcontractors and a general description of work they will perform are as follows:

Subcontractor Name	Description of work to be performed:
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	

STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information he desires.

1. Name of Bidder.

2. Permanent main office address.

3. When organized.

4. If a corporation, where incorporated.

5. How many years have you been engaged in the contracting business under your present firm or trade name?

6. Contracts on hand: (Schedule these, showing amount of each contract and the appropriate anticipated dates of completion).

7. General character of work performed by your company.

8. Have you ever failed to complete any work awarded to you? If so, where and why?

9. Have you ever defaulted on a contract? If so, where and why?

10. List two or more construction projects your company has completed within the past 3 years similar in size and scope to this project.

    State the approximate cost of the various work elements within each project, the beginning contract amount, the total cost of change orders, the project time, total of time extensions, project superintendent and owner contact name and phone number.

11. List any projects involving your company that have involved litigation, threatened litigation, or negotiated settlements due to qualify of work, contract time or other non compliance with plans and specifications.

12. Background and experience of the principal members of your organization, including the person to be assigned as Project Manager for this Project.

13. The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the City of Walla Walla in verification of the recitals comprising this Statement of Bidder's Qualifications. Dated at _____ this _____ day of _____ _____.

    (Name of Bidder) _____

    By: _____

    Title: _____

State of)
) ss.
County of)

_____ being duly sworn deposes and says that he is _____ of _____

Subscribed and sworn to before me this _____ day of _____.

(Notary Public) _____
State of _____

My Commission Expires _____

BID BOND DEPOSIT

Herewith find deposit in the form of a certified check, cashier's check, cash, or bid bond in the amount of $_____, which amount is not less than five percent of the total bid.

Sign Here_____

_____

BID BOND

KNOW ALL MEN BY THESE PRESENTS:

That we _____, as Principal, and _____ _____ as Surety, are held and firmly bound unto the (Public Agency), as Obligee, in the penal sum of _____ Dollars, for the payment of which the Principal and the surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by these presents.

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

SIGNED, SEALED AND DATED THIS_____DAY OF _____, 2____

_____
Principal

_____
Surety

_____, 2_____

Received return of deposit in the sum of $_____

FURNISHED BY PUBLIC AGENCY_____

Wage Rates

Prevailing Wage Rates

City of Walla Walla, Washington

Sudbury Road Landfill Remedial Action

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: 02/16/2016

County	Trade	Job Classification	Wage	Holiday	Overtime	Note
Walla Walla	Asbestos Abatement Workers	Journey Level	$19.66		1	
Walla Walla	Boilermakers	Journey Level	$64.29	5N	1C	
Walla Walla	Brick Mason	Journey Level	$44.94	5A	1M	
Walla Walla	Building Service Employees	Janitor	$9.47		1	
Walla Walla	Building Service Employees	Shampooer	$11.14		1	
Walla Walla	Building Service Employees	Waxer	$9.47		1	
Walla Walla	Building Service Employees	Window Cleaner	$9.47		1	
Walla Walla	Cabinet Makers (In Shop)	Journey Level	$9.47		1	
Walla Walla	Carpenters	Carpenters	$40.76	5A	1B	8N
Walla Walla	Cement Masons	Journey Level	$12.70		1	
Walla Walla	Divers & Tenders	Diver	$86.59	5A	1B	8A
Walla Walla	Divers & Tenders	Diver on Standby	$49.87	5A	1B	
Walla Walla	Divers & Tenders	Diver Tender	$48.17	5A	1B	
Walla Walla	Divers & Tenders	Diving Master	$58.71	5A	1B	
Walla Walla	Divers & Tenders	Surface RCV & ROV Operator	$48.17	5A	1B	
Walla Walla	Divers & Tenders	Surface RCV & ROV Operator Tender	$48.17	5A	1B	
Walla Walla	Dredge Workers	Assistant Engineer	$56.44	5D	3F	
Walla Walla	Dredge Workers	Assistant Mate (Deckhand)	$56.00	5D	3F	
Walla Walla	Dredge Workers	Boatmen	$56.44	5D	3F	
Walla Walla	Dredge Workers	Engineer Welder	$57.51	5D	3F	
Walla Walla	Dredge Workers	Leverman, Hydraulic	$58.67	5D	3F	
Walla Walla	Dredge Workers	Mates	$56.44	5D	3F	
Walla Walla	Dredge Workers	Oiler	$56.00	5D	3F	
Walla Walla	Drywall Applicator	Journey Level	$40.76	5A	1B	8N
Walla Walla	Drywall Tapers	Journey Level	$36.10	7E	1P	
Walla Walla	Electrical Fixture Maintenance Workers	Journey Level	$9.47		1	
Walla Walla	Electricians - Inside	Journey Level	$36.86		1	
Walla Walla	Electricians - Motor Shop	Craftsman	$15.37		1	

Walla Walla	Electricians - Motor Shop	Journey Level	$14.69		1	
Walla Walla	Electricians - Powerline Construction	Cable Splicer	$69.95	5A	4D	
Walla Walla	Electricians - Powerline Construction	Certified Line Welder	$63.97	5A	4D	
Walla Walla	Electricians - Powerline Construction	Groundperson	$43.62	5A	4D	
Walla Walla	Electricians - Powerline Construction	Heavy Line Equipment Operator	$63.97	5A	4D	
Walla Walla	Electricians - Powerline Construction	Journey Level Lineperson	$63.97	5A	4D	
Walla Walla	Electricians - Powerline Construction	Line Equipment Operator	$53.81	5A	4D	
Walla Walla	Electricians - Powerline Construction	Pole Sprayer	$63.97	5A	4D	
Walla Walla	Electricians - Powerline Construction	Powderperson	$47.55	5A	4D	
Walla Walla	Electronic Technicians	Journey Level	$23.43		1	
Walla Walla	Elevator Constructors	Mechanic	$82.67	7D	4A	
Walla Walla	Elevator Constructors	Mechanic In Charge	$89.40	7D	4A	
Walla Walla	Fabricated Precast Concrete Products	Journey Level - In-Factory Work Only	$9.96		1	
Walla Walla	Fence Erectors	Fence Erector	$27.74		1	
Walla Walla	Flaggers	Journey Level	$33.91	7B	1M	
Walla Walla	Glaziers	Journey Level	$24.39	7E	1K	
Walla Walla	Heat & Frost Insulators And Asbestos Workers	Journey Level	$47.39	5K	1U	
Walla Walla	Heating Equipment Mechanics	Journey Level	$54.56	5A	1X	
Walla Walla	Hod Carriers & Mason Tenders	Journey Level	$37.54	7B	1M	
Walla Walla	Industrial Power Vacuum Cleaner	Journey Level	$9.47		1	
Walla Walla	Inland Boatmen	Journey Level	$9.47		1	
Walla Walla	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Cleaner Operator, Foamer Operator	$9.73		1	
Walla Walla	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Grout Truck Operator	$11.48		1	
Walla Walla	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Head Operator	$12.78		1	
Walla Walla	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Technician	$9.47		1	
Walla Walla	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Tv Truck Operator	$10.53		1	
Walla Walla	Insulation Applicators	Journey Level	$40.76	5A	1B	8N
Walla Walla	Ironworkers	Journeyman	$56.20	7N	1O	
Walla Walla	Laborers	Air And Hydraulic Track Drill	$36.55	7B	1M	
Walla Walla	Laborers	Asphalt Raker	$36.55	7B	1M	
Walla Walla	Laborers	Asphalt Roller, Walking	$36.28	7B	1M	
Walla Walla	Laborers	Brick Pavers	$36.01	7B	1M	
Walla Walla	Laborers	Brush Hog Feeder	$36.01	7B	1M	
Walla Walla	Laborers	Brush Machine	$36.55	7B	1M	
Walla Walla	Laborers	Caisson Worker, Free Air	$36.55	7B	1M	
Walla Walla	Laborers	Carpenter Tender	$36.01	7B	1M	
Walla Walla	Laborers	Cement Finisher Tender	$36.28	7B	1M	
Walla Walla	Laborers	Cement Handler	$36.01	7B	1M	

Walla Walla	Laborers	Chain Saw Operator & Faller	$36.55	7B	1M	
Walla Walla	Laborers	Clean-up Laborer	$36.01	7B	1M	
Walla Walla	Laborers	Compaction Equipment	$36.28	7B	1M	
Walla Walla	Laborers	Concrete Crewman	$36.01	7B	1M	
Walla Walla	Laborers	Concrete Saw, Walking	$36.28	7B	1M	
Walla Walla	Laborers	Concrete Signalman	$36.01	7B	1M	
Walla Walla	Laborers	Concrete Stack	$36.55	7B	1M	
Walla Walla	Laborers	Confined Space Attendant	$36.01	7B	1M	
Walla Walla	Laborers	Crusher Feeder	$36.01	7B	1M	
Walla Walla	Laborers	Demolition	$36.01	7B	1M	
Walla Walla	Laborers	Demolition Torch	$36.28	7B	1M	
Walla Walla	Laborers	Dope Pot Fireman, Non-mechanical	$36.28	7B	1M	
Walla Walla	Laborers	Driller Helper (when Required To Move & Position Machine)	$36.28	7B	1M	
Walla Walla	Laborers	Drills With Dual Masts	$36.83	7B	1M	
Walla Walla	Laborers	Dry Stack Walls	$36.01	7B	1M	
Walla Walla	Laborers	Dumpman	$36.01	7B	1M	
Walla Walla	Laborers	Erosion Control Laborer	$36.01	7B	1M	
Walla Walla	Laborers	Final Detail Cleanup (i.e., Dusting, Vacuuming, Window Cleaning; Not Construction Debris Cleanup)	$33.91	7B	1M	
Walla Walla	Laborers	Firewatch	$36.01	7B	1M	
Walla Walla	Laborers	Form Cleaning Machine Feeder, Stacker	$36.01	7B	1M	
Walla Walla	Laborers	Form Setter, Paving	$36.28	7B	1M	
Walla Walla	Laborers	General Laborer	$36.01	7B	1M	
Walla Walla	Laborers	Grade Checker	$38.54	7B	1M	
Walla Walla	Laborers	Grout Machine Header Tender	$36.01	7B	1M	
Walla Walla	Laborers	Guard Rail	$36.01	7B	1M	
Walla Walla	Laborers	Gunite	$36.55	7B	1M	
Walla Walla	Laborers	Hazardous Waste Worker (level A)	$36.83	7B	1M	
Walla Walla	Laborers	Hazardous Waste Worker (level B)	$36.55	7B	1M	
Walla Walla	Laborers	Hazardous Waste Worker (level C)	$36.28	7B	1M	
Walla Walla	Laborers	Hazardous Waste Worker (level D)	$36.01	7B	1M	
Walla Walla	Laborers	Hdpe Or Similar Liner Installer	$36.01	7B	1M	
Walla Walla	Laborers	High Scaler	$36.55	7B	1M	
Walla Walla	Laborers	Jackhammer Operator Miner, Class "b"	$36.28	7B	1M	
Walla Walla	Laborers	Laser Beam Operator	$36.55	7B	1M	
Walla Walla	Laborers	Miner, Class "a"	$36.01	7B	1M	
Walla Walla	Laborers	Miner, Class "c"	$36.55	7B	1M	
Walla Walla	Laborers	Miner, Class "d"	$36.83	7B	1M	
Walla Walla	Laborers	Monitor Operator, Air Track Or Similar Mounting	$36.55	7B	1M	
Walla Walla	Laborers	Mortar Mixer	$36.55	7B	1M	
Walla Walla	Laborers	Nipper	$36.01	7B	1M	
Walla Walla	Laborers	Nozzleman	$36.55	7B	1M	

Walla Walla	Laborers	Nozzleman, Water (to Include Fire Hose), Air Or Steam	$36.28	7B	1M	
Walla Walla	Laborers	Pavement Breaker, 90 Lbs. & Over	$36.55	7B	1M	
Walla Walla	Laborers	Pavement Breaker, Under 90 Lbs.	$36.28	7B	1M	
Walla Walla	Laborers	Pipelayer	$36.55	7B	1M	
Walla Walla	Laborers	Pipelayer, Corrugated Metal Culvert And Multi-plate	$36.28	7B	1M	
Walla Walla	Laborers	Pipewrapper	$36.55	7B	1M	
Walla Walla	Laborers	Plasterer Tenders	$36.55	7B	1M	
Walla Walla	Laborers	Pot Tender	$36.28	7B	1M	
Walla Walla	Laborers	Powderman	$38.20	7B	1M	
Walla Walla	Laborers	Powderman Helper	$36.28	7B	1M	
Walla Walla	Laborers	Power Buggy Operator	$36.28	7B	1M	
Walla Walla	Laborers	Power Tool Operator, Gas, Electric, Pneumatic	$36.28	7B	1M	
Walla Walla	Laborers	Railroad Equipment, Power Driven, Except Dual Mobile	$36.28	7B	1M	
Walla Walla	Laborers	Railroad Power Spiker Or Puller, Dual Mobile	$36.28	7B	1M	
Walla Walla	Laborers	Remote Equipment Operator	$36.83	7B	1M	
Walla Walla	Laborers	Remote Equipment Operator (i.e. Compaction And Demolition)	$36.28	7B	1M	
Walla Walla	Laborers	Rigger/signal Person	$36.28	7B	1M	
Walla Walla	Laborers	Riprap Person	$36.01	7B	1M	
Walla Walla	Laborers	Rodder & Spreader	$36.28	7B	1M	
Walla Walla	Laborers	Sandblast Tailhoseman	$36.01	7B	1M	
Walla Walla	Laborers	Scaffold Erector, Wood Or Steel	$36.01	7B	1M	
Walla Walla	Laborers	Stake Jumper	$36.01	7B	1M	
Walla Walla	Laborers	Structural Mover	$36.01	7B	1M	
Walla Walla	Laborers	Tailhoseman (water Nozzle)	$36.01	7B	1M	
Walla Walla	Laborers	Timber Bucker & Faller (by Hand)	$36.01	7B	1M	
Walla Walla	Laborers	Track Laborer (rr)	$36.01	7B	1M	
Walla Walla	Laborers	Traffic Control Laborer	$33.91	7B	1M	8T
Walla Walla	Laborers	Traffic Control Supervisor	$34.91	7B	1M	8S
Walla Walla	Laborers	Trencher, Shawnee	$36.28	7B	1M	
Walla Walla	Laborers	Trenchless Technology Technician	$36.55	7B	1M	
Walla Walla	Laborers	Truck Loader	$36.01	7B	1M	
Walla Walla	Laborers	Tugger Operator	$36.28	7B	1M	
Walla Walla	Laborers	Vibrators, All	$36.55	7B	1M	
Walla Walla	Laborers	Wagon Drills	$36.28	7B	1M	
Walla Walla	Laborers	Water Pipe Liner	$36.28	7B	1M	
Walla Walla	Laborers	Welder, Electric, Manual Or Automatic (hdpe Or Similar Pipe And Liner)	$36.83	7B	1M	
Walla Walla	Laborers	Well-point Person	$36.01	7B	1M	
Walla Walla	Laborers	Wheelbarrow, Power Driven	$36.28	7B	1M	
Walla Walla	Laborers - Underground Sewer & Water	General Laborer & Topman	$36.01	7B	1M	
Walla Walla	Laborers - Underground Sewer & Water	Pipe Layer	$36.55	7B	1M	
Walla Walla	Landscape Construction	Irrigation Or Lawn Sprinkler Installers	$10.86		1	

Walla Walla	Landscape Construction	Landscape Equipment Operators Or Truck Drivers	$9.50		1	
Walla Walla	Landscape Construction	Landscaping Or Planting Laborers	$9.47		1	
Walla Walla	Lathers	Journey Level	$40.76	5A	1B	8N
Walla Walla	Marble Setters	Journey Level	$44.94	5A	1M	
Walla Walla	Metal Fabrication (In Shop)	Fitter	$12.76		1	
Walla Walla	Metal Fabrication (In Shop)	Laborer	$9.47		1	
Walla Walla	Metal Fabrication (In Shop)	Machine Operator	$12.66		1	
Walla Walla	Metal Fabrication (In Shop)	Painter	$10.20		1	
Walla Walla	Metal Fabrication (In Shop)	Welder	$12.76		1	
Walla Walla	Millwright	Journey Level	$56.35	5A	1B	8N
Walla Walla	Modular Buildings	Journey Level	$9.47		1	
Walla Walla	Painters	Bridge Painter	$36.40	7E	2B	
Walla Walla	Painters	Journey Level	$32.60	7E	2B	
Walla Walla	Pile Driver	Journey Level	$41.80	5A	1B	8N
Walla Walla	Plasterers	Journey Level	$18.00		1	
Walla Walla	Playground & Park Equipment Installers	Journey Level	$9.47		1	
Walla Walla	Plumbers & Pipefitters	Journey Level	$54.20		1	
Walla Walla	Power Equipment Operators	A-frame Truck (2 Or More Drums)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	A-frame Truck (single Drum)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Asphalt Plant Operator	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Assistant Plant Operator, Fireman Or Pugmixer (asphalt)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Assistant Refrigeration Plant & Chiller Operator (over 1000 Ton)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Assistant Refrigeration Plant (under 1000 Ton)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Automatic Subgrader (ditches & Trimmers)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Backfillers (cleveland & Similar)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Backhoe & Hoe Ram (under 3/4 Yd.)	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators	Backhoe (45,000 Gw & Under)	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators	Backhoe (45,000 Gw To 110,000 Gw)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Backhoe (over 110,000 Gw)	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators	Backhoes & Hoe Ram (3 Yds & Over)	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators	Backhoes & Hoe Ram (3/4 Yd. To 3 Yd.)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Bagley Or Stationary Scraper	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Batch & Wet Mix Operator (multiple Units, 2 & Incl. 4)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Batch Plant & Wet Mix Operator, Single Unit (concrete)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Batch Plant (over 4 Units)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Belt Finishing Machine	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Belt Loader (kocal Or Similar)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Belt-crete Conveyors With Power Pack Or Similar	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Bending Machine	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Bit Grinders	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators	Blade (finish & Bluetop), Automatic, Cmi, Abc, Finish Athey & Huber & Similar When Used As Automatic	$41.51	7B	1M	8D

Walla Walla	Power Equipment Operators	Blade Operator (motor Patrol & Attachments)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Blower Operator (cement)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Boat Operator	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators	Bob Cat (skid Steer)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Bolt Threading Machine	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators	Boom Cats (side)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Boring Machine (earth)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Boring Machine (Rock Under 8 inch Bit - Quarry Master, Joy Or Similar)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Bump Cutter (wayne, Saginau Or Similar)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Cableway Controller (dispatcher)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Cableway Operators	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators	Canal Lining Machine (concrete)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Carrydeck & Boom Truck (under 25 Tons)	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators	Cement Hog	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Chipper (without Crane) Cleaning & Doping Machine (pipeline)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Clamshell, Dragline	$42.61	7B	1M	8D
Walla Walla	Power Equipment Operators	Compactor (self-propelled With Blade)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Compressor (2000 Cfm Or Over, 2 Or More, Gas Diesel Or Electric Power)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Compressors (under 2000 Cfm, Gas, Diesel Or Electric Power)	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators	Concrete Cleaning / Decontamination Machine Operator	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators	Concrete Pump Boon Truck	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Concrete Pumps (squeeze-crete, Flow-crete, Whitman & Similar)	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators	Concrete Saw (multiple Cut)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Concrete Slip Form Paver	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Conveyor Aggregate Delivery Systems (c.a.d.)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Crane Oiler- Driver (cdl Required) & Cable Tender, Mucking Machine	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators	Cranes (25 Tons & Under), All Attachments Incl. Clamshell, Dragline	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators	Cranes (25 Tons To And Including 45 Tons), All Attachments Incl. Clamshell, Dragline	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Cranes (45 Tons To 85 Tons), All Attachments Incl. Clamshell And Dragline	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators	Cranes (85 Tons & Over) And All Climbing, Overhead, Rail & Tower. All Attachments Incl.	$42.61	7B	1M	8D
Walla Walla	Power Equipment Operators	Crusher Feeder	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators	Crusher, Grizzle & Screening Plant Operator	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Curb Extruder (asphalt Or Concrete)	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators	Deck Engineer	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Deck Hand	$39.71	7B	1M	8D

Walla Walla	Power Equipment Operators	Derricks & Stifflegs (65 Tons & Over)	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators	Derricks & Stifflegs (under 65 Tons)	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators	Distributor Leverman	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Ditch Witch Or Similar	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Dope Pots (power Agitated	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Dozer / Tractor (up To D-6 Or Equivalent) And Traxcavator	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Dozer / Tractors (d-6 & Equivalent & Over)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Dozer, 834 R/t & Similar	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Drill Doctor	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Driller Licensed	$42.61	7B	1M	8D
Walla Walla	Power Equipment Operators	Drillers Helper	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators	Drilling Equipment (8 inch Bit & Over - Robbins, Reverse Circulation & Similar)	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators	Drills (churn, Core, Calyx Or Diamond)	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators	Elevating Belt (holland Type)	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators	Elevating Belt-type Loader (euclid, Barber Green & Similar)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Elevating Grader-type Loader (dumor, Adams Or Similar)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Elevator Hoisting Materials	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Equipment Serviceman, Greaser & Oiler	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators	Fireman & Heater Tender	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators	Fork Lift Or Lumber Stacker, Hydra-life & Similar	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Generator Plant Engineers (diesel Or Electric)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Gin Trucks (pipeline)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Grade Checker	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators	Gunite Combination Mixer & Compressor	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	H.d. Mechanic	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators	H.d. Welder	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators	Heavy Equipment Robotics Operator	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators	Helicopter Pilot	$42.61	7B	1M	8D
Walla Walla	Power Equipment Operators	Helper, Mechanic Or Welder, H.D	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators	Hoe Ram	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators	Hoist (2 Or More Drums Or Tower Hoist)	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators	Hoist, Single Drum	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Hydraulic Platform Trailers (goldhofer, Shaurerly And Similar)	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators	Hydro-seeder, Mulcher, Nozzleman	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators	Lime Batch Tank Operator (recycle Train)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Lime Brain Operator (recycle Train)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Loader (360 Degrees Revolving Koehring Scooper Or Similar)	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators	Loader Operator (front-end & Overhead, 4 Yds. Incl. 8 Yds.)	$41.24	7B	1M	8D

Walla Walla	Power Equipment Operators	Loaders (bucket Elevators And Conveyors)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Loaders (overhead & Front-end, Over 8 Yds. To 10 Yds.)	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators	Loaders (overhead & Front-end, Under 4 Yds.. R/t)	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators	Loaders (overhead And Front-end, 10 Yds. & Over)	$42.61	7B	1M	8D
Walla Walla	Power Equipment Operators	Locomotive Engineer	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Longitudinal Float	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Master Environmental Maintenance Technician	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators	Mixer (portable - Concrete)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Mixermobile	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Mobile Crusher Operator (recycle Train)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Mucking Machine	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Multiple Dozer Units With Single Blade	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Pavement Breaker, Hydra-hammer & Similar	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Paving (dual Drum)	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators	Paving Machine (asphalt And Concrete)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Piledriving Engineers	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators	Plant Oiler	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators	Posthole Auger Or Punch	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Power Broom	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Pump (grout Or Jet)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Pumpman	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators	Quad-track Or Similar Equipment	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Railroad Ballast Regulation Operator (self-propelled)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Railroad Power Tamper Operator (self-propelled)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Railroad Tamper Jack Operator (self-propelled)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Railroad Track Liner Operator (self-propelled)	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators	Refrigeration Plant Engineer (1000 Tons & Over)	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators	Refrigeration Plant Engineer (under 1000 Ton)	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators	Rollerman (finishing Asphalt Pavement)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Rollers, All Types On Subgrade, Including Seal And Chip Coating (farm Type, Case, John Deere And Similar,or Compacting Vibrator), Except When Pulled B	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators	Roto Mill (pavement Grinder)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Rotomill Groundsman	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators	Rubber-tired Scrapers (multiple Engine With Three Or More Scrapers)	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators	Rubber-tired Skidders (r/t With Or Without Attachments)	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators	Scrapers, All, Rubber-tired	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Screed Operator	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Shovels (3 Yds. & Over)	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators	Shovels (under 3 Yds.)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Signalman (whirleys, Highline, Hammerheads Or Similar)	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators	Soil Stabilizer (p & H Or Similar)	$40.64	7B	1M	8D

Walla Walla	Power Equipment Operators	Spray Curing Machine (concrete)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Spreader Box (self-propelled)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Spreader Machine	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Steam Cleaner	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators	Straddle Buggy (ross & Similar On Construction Job Only)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Surface Heater & Planer Machine	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators	Tractor (farm Type R/t With Attachments, Except Backhoe)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Traverse Finish Machine	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Trenching Machines (7 Ft. Depth & Over)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Trenching Machines (under 7 Ft. Depth Capacity)	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators	Tug Boat Operator	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Tugger Operator	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators	Turnhead (with Re-screening)	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators	Turnhead Operator	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators	Ultra High Pressure Wateriet Cutting Tool System Operator, (30,000 Psi)	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators	Vactor Guzzler, Super Sucker	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators	Vacuum Blasting Machine Operator	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators	Vacuum Drill (reverse Circulation Drill Under 8" Bit)	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators	Welding Machine	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators	Whirleys & Hammerheads, All	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	A-frame Truck (2 Or More Drums)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	A-frame Truck (single Drum)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Asphalt Plant Operator	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Assistant Plant Operator, Fireman Or Pugmixer (asphalt)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Assistant Refrigeration Plant & Chiller Operator (over 1000 Ton)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Assistant Refrigeration Plant (under 1000 Ton)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Automatic Subgrader (ditches & Trimmers)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Backfillers (cleveland & Similar)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Backhoe & Hoe Ram (under 3/4 Yd.)	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Backhoe (45,000 Gw & Under)	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Backhoe (45,000 Gw To 110,000 Gw)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Backhoe (over 110,000 Gw)	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Backhoes & Hoe Ram (3 Yds & Over)	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Backhoes & Hoe Ram (3/4 Yd. To 3 Yd.)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Bagley Or Stationary Scraper	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Batch & Wet Mix Operator (multiple Units, 2 & Incl. 4)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Batch Plant & Wet Mix Operator, Single Unit (concrete)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Batch Plant (over 4 Units)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Belt Finishing Machine	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Belt Loader (kocal Or Similar)	$40.64	7B	1M	8D

Walla Walla	Power Equipment Operators- Underground Sewer & Water	Belt-crete Conveyors With Power Pack Or Similar	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Bending Machine	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Bit Grinders	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Blade (finish & Bluetop), Automatic, Cmi, Abc, Finish Athey & Huber & Similar When Used As Automatic	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Blade Operator (motor Patrol & Attachments)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Blower Operator (cement)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Boat Operator	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Bob Cat (skid Steer)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Bolt Threading Machine	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Boom Cats (side)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Boring Machine (earth)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Boring Machine (Rock Under 8 inch Bit - Quarry Master, Joy Or Similar)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Bump Cutter (wayne, Saginau Or Similar)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Cableway Controller (dispatcher)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Cableway Operators	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Canal Lining Machine (concrete)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Carrydeck & Boom Truck (under 25 Tons)	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Cement Hog	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Chipper (without Crane) Cleaning & Doping Machine (pipeline)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Clamshell, Dragline	$42.61	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Compactor (self-propelled With Blade)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Compressor (2000 Cfm Or Over, 2 Or More, Gas Diesel Or Electric Power)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Compressors (under 2000 Cfm, Gas, Diesel Or Electric Power)	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Concrete Cleaning / Decontamination Machine Operator	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Concrete Pump Boon Truck	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Concrete Pumps (squeeze-crete, Flow-crete, Whitman & Similar)	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Concrete Saw (multiple Cut)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Concrete Slip Form Paver	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Conveyor Aggregate Delivery Systems (c.a.d.)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Crane Oiler- Driver (cdl Required) & Cable Tender, Mucking Machine	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Cranes (25 Tons & Under), All Attachments Incl. Clamshell, Dragline	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Cranes (25 Tons To And Including 45 Tons), All Attachments Incl. Clamshell, Dragline	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Cranes (45 Tons To 85 Tons), All Attachments Incl. Clamshell And Dragline	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Cranes (85 Tons & Over) And All Climbing, Overhead, Rail & Tower. All Attachments Incl.	$42.61	7B	1M	8D

Walla Walla	Power Equipment Operators- Underground Sewer & Water	Crusher Feeder	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Crusher, Grizzle & Screening Plant Operator	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Curb Extruder (asphalt Or Concrete)	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Deck Engineer	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Deck Hand	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Derricks & Stifflegs (65 Tons & Over)	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Derricks & Stifflegs (under 65 Tons)	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Distributor Leverman	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Ditch Witch Or Similar	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Dope Pots (power Agitated	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Dozer / Tractor (up To D-6 Or Equivalent) And Traxcavator	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Dozer / Tractors (d-6 & Equivalent & Over)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Dozer, 834 R/t & Similar	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Drill Doctor	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Driller Licensed	$42.61	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Drillers Helper	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Drilling Equipment (8 inch Bit & Over - Robbins, Reverse Circulation & Similar)	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Drills (churn, Core, Calyx Or Diamond)	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Elevating Belt (holland Type)	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Elevating Belt-type Loader (euclid, Barber Green & Similar)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Elevating Grader-type Loader (dumor, Adams Or Similar)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Elevator Hoisting Materials	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Equipment Serviceman, Greaser & Oiler	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Fireman & Heater Tender	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Fork Lift Or Lumber Stacker, Hydra-life & Similar	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Generator Plant Engineers (diesel Or Electric)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Gin Trucks (pipeline)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Grade Checker	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Gunite Combination Mixer & Compressor	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	H.d. Mechanic	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	H.d. Welder	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Heavy Equipment Robotics Operator	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Helicopter Pilot	$42.61	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Helper, Mechanic Or Welder, H.D	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Hoe Ram	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Hoist (2 Or More Drums Or Tower Hoist)	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Hoist, Single Drum	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Hydraulic Platform Trailers (goldhofer, Shaurerly And Similar)	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Hydro-seeder, Mulcher, Nozzleman	$39.71	7B	1M	8D

Walla Walla	Power Equipment Operators- Underground Sewer & Water	Lime Batch Tank Operator (recycle Train)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Lime Brain Operator (recycle Train)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Loader (360 Degrees Revolving Koehring Scooper Or Similar)	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Loader Operator (front-end & Overhead, 4 Yds. Incl. 8 Yds.)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Loaders (bucket Elevators And Conveyors)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Loaders (overhead & Front-end, Over 8 Yds. To 10 Yds.)	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Loaders (overhead & Front-end, Under 4 Yds.. R/t)	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Loaders (overhead And Front-end, 10 Yds. & Over)	$42.61	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Locomotive Engineer	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Longitudinal Float	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Master Environmental Maintenance Technician	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Mixer (portable - Concrete)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Mixermobile	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Mobile Crusher Operator (recycle Train)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Mucking Machine	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Multiple Dozer Units With Single Blade	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Pavement Breaker, Hydra-hammer & Similar	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Paving (dual Drum)	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Paving Machine (asphalt And Concrete)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Piledriving Engineers	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Plant Oiler	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Posthole Auger Or Punch	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Power Broom	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Pump (grout Or Jet)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Pumpman	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Quad-track Or Similar Equipment	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Railroad Ballast Regulation Operator (self-propelled)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Railroad Power Tamper Operator (self-propelled)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Railroad Tamper Jack Operator (self-propelled)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Railroad Track Liner Operator (self-propelled)	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Refrigeration Plant Engineer (1000 Tons & Over)	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Refrigeration Plant Engineer (under 1000 Ton)	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Rollerman (finishing Asphalt Pavement)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Rollers, All Types On Subgrade, Including Seal And Chip Coating (farm Type, Case, John Deere And Similar,or Compacting Vibrator), Except When Pulled B	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Roto Mill (pavement Grinder)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Rotomill Groundsman	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Rubber-tired Scrapers (multiple Engine With Three Or More Scrapers)	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Rubber-tired Skidders (r/t With Or Without Attachments)	$40.80	7B	1M	8D

Walla Walla	Power Equipment Operators- Underground Sewer & Water	Scrapers, All, Rubber-tired	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Screed Operator	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Shovels (3 Yds. & Over)	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Shovels (under 3 Yds.)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Signalman (whirleys, Highline, Hammerheads Or Similar)	$40.96	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Soil Stabilizer (p & H Or Similar)	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Spray Curing Machine (concrete)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Spreader Box (self-propelled)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Spreader Machine	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Steam Cleaner	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Straddle Buggy (ross & Similar On Construction Job Only)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Surface Heater & Planer Machine	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Tractor (farm Type R/t With Attachments, Except Backhoe)	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Traverse Finish Machine	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Trenching Machines (7 Ft. Depth & Over)	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Trenching Machines (under 7 Ft. Depth Capacity)	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Tug Boat Operator	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Tugger Operator	$40.03	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Turnhead (with Re-screening)	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Turnhead Operator	$40.64	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Ultra High Pressure Wateriet Cutting Tool System Operator, (30,000 Psi)	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Vactor Guzzler, Super Sucker	$41.24	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Vacuum Blasting Machine Operator	$41.51	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Vacuum Drill (reverse Circulation Drill Under 8" Bit)	$40.80	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Welding Machine	$39.71	7B	1M	8D
Walla Walla	Power Equipment Operators- Underground Sewer & Water	Whirleys & Hammerheads, All	$41.51	7B	1M	8D
Walla Walla	Power Line Clearance Tree Trimmers	Journey Level In Charge	$45.75	5A	4A	
Walla Walla	Power Line Clearance Tree Trimmers	Spray Person	$43.38	5A	4A	
Walla Walla	Power Line Clearance Tree Trimmers	Tree Equipment Operator	$45.75	5A	4A	
Walla Walla	Power Line Clearance Tree Trimmers	Tree Trimmer	$40.84	5A	4A	
Walla Walla	Power Line Clearance Tree Trimmers	Tree Trimmer Groundperson	$30.74	5A	4A	
Walla Walla	Refrigeration & Air Conditioning Mechanics	Journey Level	$31.18		1	
Walla Walla	Residential Brick Mason	Journey Level	$20.00		1	
Walla Walla	Residential Carpenters	Journey Level	$21.18		1	
Walla Walla	Residential Cement Masons	Journey Level	$13.37		1	
Walla Walla	Residential Drywall Applicators	Journey Level	$14.65		1	
Walla Walla	Residential Drywall Tapers	Journey Level	$11.06		1	
Walla Walla	Residential Electricians	JOURNEY LEVEL	$32.30		1	
Walla Walla	Residential Glaziers	Journey Level	$19.28		1	
Walla Walla	Residential Insulation Applicators	Journey Level	$10.00		1	
Walla Walla	Residential Laborers	Journey Level	$17.00		1	

Walla Walla	Residential Marble Setters	Journey Level	$20.00		1	
Walla Walla	Residential Painters	Journey Level	$13.00		1	
Walla Walla	Residential Plumbers & Pipefitters	Journey Level	$17.95		1	
Walla Walla	Residential Refrigeration & Air Conditioning Mechanics	Journey Level	$9.47		1	
Walla Walla	Residential Sheet Metal Workers	Journey Level (Field or Shop)	$40.05	5A	1X	
Walla Walla	Residential Soft Floor Layers	Journey Level	$23.11	5A	1N	
Walla Walla	Residential Sprinkler Fitters (Fire Protection)	Journey Level	$12.56		1	
Walla Walla	Residential Stone Masons	Journey Level	$20.00		1	
Walla Walla	Residential Terrazzo Workers	Journey Level	$9.47		1	
Walla Walla	Residential Terrazzo/Tile Finishers	Journey Level	$9.47		1	
Walla Walla	Residential Tile Setters	Journey Level	$9.47		1	
Walla Walla	Roofers	Journey Level	$36.43	5I	1R	
Walla Walla	Roofers	Using Irritable Bituminous Materials	$38.43	5I	1R	
Walla Walla	Sheet Metal Workers	Journey Level (Field or Shop)	$54.56	5A	1X	
Walla Walla	Sign Makers & Installers (Electrical)	Journey Level	$10.55		1	
Walla Walla	Sign Makers & Installers (Non-Electrical)	Journey Level	$10.55		1	
Walla Walla	Soft Floor Layers	Journey Level	$23.11	5A	1N	
Walla Walla	Solar Controls For Windows	Journey Level	$9.47		1	
Walla Walla	Sprinkler Fitters (Fire Protection)	Journey Level	$50.95	7J	1R	
Walla Walla	Stage Rigging Mechanics (Non Structural)	Journey Level	$13.23		1	
Walla Walla	Stone Masons	Journey Level	$44.94	5A	1M	
Walla Walla	Street And Parking Lot Sweeper Workers	Journey Level	$14.00		1	
Walla Walla	Surveyors	Chain Person	$9.47	Null	1	
Walla Walla	Surveyors	Instrument Person	$12.05	Null	1	
Walla Walla	Surveyors	Party Chief	$15.05	Null	1	
Walla Walla	Telecommunication Technicians	Journey Level	$23.43		1	
Walla Walla	Telephone Line Construction - Outside	Cable Splicer	$37.60	5A	2B	
Walla Walla	Telephone Line Construction - Outside	Hole Digger/Ground Person	$20.79	5A	2B	
Walla Walla	Telephone Line Construction - Outside	Installer (Repairer)	$36.02	5A	2B	
Walla Walla	Telephone Line Construction - Outside	Special Aparatus Installer I	$37.60	5A	2B	
Walla Walla	Telephone Line Construction - Outside	Special Apparatus Installer II	$36.82	5A	2B	
Walla Walla	Telephone Line Construction - Outside	Telephone Equipment Operator (Heavy)	$37.60	5A	2B	
Walla Walla	Telephone Line Construction - Outside	Telephone Equipment Operator (Light)	$34.94	5A	2B	
Walla Walla	Telephone Line Construction - Outside	Telephone Lineperson	$34.93	5A	2B	
Walla Walla	Telephone Line Construction - Outside	Television Groundperson	$19.73	5A	2B	
Walla Walla	Telephone Line Construction - Outside	Television Lineperson/Installer	$26.31	5A	2B	
Walla Walla	Telephone Line Construction - Outside	Television System Technician	$31.50	5A	2B	
Walla Walla	Telephone Line Construction - Outside	Television Technician	$28.23	5A	2B	
Walla Walla	Telephone Line Construction - Outside	Tree Trimmer	$34.93	5A	2B	
Walla Walla	Terrazzo Workers	Journey Level	$38.14	5A	1M	
Walla Walla	Tile Setters	Journey Level	$27.72		1	
Walla Walla	Tile, Marble & Terrazzo Finishers	Journey Level	$25.72		1	

Walla Walla	Traffic Control Stripers	Journey Level	$27.67		1	
Walla Walla	Truck Drivers	Dump Truck	$28.11		1	
Walla Walla	Truck Drivers	Dump Truck And Trailer	$28.11		1	
Walla Walla	Truck Drivers	Other Trucks	$28.59		1	
Walla Walla	Truck Drivers	Transit Mixer	$26.37		1	
Walla Walla	Well Drillers & Irrigation Pump Installers	Irrigation Pump Installer	$11.15		1	
Walla Walla	Well Drillers & Irrigation Pump Installers	Oiler	$9.47		1	
Walla Walla	Well Drillers & Irrigation Pump Installers	Well Driller	$18.00		1	

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Overtime Codes

Overtime calculations are based on the hourly rate actually paid to the worker. On public works projects, the hourly rate must be not less than the prevailing rate of wage minus the hourly rate of the cost of fringe benefits actually provided for the worker.

1. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

B. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

C. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

D. The first two (2) hours before or after a five-eight (8) hour workweek day or a four-ten (10) hour workweek day and the first eight (8) hours worked the next day after either workweek shall be paid at one and one-half times the hourly rate of wage. All additional hours worked and all worked on Sundays and holidays shall be paid at double the hourly rate of wage.

E. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

F. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours worked, except Labor Day, shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.

G. The first ten (10) hours worked on Saturdays and the first ten (10) hours worked on a fifth calendar weekday in a four-ten hour schedule, shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

H. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions or equipment breakdown) shall be paid at one and one-half times the hourly rate of wage. All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

I. All hours worked on Sundays and holidays shall also be paid at double the hourly rate of wage.

J. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over ten (10) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage.

K. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.

M. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

N. All hours worked on Saturdays (except makeup days) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

Overtime Codes Continued

1. O. The first ten (10) hours worked on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays, holidays and after twelve (12) hours, Monday through Friday and after ten (10) hours on Saturday shall be paid at double the hourly rate of wage.

   P. All hours worked on Saturdays (except makeup days if circumstances warrant) and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.

   Q. The first two (2) hours after eight (8) regular hours Monday through Friday and up to ten (10) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays (except Christmas day) shall be paid at double the hourly rate of wage. All hours worked on Christmas day shall be paid at two and one-half times the hourly rate of wage.

   R. All hours worked on Sundays and holidays shall be paid at two times the hourly rate of wage.

   S. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays and all other overtime hours worked, except Labor Day, shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.

   U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays (except Labor Day) shall be paid at two times the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.

   V. All hours worked on Sundays and holidays (except Thanksgiving Day and Christmas day) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Thanksgiving Day and Christmas day shall be paid at double the hourly rate of wage.

   W. All hours worked on Saturdays and Sundays (except make-up days due to conditions beyond the control of the employer)) shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.

   X. The first four (4) hours after eight (8) regular hours Monday through Friday and the first twelve (12) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over twelve (12) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage. When holiday falls on Saturday or Sunday, the day before Saturday, Friday, and the day after Sunday, Monday, shall be considered the holiday and all work performed shall be paid at double the hourly rate of wage.

   Y. All hours worked outside the hours of 5:00 am and 5:00 pm (or such other hours as may be agreed upon by any employer and the employee) and all hours worked in excess of eight (8) hours per day (10 hours per day for a 4 x 10 workweek) and on Saturdays and holidays (except labor day) shall be paid at one and one-half times the hourly rate of wage. (except for employees who are absent from work without prior approval on a scheduled workday during the workweek shall be paid at the straight-time rate until they have worked 8 hours in a day (10 in a 4 x 10 workweek) or 40 hours during that workweek.) All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and Labor Day shall be paid at double the hourly rate of wage.

   Z. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid the straight time rate of pay in addition to holiday pay.

2. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

   B. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.

   C. All hours worked on Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at two times the hourly rate of wage.

Overtime Codes Continued

2. F. The first eight (8) hours worked on holidays shall be paid at the straight hourly rate of wage in addition to the holiday pay. All hours worked in excess of eight (8) hours on holidays shall be paid at double the hourly rate of wage.

G. All hours worked on Sunday shall be paid at two times the hourly rate of wage. All hours worked on paid holidays shall be paid at two and one-half times the hourly rate of wage including holiday pay.

H. All hours worked on Sunday shall be paid at two times the hourly rate of wage. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.

O. All hours worked on Sundays and holidays shall be paid at one and one-half times the hourly rate of wage.

R. All hours worked on Sundays and holidays and all hours worked over sixty (60) in one week shall be paid at double the hourly rate of wage.

U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked over 12 hours in a day or on Sundays and holidays shall be paid at double the hourly rate of wage.

W. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage. On a four-day, ten-hour weekly schedule, either Monday thru Thursday or Tuesday thru Friday schedule, all hours worked after ten shall be paid at double the hourly rate of wage. The first eight (8) hours worked on the fifth day shall be paid at one and one-half times the hourly rate of wage. All other hours worked on the fifth, sixth, and seventh days and on holidays shall be paid at double the hourly rate of wage.

3. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

A. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal shift, and all work on Saturdays shall be paid at time and one-half the straight time rate. Hours worked over twelve hours (12) in a single shift and all work performed after 6:00 pm Saturday to 6:00 am Monday and holidays shall be paid at double the straight time rate of pay. Any shift starting between the hours of 6:00 pm and midnight shall receive an additional one dollar ($1.00) per hour for all hours worked that shift. The employer shall have the sole discretion to assign overtime work to employees. Primary consideration for overtime work shall be given to employees regularly assigned to the work to be performed on overtime situations. After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

C. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage. All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays shall be paid at double the hourly rate of wage. After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

D. All hours worked between the hours of 6:00 pm and 6:00 am, Monday through Saturday, shall be paid at a premium rate of 15% over the hourly rate of wage. All other hours worked after 6:00 am on Saturdays, shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

E. All hours worked Sundays and holidays shall be paid at double the hourly rate of wage. Each week, once 40 hours of straight time work is achieved, then any hours worked over 10 hours per day Monday through Saturday shall be paid at double the hourly wage rate.

Overtime Codes Continued

3. F. All hours worked on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sunday shall be paid at two times the hourly rate of wage. All hours worked on paid holidays shall be paid at two and one-half times the hourly rate of wage including holiday pay.

H. All work performed on Sundays between March 16th and October 14th and all Holidays shall be compensated for at two (2) times the regular rate of pay. Work performed on Sundays between October 15th and March 15th shall be compensated at one and one half (1-1/2) times the regular rate of pay.

I. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. In the event the job is down due to weather conditions during a five day work week (Monday through Friday,) or a four day-ten hour work week (Tuesday through Friday,) then Saturday may be worked as a voluntary make-up day at the straight time rate. However, Saturday shall not be utilized as a make-up day when a holiday falls on Friday. All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

4. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

A. All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at double the hourly rate of wage. All hours worked on Saturdays, Sundays and holidays shall be paid at double the hourly rate of wage.

B. All hours worked over twelve (12) hours per day and all hours worked on holidays shall be paid at double the hourly rate of wage.

C. On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay. On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay, except that if the job is down on Monday through Friday due to weather conditions or other conditions outside the control of the employer, the first ten (10) hours on Saturday may be worked at the straight time rate of pay. All hours worked over twelve (12) hours in a day and all hours worked on Sunday and Holidays shall be paid at two (2) times the straight time rate of pay.

D. All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at double the hourly rate of wage. All hours worked on Saturday, Sundays and holidays shall be paid at double the hourly rate of pay. Rates include all members of the assigned crew.

EXCEPTION:
On all multipole structures and steel transmission lines, switching stations, regulating, capacitor stations, generating plants, industrial plants, associated installations and substations, except those substations whose primary function is to feed a distribution system, will be paid overtime under the following rates:

The first two (2) hours after eight (8) regular hours Monday through Friday of overtime on a regular workday, shall be paid at one and one-half times the hourly rate of wage. All hours in excess of ten (10) hours will be at two (2) times the hourly rate of wage. The first eight (8) hours worked on Saturday will be paid at one and one-half (1-1/2) times the hourly rate of wage. All hours worked in excess of eight (8) hours on Saturday, and all hours worked on Sundays and holidays will be at the double the hourly rate of wage.

All overtime eligible hours performed on the above described work that is energized, shall be paid at the double the hourly rate of wage.

Overtime Codes Continued

4. E. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

   On a four-day, ten-hour weekly schedule, either Monday thru Thursday or Tuesday thru Friday schedule, all hours worked after ten shall be paid at double the hourly rate of wage. The Monday or Friday not utilized in the normal four-day, ten hour work week, and Saturday shall be paid at one and one half (1½) times the regular shift rate for the first eight (8) hours. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

   F. All hours worked between the hours of 6:00 pm and 6:00 am, Monday through Saturday, shall be paid at a premium rate of 20% over the hourly rate of wage. All hours worked on Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.

   G. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

Holiday Codes

5. A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, and Christmas Day (7).

   B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, the day before Christmas, and Christmas Day (8).

   C. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8).

   D. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8).

   H. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Day after Thanksgiving Day, And Christmas (6).

   I. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6).

   J. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, Friday after Thanksgiving Day, Christmas Eve Day, And Christmas Day (7).

   K. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday After Thanksgiving Day, The Day Before Christmas, And Christmas Day (9).

   L. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (8).

   N. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, The Friday After Thanksgiving Day, And Christmas Day (9).

   P. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday And Saturday After Thanksgiving Day, The Day Before Christmas, And Christmas Day (9). If A Holiday Falls On Sunday, The Following Monday Shall Be Considered As A Holiday.

Holiday Codes Continued

5. Q. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6).

   R. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Day After Thanksgiving Day, One-Half Day Before Christmas Day, And Christmas Day. (7 1/2).

   S. Paid Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, And Christmas Day (7).

   T. Paid Holidays: New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, Christmas Day, And The Day Before Or After Christmas (9).

   Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8).

Holiday Codes Continued

6. A. Paid Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8).

   E. Paid Holidays: New Year's Day, Day Before Or After New Year's Day, Presidents Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and a Half-Day On Christmas Eve Day. (9 1/2).

   G. Paid Holidays: New Year's Day, Martin Luther King Jr. Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and Christmas Eve Day (11).

   H. Paid Holidays: New Year's Day, New Year's Eve Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday After Thanksgiving Day, Christmas Day, The Day After Christmas, And A Floating Holiday (10).

   I. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday After Thanksgiving Day, And Christmas Day (7).

   T. Paid Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Last Working Day Before Christmas Day, And Christmas Day (9).

   Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (7). If a holiday falls on Saturday, the preceding Friday shall be considered as the holiday. If a holiday falls on Sunday, the following Monday shall be considered as the holiday.

Holiday Codes Continued

7. A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any Holiday Which Falls On A Sunday Shall Be Observed As A Holiday On The Following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.

Holiday Codes Continued

7. B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

C. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

D. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8). Unpaid Holidays: President's Day. Any paid holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any paid holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

E. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

F. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the last working day before Christmas day and Christmas day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

G. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

H. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

I. Holidays: New Year's Day, President's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Day Before Christmas Day And Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

J. Holidays: New Year's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day and Christmas Day (6). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

K. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

L. Holidays: New Year's Day, Memorial Day, Labor Day, Independence Day, Thanksgiving Day, the Last Work Day before Christmas Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

M. Paid Holidays: New Year's Day, The Day after or before New Year's Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, And the Day after or before Christmas Day (10). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

Holiday Codes Continued

7. N. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. When Christmas falls on a Saturday, the preceding Friday shall be observed as a holiday.

P. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

Q. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.

R. Paid Holidays: New Year's Day, the day after or before New Year's Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and the day after or before Christmas Day (10). If any of the listed holidays fall on Saturday, the preceding Friday shall be observed as the holiday. If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.

S. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, Christmas Day, the Day after Christmas, and A Floating Holiday (9). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.

T. Paid Holidays: New Year's Day, the Day after or before New Year's Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and The Day after or before Christmas Day. (10). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

Note Codes

8. A. In addition to the hourly wage and fringe benefits, the following depth premiums apply to depths of fifty feet or more:
Over 50' To 100' -$2.00 per Foot for Each Foot Over 50 Feet
Over 100' To 150' -$3.00 per Foot for Each Foot Over 100 Feet
Over 150' To 220' -$4.00 per Foot for Each Foot Over 150 Feet
Over 220' -$5.00 per Foot for Each Foot Over 220 Feet

C. In addition to the hourly wage and fringe benefits, the following depth premiums apply to depths of fifty feet or more:
Over 50' To 100' -$1.00 per Foot for Each Foot Over 50 Feet
Over 100' To 150' -$1.50 per Foot for Each Foot Over 100 Feet
Over 150' To 200' -$2.00 per Foot for Each Foot Over 150 Feet
Over 200' -Divers May Name Their Own Price

D. Workers working with supplied air on hazmat projects receive an additional $1.00 per hour.

L. Workers on hazmat projects receive additional hourly premiums as follows -Level A: $0.75, Level B: $0.50, And Level C: $0.25.

M. Workers on hazmat projects receive additional hourly premiums as follows: Levels A & B: $1.00, Levels C & D: $0.50.

Note Codes Continued

8. N. Workers on hazmat projects receive additional hourly premiums as follows -Level A: $1.00, Level B: $0.75, Level C: $0.50, And Level D: $0.25.

P. Workers on hazmat projects receive additional hourly premiums as follows -Class A Suit: $2.00, Class B Suit: $1.50, Class C Suit: $1.00, And Class D Suit $0.50.

Q. The highest pressure registered on the gauge for an accumulated time of more than fifteen (15) minutes during the shift shall be used in determining the scale paid.

R. Effective August 31, 2012 – A Traffic Control Supervisor shall be present on the project whenever flagging or spotting or other traffic control labor is being utilized. A Traffic Control Laborer performs the setup, maintenance and removal of all temporary traffic control devices and construction signs necessary to control vehicular, bicycle, and pedestrian traffic during construction operations. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. These classifications are only effective on or after August 31, 2012.

S. Effective August 31, 2012 – A Traffic Control Supervisor shall be present on the project whenever flagging or spotting or other traffic control labor is being utilized. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. This classification is only effective on or after August 31, 2012.

T. Effective August 31, 2012 – A Traffic Control Laborer performs the setup, maintenance and removal of all temporary traffic control devices and construction signs necessary to control vehicular, bicycle, and pedestrian traffic during construction operations. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. This classification is only effective on or after August 31, 2012.

U. Workers on hazmat projects receive additional hourly premiums as follows – Class A Suit: $2.00, Class B Suit: $1.50, And Class C Suit: $1.00. Workers performing underground work receive an additional $0.40 per hour for any and all work performed underground, including operating, servicing and repairing of equipment. The premium for underground work shall be paid for the entire shift worked. Workers who work suspended by a rope or cable receive an additional $0.50 per hour. The premium for work suspended shall be paid for the entire shift worked. Workers who do “pioneer” work (break open a cut, build road, etc.) more than one hundred fifty (150) feet above grade elevation receive an additional $0.50 per hour.

CONTRACT FORMS

NOTICE OF AWARD

Date of Issuance:

OWNER:	City of Walla Walla	OWNER's Contract No.:	LF09010
ENGINEER:	J-U-B ENGINEERs	ENGINEER's Project No.:	30-11-012
Project:	Sudbury Road Landfill Remedial Action	Contract Name:	Sudbury Road Landfill Remedial Action

Bidder:

Bidder's Address:

TO BIDDER:

You are notified that OWNER has accepted your Bid dated [_____] for the above Contract, and that you are the Successful Bidder and are awarded a Contract for:

_____ .

[describe Work, alternates, or sections of Work awarded]

The Contract Price of the awarded Contract is: $_____ *[note if subject to unit prices, or cost-plus]*

[ ] unexecuted counterparts of the Agreement accompany this Notice of Award, and one copy of the Contract Documents accompanies this Notice of Award, or has been transmitted or made available to Bidder electronically. *[revise if multiple copies accompany the Notice of Award]*

☐ a set of the Drawings will be delivered separately from the other Contract Documents.

You must comply with the following conditions precedent within 15 days of the date of receipt of this Notice of Award:

1. Deliver to OWNER [____]counterparts of the Agreement, fully executed by Bidder.
2. Deliver with the executed Agreement(s) the Contract security *[e.g., performance and payment bonds]* and insurance documentation as specified in the Instructions to Bidders and General Conditions, Articles 2 and 6.
3. Other conditions precedent (if any):

Failure to comply with these conditions within the time specified will entitle OWNER to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, OWNER will return to you one fully executed counterpart of the Agreement, together with any additional copies of the Contract Documents as indicated in Paragraph 2.02 of the General Conditions.

OWNER**:**

Authorized Signature

By:

Title:

Copy: ENGINEER

CITY OF WALLA WALLA
CONSTRUCTION CONTRACT

THIS AGREEMENT, made and entered into in duplicate this _____ day of _____ , 2016, by and between the CITY OF WALLA WALLA, hereinafter called OWNER, and, NAME & ADDRESS hereinafter called CONTRACTOR,

WITNESSETH

In consideration of the terms and conditions, the parties hereto agree as follows:

1. CONTRACTOR shall do all work and furnish all tools, materials, supplies, labor, equipment, and other services necessary for the setup, construction and completion of the **Sudbury Road Landfill Remedial Action, Project No. LF09010** in a workmanlike manner in the bid amount of **$**_____, including taxes, in accordance herewith and all required permits and in accordance with the following documents which are incorporated herein by reference and made part hereof: (1) the "Proposal" submitted by _____ ; dated _____ , 2016 in the amount of $_____; (2) addenda, (3) the Instructions to Bidders, City of Walla Walla, Washington, Sudbury Road Landfill Remedial Action, (4) the Technical Specifications, (5) the Sudbury Road Landfill Remedial Action, Walla Walla, Washington, Construction Documents, J-U-B Project Number 30-11-012, City Project Number LF09010, (6) the Supplementary Conditions, (7) the General Conditions, (8) the advertisement for bids, (9) Construction Quality Assurance (CQA) Manual and (10) the "Standard Specifications for Road, Bridge, and Municipal Construction – 2016", or most current edition in its entirety, published by the Washington State Department of Transportation.

This Construction Contract and the above referenced documents incorporated herein constitute the Contract Documents. Any inconsistencies in the parts of the Contract Documents shall be resolved by following this order of precedence (e.g., 1 presiding over 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11; 2 presiding over 3, 4, 5, 6, 7, 8, 9, 10 and 11; and so forth): (1) this Construction Contract, (2) the Proposal, (3) addenda to the Instructions to Bidders, (4) the Instructions to Bidders, (5) the Technical Specifications, (6) the Construction Documents, (7) the Supplementary Conditions, (8) the General Conditions, (9) the advertisement for bids, (10) the Construction Quality Assurance (CQA) Manual, (11) the Standard Specifications for Road, Bridge, and Municipal Construction.

On the Contract Plans, Working drawings, and Standards Plans, figured dimensions shall take precedence over scaled dimensions.

CONTRACTOR shall further perform any alterations or additions to the work as directed under this contract.

Without invalidating the contract and without notice to any surety, OWNER may through ENGINEER, at any time or from time to time, order additions, deletions or revisions in the work. Such additions, deletions or revisions will be authorized by written amendment, written change order, or written work change directive. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the work involved which will be performed under the applicable conditions of the contract documents (except as otherwise specifically provided).

Work shall start within seven (7) calendar days from the date that the official "Notice to Proceed" is issued. Contractor will order long lead-time items and be ready to mobilize. The project shall be substantially complete within 100 working days.

A portion of the project funding is through a Remedial Action Grant funded by the Model Toxics Control Act fund. One of the conditions of the grant is that the allocated funds be spent by June 30, 2016. Currently the available funding remaining in the grant is **$900,000.00**. The Contractor acknowledges and agrees by submitting a bid for this project that they will be penalized the

remaining balance of the grant should not the total amount of work including materials on hand not meet or exceed the available amount of the grant by **June 30, 2016**.

If substantial completion is not completed within the working days specified, CONTRACTOR agrees to pay OWNER the sum of **Five Hundred ($500)** dollars for each and every working day said work remains uncompleted after expiration of the specified completion date as liquidated damages unless the period for completion is extended in accordance with Section 1-08.9 of the Standard Specifications. CONTRACTOR understands and agrees to fully comply with the provisions defined in the Standard Specifications and entitled "Liquidated Damages."

The prevailing rate of wage to be paid to all workmen, laborers, or mechanics employed in the performance of any part of this contract shall be in accordance with the provisions of Chapter 39.12 RCW, as amended, and the rules and regulations of the Department of Labor and Industries and the schedule of prevailing wage rates for the locality where this contract will be performed as determined by the Industrial Statistician of the Department of Labor and Industries as of the date of this agreement are by reference made a part of this contract as though fully set forth herein.

B. OWNER hereby contracts with CONTRACTOR to pay for the described works according to Section 1-09.3 of the Standard Specifications and the schedule of unit or itemized prices shown in the bid.

C. The City Engineer is hereby designated as ENGINEER for project administration. Neither ENGINEER's authority or responsibility to OWNER nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority or responsibility shall create, impose or give rise to any duty owed by ENGINEER to CONTRACTOR, any subcontractor, any supplier, any other person or organization, or to any surety for or employee or agent of any of them.

ENGINEER will have authority to disapprove or reject work which ENGINEER believes to be defective, or that ENGINEER believes will not produce a completed project that conforms to the contract documents or that will prejudice the integrity of the design concept of the completed project functioning as a whole as indicated in the contract documents. ENGINEER will also have authority to require special inspection or testing of the work whether or not the work is completed.

ENGINEER will not supervise direct, control or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work. ENGINEER will not be responsible for CONTRACTOR's failure to perform or furnish work in accordance with contract documents.

ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any subcontractor, any supplier, or of any other person or organization performing or furnishing any of the work.

The limitations upon authority and responsibility set forth herein shall also apply to ENGINEER's consultants, resident project representative, and assistants.

D. CONTRACTOR shall supervise, provide quality control, inspect and direct the work competently and efficiently in a workmanlike manner, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the work in accordance with the contract documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, procedures of construction, and to see that the completed work complies accurately with the contract documents.

If any work is covered contrary to written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER's inspection and replaced at CONTRACTOR's

expense.

CONTRACTOR shall carry on the work and adhere to the progress schedule during all disputes or disagreements with OWNER or ENGINEER. No work shall be delayed or postponed pending resolution of any disputes or disagreements except as directed by OWNER or ENGINEER.

CONTRACTOR shall keep on the work site at all times during its progress a competent resident superintendent who shall not be replaced without written notice to OWNER and ENGINEER except in extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications to the superintendent shall be as binding as if given to CONTRACTOR. If at any time during the project the superintendent leaves the project site while work is in progress, ENGINEER shall be notified and provided with the name of CONTRACTOR's representative having responsible charge.

CONTRACTOR shall also designate the person responsible for CONTRACTOR's quality control while the work is in progress. ENGINEER shall be notified in writing prior to any change in quality control representative assignment.

CONTRACTOR shall provide competent suitable qualified personnel to survey, lay out and construct the work as required by the contract documents. CONTRACTOR shall at all times maintain good discipline and order at the site. Except as otherwise required for the safety or protection of persons or the work or property at the site or adjacent thereto, and except as otherwise indicated in the contract documents, all work at the site shall be performed during regular working hours and CONTRACTOR will not permit overtime work or performance of work on Saturday, Sunday, or any legal holiday without OWNER's written consent given after prior written notice to ENGINEER.

Unless otherwise specified in the contract documents, CONTRACTOR shall furnish and assume full responsibility for all materials equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, quality control, testing, start-up and completion of the work.

All materials shall be of good quality and new, except as otherwise provided in the contract documents. All warranties and guaranties specifically called for by the contract documents shall expressly run to the benefit of OWNER. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials. All materials shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable supplier, except as otherwise provided in the contract documents.

CONTRACTOR shall not employ any subcontractor, supplier, or other person or organization whether initially or as a substitute, against whom OWNER or ENGINEER may have reasonable objection.

CONTRACTOR shall be fully responsible to OWNER for all acts and omissions of subcontractors, suppliers and other persons or organizations performing or furnishing any of the work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the contract documents shall create for the benefit of any such subcontractor, supplier, or any other person or organization any contractual relationship between OWNER and any such subcontractor, supplier, or other person or organization, nor shall it create an obligation on the part of OWNER to pay or to see to the payment of any moneys due any such subcontractor, supplier, or other person or organization.

CONTRACTOR shall be solely responsible for scheduling and coordinating the work of subcontractors, suppliers, and other persons and organizations performing or furnishing any of

the work under a direct or indirect contract with CONTRACTOR. CONTRACTOR shall require all subcontractors, suppliers and such other persons and organizations performing or furnishing any of the work to communicate with the ENGINEER through CONTRACTOR.

CONTRACTOR warrants and guarantees to OWNER that all work will be performed in a workmanlike manner, in accordance with the contract documents, and will not be defective. Work is defective if it is unsatisfactory, faulty or deficient in that it does not conform to the contract documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the contract documents, or has been damaged prior to ENGINEER's recommendation of final payment.

CONTRACTOR's obligation to perform and complete the work in accordance with the contract documents shall be absolute. None of the following will constitute acceptance of work that is not in accordance with the contract documents or a release of CONTRACTOR's obligation to perform the work in accordance with the contract documents: observations by ENGINEER; recommendation of any progress or final payment; the issuance of a certificate of substantial completion or any payment under the contract documents; use or occupancy of the work or any part thereof by OWNER; any acceptance by OWNER or any failure to do so; any inspection, test or approval by others; or any correction of defective work.

If required by ENGINEER, CONTRACTOR shall promptly, as directed, either correct all defective work, whether or not fabricated, installed or completed, or, if the work has been rejected by ENGINEER, remove it from the site and replace it with work that is not defective. CONTRACTOR shall pay all claims, costs, losses and damages caused by or resulting from such correction or removal and replacement (including but not limited to all costs of repair or replacement of work of others).

If within one (1) years after the date of substantial completion any work is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instructions: (i) correct such defective work, or, if it has been rejected by OWNER, remove it from the site and replace it with work that is not defective, and (ii) satisfactorily correct or remove and replace any damage to other work or the work of others resulting therefrom. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective work corrected or the rejected work removed and replaced, and all claims, costs, losses and damages caused by or resulting from such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by CONTRACTOR.

Where defective work (and damage to other work resulting therefrom) has been corrected, removed, or replaced, the correction period hereunder with respect to such work will be extended for an additional period of one (1) year after such correction or removal and replacement has been satisfactorily completed. Repetitive malfunction of work shall be cause for replacement and an extension of the correction period to a date one year following acceptable replacement. A repetitive malfunction shall be defined as the second failure of work or a product following original acceptance.

E. No liability shall attach to the OWNER by reason of its entering into this contract, except as expressly provided herein.

F. During the performance of this contract, CONTRACTOR agrees as follows:

1. CONTRACTOR will not discriminate against any employee or applicant for employment because of race, color, religion, sex, Vietnam era veteran status, disabled veteran condition, physical or mental handicap, or national origin. CONTRACTOR will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. CONTRACTOR will take affirmative action to employ, advance in employment, and otherwise treat qualified individuals without

discrimination based upon their disability or veterans' status or physical or mental handicap in all employment actions. Such actions shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

2. CONTRACTOR will not, on grounds of race, color, religion, sex, physical or mental handicap, or national origin:

a. Deny an individual any services or other benefits provided under this agreement.

b. Provide any service(s) or other benefits to an individual which are different, or are provided in a different manner from those provided to others under this agreement.

c. Subject an individual to segregation or separate treatment in any manner related to the receipt of any service(s) of other benefits provided under this agreement.

d. Deny any individual an opportunity to participate in any program provided by this agreement through an opportunity to do which is different from that afforded others under this agreement. CONTRACTOR in determining (1) the types of services or other benefits to be provided, or (2) the class of individuals to whom or the situation in which, such services or other benefits will be provided or (3) the class of individuals to be afforded an opportunity to participate in any services or other benefits, will not utilize criteria or methods of administration which have the effect of subjecting individuals to discrimination because of their race, color, sex, religion, national origin, creed, or the presence of any sensory, mental or physical handicap.

G. This contract shall be governed by the laws of the State of Washington, excepting conflict of law principles, and federal law. Venue for any dispute arising out of this contract or its interpretation or construction shall be in the Superior Court of the State of Washington for Walla Walla County. In the event that any provision or clause of this contract conflicts with applicable law, such conflict shall not affect other provisions of this contract which may be given effect without the conflicting provision, and any provision or clause of this contract which is determined to conflict with applicable law or unenforceable by a court of competent jurisdiction shall be severable from the remainder of this contract.

APPROVALS

CITY	**CONTRACTOR**
Approved as to Form:	
_____ City Attorney	
By: _____	By: _____
Type Name: Nabiel Shawa	Print/Type Name: _____
Title: City Manager	Title: _____

Attest:

_____

Kammy D. Hill, CMC, City Clerk

Dated: _____

PERFORMANCE BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

CONSTRUCTION CONTRACT
Effective Date of the Agreement:
Amount:
Description *(name and location)*:

BOND
Bond Number:
Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:
Amount:
Modifications to this Bond Form: ☐ None ☐ See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL	**SURETY**
_____ *(seal)*	_____ *(seal)*
Contractor's Name and Corporate Seal	Surety's Name and Corporate Seal
By: _____	**By:** _____
Signature	Signature *(attach power of attorney)*
_____	_____
Print Name	Print Name
_____	_____
Title	Title
Attest: _____	**Attest:** _____
_____	
Signature	Signature
_____	_____
Title	Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

3.3 The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

7.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Definitions

14.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

14.2 Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

14.3 Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

14.4 Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

14.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

PAYMENT BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

CONSTRUCTION CONTRACT
Effective Date of the Agreement:
Amount:
Description *(name and location)*:

BOND
Bond Number:
Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:
Amount:
Modifications to this Bond Form: ☐ None ☐ See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

_____ *(seal)*
Contractor's Name and Corporate Seal

By: _____
Signature

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

SURETY

_____ *(seal)*
Surety's Name and Corporate Seal

By: _____
Signature *(attach power of attorney)*

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.

4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.

5. The Surety's obligations to a Claimant under this Bond shall arise after the following:

    5.1 Claimants who do not have a direct contract with the Contractor,

        5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and

        5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).

    5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).

6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.

7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

    7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

    7.2 Pay or arrange for payment of any undisputed amounts.

    7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting

this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.

11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

16. **Definitions**

    16.1 **Claim:** A written statement by the Claimant including at a minimum:

    1. The name of the Claimant;
    2. The name of the person for whom the labor was done, or materials or equipment furnished;
    3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
    4. A brief description of the labor, materials, or equipment furnished;
    5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
    6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
    7. The total amount of previous payments received by the Claimant; and
    8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

    16.2 **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor

and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

16.3 **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

16.4 **Owner Default**: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

16.5 **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.

17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

18. Modifications to this Bond are as follows:

NOTICE TO PROCEED

Owner:	City of Walla Walla	Owner's Contract No.:	LF09010
Contractor:		Contractor's Project No.:	
Engineer:	J-U-B Engineers	Engineer's Project No.:	30-11-012
Project:	Sudbury Road Landfill Remedial Action	Contract Name:	Sudbury Road Landfill Remedial Action
		Effective Date of Contract:	

TO CONTRACTOR:

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on [_____, 20__]. *[see Paragraph 4.01 of the General Conditions]*

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work shall be done at the Site prior to such date. In accordance with the Agreement, [the date of Substantial Completion is _____, and the date of readiness for final payment is_____] ***or*** [the number of days to achieve Substantial Completion is _____, and the number of days to achieve readiness for final payment is _____].

Before starting any Work at the Site, Contractor must comply with the following:

[Note any access limitations, security procedures, or other restrictions]

Owner**:**

Authorized Signature

By:

Title:

Date Issued:

Copy: Engineer

GENERAL CONDITIONS

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

Issued and Published Jointly by

These General Conditions have been prepared for use with the Agreement Between Owner and Contractor for Construction Contract (EJCDC® C-520, Stipulated Sum, or C-525, Cost-Plus, 2013 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other.

To prepare supplementary conditions that are coordinated with the General Conditions, use EJCDC's Guide to the Preparation of Supplementary Conditions (EJCDC® C-800, 2013 Edition). The full EJCDC Construction series of documents is discussed in the Commentary on the 2013 EJCDC Construction Documents (EJCDC® C-001, 2013 Edition).

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.

3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

5. *Bidder*—An individual or entity that submits a Bid to Owner.

6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.

7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.

8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.

9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.

10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer

has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. ("CERCLA"); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5501 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. ("RCRA"); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.

12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.

13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.

14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .

15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.

16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.

17. *Cost of the Work*—See Paragraph 13.01 for definition.

18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.

19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.

20. *Engineer*—The individual or entity named as such in the Agreement.

21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.

22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.

23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.

25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.

26. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.

27. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.

28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.

29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.

32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or "RPR" includes any assistants or field staff of Resident Project Representative.

33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.

34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals and the performance of related construction activities.

35. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

37. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of Contractor.

38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.

39. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.

40. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.

42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.

43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.

44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.

45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

46. *Unit Price Work*—Work to be paid for on the basis of unit prices.

47. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 *Terminology*

A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives*:

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.

C. *Day*:

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective*:

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

a. does not conform to the Contract Documents; or

b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or

c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or 15.04).

E. *Furnish, Install, Perform, Provide*:

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Contractor’s Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.

C. *Evidence of Owner’s Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.

B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.

B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

2.06 *Electronic Transmittals*

A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.

B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.

C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or

computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.

C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.

D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.

E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

3.02 *Reference Standards*

A. Standards Specifications, Codes, Laws and Regulations

1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard specification, manual, reference standard, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*:

1. *Contractor's Verification of Figures and Field Measurements*: Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict,

error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents*: If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies*:

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:

a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.

B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.

C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

A. Contractor and its Subcontractors and Suppliers shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or

2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.

B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to such date.

4.03 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.

B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.

C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:

1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;

2. abnormal weather conditions;

3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and

4. acts of war or terrorism.

D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.

E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.

G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas*:

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.

2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part

by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

B. *Removal of Debris During Performance of the Work*: During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning*: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading of Structures*: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

A. *Reports and Drawings*: The Supplementary Conditions identify:

1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;

2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and

3. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

A. *Notice by Contractor*: If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site either:

1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or

2. is of such a nature as to require a change in the Drawings or Specifications; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

B. *Engineer's Review*: After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.

C. *Owner's Statement to Contractor Regarding Site Condition*: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.

D. *Possible Price and Times Adjustments*:

1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must fall within any one or more of the categories described in Paragraph 5.04.A;

b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,

c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:

a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or

b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or

c. Contractor failed to give the written notice as required by Paragraph 5.04.A.

3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.

4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 *Underground Facilities*

A. *Contractor's Responsibilities*: The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;

b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;

c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and

d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.

B. *Notice by Contractor*: If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then Contractor shall, promptly after

becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

C. *Engineer's Review*: Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

D. *Owner's Statement to Contractor Regarding Underground Facility*: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.

E. *Possible Price and Times Adjustments*:

1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

    a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;

    b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;

    c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and

    d. Contractor gave the notice required in Paragraph 5.05.B.

2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.

3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

A. *Reports and Drawings*: The Supplementary Conditions identify:

1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and

2. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.

D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.

E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.

F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.

G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.

H. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.H shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.

B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.

D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.

E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.

F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 *Insurance—General Provisions*

A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.

B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.

C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is

maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.

F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.

G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.

H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.

I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.

J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 *Contractor's Insurance*

A. *Workers' Compensation*: Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.

2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).

3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).

4. Foreign voluntary worker compensation (if applicable).

B. *Commercial General Liability—Claims Covered*: Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:

1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.

2. claims for damages insured by reasonably available personal injury liability coverage.

3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.

C. *Commercial General Liability—Form and Content*: Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:

1. Products and completed operations coverage:

a. Such insurance shall be maintained for three years after final payment.

b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.

2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.

3. Broad form property damage coverage.

4. Severability of interest.

5. Underground, explosion, and collapse coverage.

6. Personal injury coverage.

7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.

8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.

D. *Automobile liability*: Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.

E. *Umbrella or excess liability*: Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.

F. *Contractor's pollution liability insurance*: Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result

of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.

G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.

H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.

I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:

1. include at least the specific coverages provided in this Article.

2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.

3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.

4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.

5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.

J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

6.05 *Property Insurance*

A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."

2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.

3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.

4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).

5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).

6. extend to cover damage or loss to insured property while in transit.

7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.

8. allow for the waiver of the insurer's subrogation rights, as set forth below.

9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.

10. not include a co-insurance clause.

11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.

12. include performance/hot testing and start-up.

13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.

B. *Notice of Cancellation or Change*: All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.

C. *Deductibles*: The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.

D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.

E. *Additional Insurance*: If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.

F. *Insurance of Other Property*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Waiver of Rights*

A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.

D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the

policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.

C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.

B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and

guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.04 *"Or Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.

1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;

3) it has a proven record of performance and availability of responsive service; and

4) it is not objectionable to Owner.

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times; and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.

C. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

D. *Effect of Engineer's Determination*: Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.

E. *Treatment as a Substitution Request*: If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer considered the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 *Substitutes*

A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.

1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.

2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

3. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

a. shall certify that the proposed substitute item will:

1) perform adequately the functions and achieve the results called for by the general design,

2) be similar in substance to that specified, and

3) be suited to the same use as that specified.

b. will state:

1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,

2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and

3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.

c. will identify:

1) all variations of the proposed substitute item from that specified, and

2) available engineering, sales, maintenance, repair, and replacement services.

d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.

B. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.

C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.

F. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.

B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.

C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.

D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.

E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.

F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.

G. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.

I. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.

J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.

K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.

L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.

N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.

O. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor

2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.08 *Permits*

A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

7.09 *Taxes*

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.10 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 *Record Documents*

A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.12 *Safety and Protection*

A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.

C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.

D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.13 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

7.14 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or

exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

7.16 *Shop Drawings, Samples, and Other Submittals*

A. *Shop Drawing and Sample Submittal Requirements*:

1. Before submitting a Shop Drawing or Sample, Contractor shall have:

a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;

b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

B. *Submittal Procedures for Shop Drawings and Samples*: Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

1. *Shop Drawings*:

a. Contractor shall submit the number of copies required in the Specifications.

b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to

provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.

2. *Samples*:

   a. Contractor shall submit the number of Samples required in the Specifications.

   b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.

3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Other Submittals*: Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.

D. *Engineer's Review*:

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.

3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.

5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.

6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.

7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

E. *Resubmittal Procedures*:

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.

3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *Contractor's General Warranty and Guarantee*

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;

2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. use or occupancy of the Work or any part thereof by Owner;

5. any review and approval of a Shop Drawing or Sample submittal;

6. the issuance of a notice of acceptability by Engineer;

7. any inspection, test, or approval by others; or

8. any correction of defective Work by Owner.

D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.

B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.

B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop

Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 *Other Work*

A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.

B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.

C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.

D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

8.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:

1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;

2. an itemization of the specific matters to be covered by such authority and responsibility; and

3. the extent of such authority and responsibilities.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.

C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.

D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

9.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.

B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.

C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.

B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. Particularly, but without limitation, during

or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Project Representative*

A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 *Rejecting Defective Work*

A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.

B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.

C. Engineer's authority as to Change Orders is set forth in Article 11.

D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.07 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *Compliance with Safety Program*

A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.

1. *Change Orders*:

a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.

b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.

2. *Work Change Directives*: A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an

adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. *Field Orders*: Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *Owner-Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.03 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.

B. An adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on

the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).

C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;

b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;

c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.01.C.2.a and 11.01.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.

B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 *Change Proposals*

A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under

the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures*: Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.

2. *Engineer's Action*: Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

3. *Binding Decision*: Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.

B. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders covering:

1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;

2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;

3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and

4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.

B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 *Notification to Surety*

A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12 – CLAIMS

12.01 *Claims*

A. *Claims Process*: The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:

1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;

2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and

3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.

B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.

D. *Mediation*:

1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.

2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim

submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.

E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.

F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.

G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:

1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.

B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable

thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

    a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

    b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

    c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

    d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

    e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

    f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes

other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *Costs Excluded*: The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee*: When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.

E. *Documentation*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

13.02 *Allowances*

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances*: Contractor agrees that:

1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

13.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.

E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;

2. there is no corresponding adjustment with respect to any other item of Work; and

3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

14.02 *Tests, Inspections, and Approvals*

A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.

B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:

1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;

2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;

3. by manufacturers of equipment furnished under the Contract Documents;

4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and

5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.

F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to

cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

A. *Contractor's Obligation*: It is Contractor's obligation to assure that the Work is not defective.

B. *Engineer's Authority*: Engineer has the authority to determine whether Work is defective, and to reject defective Work.

C. *Notice of Defects*: Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.

D. *Correction, or Removal and Replacement*: Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.

E. *Preservation of Warranties*: When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

F. *Costs and Damages*: In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

A. Engineer has the authority to require special inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.

C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.

1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.

2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.

C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will

include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 *Progress Payments*

A. *Basis for Progress Payments*: The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.

B. *Applications for Payments*:

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. *Review of Applications*:

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and

c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or

b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

a. to supervise, direct, or control the Work, or

b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.

6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:

a. the Work is defective, requiring correction or replacement;

b. the Contract Price has been reduced by Change Orders;

c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due*:

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner*:

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:

a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;

c. Contractor has failed to provide and maintain required bonds or insurance;

d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;

e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;

f. the Work is defective, requiring correction or replacement;

g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

h. the Contract Price has been reduced by Change Orders;

i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;

j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;

k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;

l. there are other items entitling Owner to a set off against the amount recommended.

2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount

remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.

F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.

2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

A. *Application for Payment*:

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of

inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

   a. all documentation called for in the Contract Documents;

   b. consent of the surety, if any, to final payment;

   c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.

   d. a list of all disputes that Contractor believes are unsettled; and

   e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

B. *Engineer's Review of Application and Acceptance*:

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Completion of Work*: The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.

D. *Payment Becomes Due*: Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation,

including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.

B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. correct the defective repairs to the Site or such other adjacent areas;

2. correct such defective Work;

3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);

2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;

3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or

4. Contractor's repeated disregard of the authority of Owner or Engineer.

B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:

1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and

2. enforce the rights available to Owner under any applicable performance bond.

C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.

D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.

E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses,

and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.

G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and

3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.

B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for

expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

A. *Disputes Subject to Final Resolution*: The following disputed matters are subject to final resolution under the provisions of this Article:

1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and

2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.

B. *Final Resolution of Disputes*: For any dispute subject to resolution under this Article, Owner or Contractor may:

1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or

2. agree with the other party to submit the dispute to another dispute resolution process; or

3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

18.02 *Computation of Times*

A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SUPPLEMENTARY CONDITIONS

City of Walla Walla
Walla Walla, Washington
Sudbury Road Landfill Remediation Action

Supplementary Conditions

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC® C-700 (2013 Edition). All provisions that are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added thereto.

SC-1.01.A.2. Add the following language at the end of Paragraph 1.01.A.2:

The Agreement may also be referred to as “Contract” within these Contract Documents.

SC-1.01.A.49. Add the following new paragraph immediately after paragraph 1.01.A.48:

49. *Request for Information* – A written request for information, requiring a written response, to Owner, Engineer, or Contractor, initiated by Owner, Engineer, or Contractor.

SC-2.01. Add the following new paragraph immediately after Paragraph 2.01.c

D. The Contractor shall deliver to the Owner the executed counterparts of the Agreement, Bonds and evidence of Contractor’s Insurance within 10 days from the Contract Award date. Should the 10th day fall within a weekend, the due date shall be extended to the following Monday.

SC-2.02. Delete paragraph 2.02.A in its entirety and insert the following in its place:

Owner shall furnish to the Contractor three (3) compact discs of Contract Documents which will contain plans, specifications and addenda. Conformed documents incorporating responses and Addenda developed during the bidding process will not be provided. All provided electronic media shall be in PDF format.

SC-2.03.A Modify the first sentence Paragraph 2.03.A as follows:

A. Preliminary Schedules: With 15 days after the Contract Award date, Contractor shall submit to Engineer for timely review:

SC-2.04.A Add the following sentence immediately to the end of Paragraph 2.04.A:

The Preconstruction Conference shall be held 15 days after the Contract Award date. Should the 15th day fall within a weekend, the Preconstruction Conference will be held on the following Monday or other day mutually agreed by Owner and Contractor.

SC-3.01. Add the following new paragraphs immediately after Paragraph 3.01.E:

F. The Specifications may vary in form, format and style. Some specification sections are written in varying degrees of streamlined or declarative style and some sections may be relatively narrative by comparison. Omissions of such words and phrases as “the Contractor shall,” “in conformity with,” “as shown,” or “as specified” are intentional in streamlined sections. Omitted words and phrases shall be supplied by inference. Similar types of provisions may appear in various parts of a section or articles within a part depending on the format of a section. The Contractor shall not take advantage of any variation of form, format or style in making claims for extra work.

G. The cross referencing of specification sections under the subparagraph heading “Related Sections include but are not necessarily limited to:” and elsewhere within each specification section is provided as an aid and convenience to the Contractor. The Contractor shall not rely on the cross referencing provided and shall be responsible to coordinate the entire work under the Contract Documents and provide a complete Project whether or not the cross referencing is provided in each section or whether or not the cross referencing is complete.

SC-4.01. Delete paragraph 4.01.A in its entirety and insert the following in its place:

The Contract Times will commence to run on the twenty–second day after the Contact Award date. Should the 22nd day fall within a weekend, the Contract Time will commence on the following Monday or other day mutually agreed by Owner and Contractor. The Contract Time start date will be indicated on the Notice to Proceed issued to the Contractor.

SC-5.03. Add the following new paragraphs immediately after Paragraph 5.03.B:

C. In the preparation of Drawings and Specifications, Engineer or Engineer’s Consultants relied upon the following reports of explorations and tests of subsurface conditions at the Site:
   1. HWA GeoSciences Inc. *Materials Laboratory Report for Sudbury Remedial Investigation*, June 15, 2012.
   2. HWA GeoSciences Inc. *Alternative Final Cover Design for Area 6 Closure*, January 27, 2010.
   3. HWA GeoSciences Inc. *Final Geotechnical Data Report Area 6 Closure Project*, October 23, 2009.
   4. Schwyn Environmental Services, LLC. 2014. *Remedial Investigation/Feasibility Study Report, Sudbury Road Landfill, Walla Walla, Washington.* Prepared for City of Walla Walla. September 15.
   5. Schwyn Environmental Services, LLC. 2016. *Engineering Design Report, Sudbury Road Landfill, Walla Walla, Washington.* Prepared for the City of Walla Walla. December.

D. In the preparation of Drawings and Specifications, Engineer or Engineer’s Consultants relied upon the following drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities), which are at or contiguous to the Site:

   1. Area 6 Closure Project; May 2010

Copies of reports and drawings itemized in SC-4.02.C and SC-4.02.D are included in PDF format with Bidding Documents under “Reference Reports”. These reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which the Contractor may rely as identified and established above are incorporated therein by reference. Contractor is not entitled to rely upon any other information and data known to or identified by Owner or Engineer.

SC-5.03. Add the following new paragraph immediately after Paragraph 5.03.E:

A. The Owner shall provide engineering surveys to establish the following reference points for construction control: As indicated in the Contract Documents.

SC-5.06. Delete Paragraphs 5.06.A and 5.06.B in their entirety and insert the following:

A. Hazardous Environmental Conditions have been identified at the Site. Landfill gas, soil, and groundwater contamination are described in the Remedial Investigation/Feasibility Study Report as referenced in Paragraph SC-5.03.C.4.

B. Not Used.

SC-5.07. Add the following new paragraph immediately after Paragraph 5.06:

Monitoring Well Damage and Destruction
The CONTRACTOR shall be solely responsible for the protection of existing site monitoring wells during construction. It is the responsibility of the CONTRACTOR to inspect and document the condition of the monitoring wells before and after the Project. Pictures and monitoring well condition documentation shall be provided to the City within 1 day prior to site mobilization, and within 15 days after project demobilization. In the event of any damage due to construction activities to a monitoring well, including but not limited to the well casings, seals, vaults, well apparatus, or sampling equipment, the CONTRACTOR shall promptly notify the City of the damage. The CONTRACTOR shall pay the City $25,000 for any damages to a well caused by their construction activities. The City will have the option to withhold the $25,000 damage fee from monthly progress payments or the project retainage. It will be the City's obligation to decommission, design, and repair or install a new monitoring well.

SC-6.02. Add the following new paragraph immediately after Paragraph 6.02.C:

1. Include as additional insured the following parties or entities:
    a. City of Walla Walla, Washington, PO Box 478, Walla Walla, WA 99362 (Owner)
    b. J-U-B ENGINEERS, Inc., 2810 W. Clearwater Ave., Ste. 201, Kennewick, WA 99336 (Engineer)
    c. Schwyn Environmental Services, 4621 S. Custer Ct., Spokane, WA 99223 (Engineer)
    d. Herrera Environmental Consultants, 2200 Sixth Ave., Ste. 1100, Seattle, WA 98121 (Engineer)
    e. CB&I, 10725 SW Barbur Blvd., Ste. 380, Portland, OR 97219 (Engineer)

SC-6.03.K. Add the following new paragraph immediately after paragraph 6.03.J:

K. The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation and related coverages under paragraphs 6.03.A of the General Conditions:

a.	State:	Statutory
b.	Applicable Federal (e.g., Longshoreman's):	Statutory
c.	Employer's Liability:	$3,000,000

2. Contractor's General Liability (under paragraphs 6.03.B. through 6.03.C of the General Conditions which shall include completed operations and product liability coverages and

eliminate the exclusion with respect to property under the care, custody and control of Contractor:

a. General Aggregate $3,000,000

b. Products - Completed Operations Aggregate $3,000,000

c. Personal and Advertising Injury $3,000,000

d. Each Occurrence (Bodily Injury and Property Damage) $3,000,000

e. Property Damage liability insurance will provide Explosion, Collapse, and Under-ground coverages where applicable.

f. Excess or Umbrella Liability

☑ General Aggregate $3,000,000
☑ Each Occurrence $3,000,000

g. Pollution Legal Liability $3,000,000

3. Automobile Liability under Paragraph 5.04.A.6 of the General Conditions:

a. Combined Single Limit of $1,000,000

4. The Contractual Liability coverage required by Paragraph 6.03.D of the General Conditions shall provide coverage for not less than the following amounts:

a. Bodily Injury:
Each person $3,000,000
Each Accident $3,000,000

b. Property Damage:
Each Accident $3,000,000
Annual Aggregate $3,000,000

5. Not Used.

6. Include as additional insured, the following parties or entities:

City of Walla Walla, Washington, PO Box 478, Walla Walla, WA 99362 (Owner)

J-U-B ENGINEERS, Inc., 2810 W. Clearwater Ave., Ste. 201, Kennewick, WA 99336 (Engineer)

Schwyn Environmental Services, 4621 S. Custer Ct., Spokane, WA 99223 (Engineer)

Herrera Environmental Consultants, 2200 Sixth Ave., Ste. 1100, Seattle, WA 98121 (Engineer)

CB&I, 10725 SW Barbur Blvd., Ste. 380, Portland, OR 97219 (Engineer)

SC-7.12. Add the following new paragraphs immediately after Paragraph 7.12.G:

H. The CONTRACTOR shall develop and submit a health and safety plan for review which has specific guidelines for establishing safe working conditions in regards to the hazards presented by landfill gas (LFG).

I. The health and safety plan shall identify that a Safety Representative, with demonstrated experience working in the presence of hazardous or explosive gases and trained in the use of gas detection instruments, will determine whether working conditions are safe for planned activities. The health and safety plan shall specify gas monitoring frequency, which at a minimum will include daily gas monitoring during new work activities, and when field conditions have changed.

J. Workers shall be advised of the presence of methane, hydrogen sulfide, or other gas-phase contaminants that may be emanating from the natural decomposition of refuse buried at the site, and to take precautions to ensure the safety of all workers and the public.

K. Workers shall not enter excavations, or weld in trenches or enclosed areas without proper monitoring performed by the Safety Reperesentative, and until other appropriate safety procedures are in place.

L. Any refuse exposed during construction activities shall be covered as soon as possible after exposure. In no event shall the refuse remain exposed overnight. Excavated refuse will be delivered to the open face of the working landfill on the same day it was excavated.

SC-7.16. Amend all paragraphs of 7.16 by striking out “review and approval” and replacing with “review for general compliance.”

SC-7.16.D. Add the following new paragraphs immediately after Paragraph 6.17.D.8:

9. Engineer’s review of Shop Drawings and Samples, Standard Specifications and descriptive literature submitted by Contractor will be only for general conformance with design concept, except as otherwise provided, and shall not be construed as:

    a. permitting any departure from the Contract Requirements;

    b. relieving Contractor of the responsibility for any error in details dimensions or otherwise that may exist in such submittals;

    c. constituting a blanket approval of dimensions, quantities, or details of the material or equipment shown; or

    d. approving departures from additional details or instructions previously furnished by Engineer. Such check or review shall not relieve Contractor of the full responsibility of meeting all of the requirements of the Contract Documents.”

SC-7.16 Add the following new paragraphs immediately after Paragraph 7.16.E:

F. Contractor shall furnish required submittals with sufficient information and accuracy in order to obtain required approval of an item with no more than three submittals. Engineer will record Engineer’s time for reviewing subsequent submittals of Shop Drawings, samples, or other items requiring approval and Contractor shall reimburse Owner for Engineer’s charges for such time.

G. In the event that Contractor requests a change of a previously approved item, Contractor shall reimburse Owner for Engineer's charges for its review time unless the need for such change is beyond the control of Contractor.

SC-10.03. Add the following new paragraphs immediately following Paragraph 10.03.A:

B. The Resident Project Representative (RPR) will be Engineer's employee or agent at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions. RPR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. RPR's dealings with Subcontractors shall be through or with the full knowledge and approval of Contractor. The RPR shall:

1. *Schedules:* Review the progress schedule, schedule of Shop Drawing and Sample submittals, and schedule of values prepared by Contractor and consult with Engineer concerning acceptability.

2. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences and other project-related meetings, and prepare and circulate copies of minutes thereof.

3. *Liaison*:

   a. Serve as Engineer's liaison with Contractor, working principally through Contractor's authorized representative, assist in providing information regarding the intent of the Contract Documents.

   b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.

   c. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.

4. *Interpretation of Contract Documents:* Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.

5. *Shop Drawings and Samples:*

   a. Record date of receipt of Samples and approved Shop Drawings.

   b. Receive Samples which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.

6. *Modifications:* Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report such suggestions, together with RPR's recommendations, to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.

7. *Review of Work and Rejection of Defective Work*:

   a. Conduct on-Site observations of Contractor's work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.

b. Report to Engineer whenever RPR believes that any part of Contractor's work in progress will not produce a completed Project that conforms generally to the Contract Documents or will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of that part of work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.

8. *Inspections, Tests, and System Startups:*

   a. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.

   b. Observe, record, and report to Engineer appropriate details relative to the test procedures and systems start-ups.

9. *Records:*

   a. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.

   b. Maintain records for use in preparing Project documentation.

10. *Reports:*

    a. Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the progress schedule and schedule of Shop Drawing and Sample submittals.

    b. Draft and recommend to Engineer proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.

    c. Immediately notify Engineer of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, damage to property by fire or other causes, or the discovery of any Hazardous Environmental Condition.

11. *Payment Requests:* Review Applications for Payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the schedule of values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

12. *Certificates, Operation and Maintenance Manuals:* During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Specifications to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

13. *Completion*:

a. Participate in a Substantial Completion inspection, assist in the determination of Substantial Completion and the preparation of lists of items to be completed or corrected.

b. Participate in a final inspection in the company of Engineer, Owner, and Contractor and prepare a final list of items to be completed and deficiencies to be remedied.

c. Observe whether all items on the final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the Notice of Acceptability of the Work.

C. The RPR shall not:

1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).

2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.

3. Undertake any of the responsibilities of Contractor, Subcontractors, Suppliers, or Contractor's superintendent.

4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor's work unless such advice or directions are specifically required by the Contract Documents.

5. Advise on, issue directions regarding, or assume control over safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.

6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.

7. Accept Shop Drawing or Sample submittals from anyone other than Contractor.

8. Authorize Owner to occupy the Project in whole or in part.

SC-11.04 C.2.a. Add the following to the end of Paragraph 11.04.C.2.a. as follows:

said 15 percent shall include all taxes and any additional insurance and bond costs.

SC-11.04 C.2.b. Add the following to the end of Paragraph 11.04.C.2.b. of the General Conditions as follows:

said five percent shall include all taxes and any additional insurance and bond costs.

SC-11.04 C.2.c. Add the following to the end of Paragraph 11.04.C.2.c. of the General Conditions as follows:

, except the maximum total allowable cost to OWNER shall be the Cost of the Work plus a maximum collective aggregate fee for CONTRACTOR and all tiered Subcontractors of 20 percent.

SC-13.01.B.5.c Add the following to paragraph 13.01.B.5.c:

Costs for equipment and machinery owned by Contractor will be paid at a rate shown for such equipment in the Rental Rate Blue Book published by Prism Business Media, Inc. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs. Costs will include the time the equipment or machinery is in use on the changed work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changes work. The costs of any such equipment or machinery, or parts thereof, shall cease to accrue when the use thereof is no longer necessary for the changed work. Equipment or machinery with a value of less than $1,000 will be considered small tools.

SC-14.02. Replace paragraph 14.02.B with the following:

B. Owner shall employ an independent testing laboratory or testing agency and shall be responsible for all specified tests required for Owner's and Engineer's acceptance of the Work at the site except:

1. For inspections, test, or approvals covered by paragraphs 14.02.C and 14.02.D below;

SC-14.02. Add the following new paragraphs immediately after Paragraph 14.02.F:

G. For each test CONTRACTOR causes to be performed on-site, the CONTRACTOR shall furnish to ENGINEER a copy of the record of test(s) in accordance with Section 01300, SUBMITTALS.

H. OWNER reserves the right to hire its own independent testing laboratory for quality assurance.

I. The CONTRACTOR's independent testing laboratory(ies) for Quality Control or Quality Assurance purposes shall meet the following applicable requirements:

1. Basic requirements of ASTM E 329, "Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials as Used in Construction" and ASTM D 3666, "Standard Specification for Minimum Requirements for Agency Testing and Inspecting Bituminous Paving Materials," as applicable.

2. Calibrate testing equipment at reasonable intervals by devices of accuracy traceable to either the national Bureau of Standards or accepted values of natural physical constants.

J. Contractor shall arrange, schedule and coordinate with appropriate agenc(ies) and testing laboratory(s) for all tests, inspections and approvals necessary for the Work.

K. The Owner shall be allowed to have direct contact with the Contractor's Independent testing laboratory(ies) in order to get testing results directly from the testing laboratory.

SC-15.01.D Delete Paragraph 15.01.D in its entirety and insert the following in its place:

After presentation of the Application for Payment to the OWNER with ENGINEER'S recommendation, the amount recommended will (subject to the provisions of Paragraph 15.01.D) become due, and when due will be paid by the OWNER to CONTRACTOR as agreed in the Preconstruction Conference.

SC-15.06.A.2.d. Delete Paragraph 15.06.A.2.d in its entirety.

SC-15.06.D Add the following language at the end of Paragraph 15.06.D:

"Final payment shall not be made until the State Tax Commission issues and the Owner receives a tax release stating that all taxes have been paid."

SC-15.08.A. Modify the last sentence of paragraph 15.08.A as follows:

A. "…found to be defective, Contractor shall within 7 days of written notification from Owner; propose a solution back to Owner, and within 14 days implement the solution, without cost to Owner and in accordance with the Owner's written instructions."

SC-15.08.B. Modify the first sentence of paragraph 15.08.B as follows:

A. " If Contractor does not address the defective Work within the timelines established in 13.07.A and comply with the terms of Owner's written instructions, or in an emergency case where delay would cause serious risk, of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced."

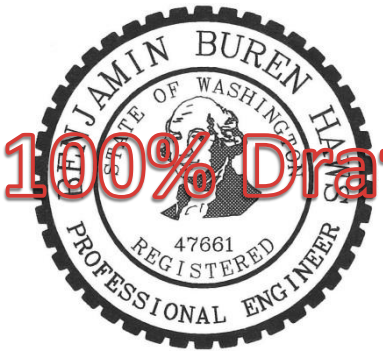
END OF SUPPLEMENTARY CONDITIONS

TECHNICAL SPECIFICATIONS

Date: 1/29/2016
Project: Sudbury Road Landfill Remediation Action
Engineer: Benjamin Haws, P.E.

SPECIFICATION SECTION	SECTION DESCRIPTION
01010	GENERAL REQUIREMENTS
01025	MEASUREMENT & PAYMENT
01027	APPLICATIONS FOR PAYMENT
01035	MODIFICATION PROCEDURES
01039	COORDINATION & MEETINGS
01052	LAYOUT OF WORK & SURVEYS
01101	SEQUENCE AND SPECIAL REQUIREMENTS OF CONSTRUCTION
01300	SUBMITTALS
01400	QUALITY CONTROL
01410	QUALITY TESTING AND CERTIFICATIONS
01500	TEMPORARY FACILITIES
01505	MOBILIZATION
01630	PRODUCT OPTIONS AND SUBSTITUTIONS
01700	PROJECT CLOSEOUT
01745	WARRANTY PROCEDURES
01750	SAFETY AND HEALTH
02110	SITE CLEARING
02205	SOIL MATERIALS & AGGREGATES
02211	SITE GRADING AND EARTHWORK
02225	TRENCHING AND BACKFILL FOR PIPELINES
02235	RECLAIMED CONCRETE AGGREGATE
02609	PIPE CULVERTS
02612	HOT MIX ASPHALT
02800	SITE RESTORATION
03100	CONCRETE FORMWORK
03200	CONCRETE REINFORCEMENT
03300	CAST-IN-PLACE CONCRETE
03400	PRE-CAST CONCRETE

The Technical specifications sections listed above have been prepared under the direction of the professional Engineer, registered in the State of Washington, whose seal and signature appear below:



Date: 01/26/2016
Project: Sudbury Road Landfill Remediation Action
Engineer: Tyson Wright, P.E.

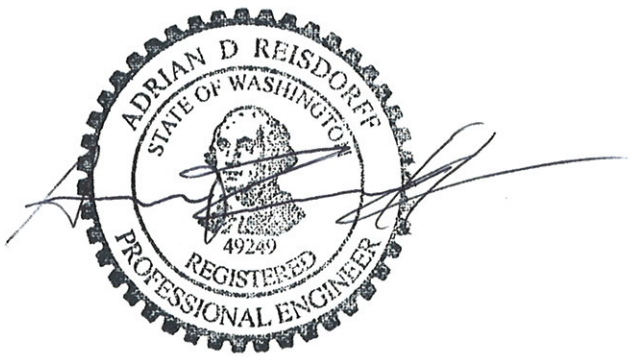
SPECIFICATION SECTION	SECTION DESCRIPTION
01669	PIPE PRESSURE TESTING
02711	POLYETHYLENE PIPE
15060	PIPE AND PIPE FITTINGS
15100	LANDFILL GAS WELLS
15300	CONDENSATE PUMPS/CONTROLS

The Technical specifications sections listed above have been prepared under the direction of the professional Engineer, registered in the State of Washington, whose seal and signature appear below:

Date: 01/29/2016
Project: Sudbury Road Landfill Remediation Action
Engineer: Adrian Reisdorff, P.E.

SPECIFICATION SECTION	SECTION DESCRIPTION
15770	FROST PREVENTION – HEAT TAPE AND INSULATION

The Technical specifications sections listed above have been prepared under the direction of the professional Engineer, registered in the State of Washington, whose seal and signature appear below:



SECTION 01010
GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. This project involves the closure of existing unlined landfill cells known as Area 2 and Area 5 at the City of Walla Walla Sudbury Road Landfill facility. The project also involves improvements to the North Ditch, Concrete Crushing, roadway improvements, and gas collection system improvements at the facility.

B. The CONTRACTOR will be required to complete the work as indicated on the Drawings and defined in the Contract Documents within the time frame given in the Agreement.

1.2 CODES AND REGULATIONS

A. Meet requirements of applicable laws, statutes, regulations, ordinances, safety regulations of federal, state, city, and county jurisdictions and as may be further referenced in the Contract Documents.

B. Comply with provisions of federal, state, and local statutes, ordinances, and regulations dealing with the prevention of environmental pollution of natural resources that affect the project.

C. If the CONTRACTOR must undertake additional work due to the enactment of new or the amendment of existing statutes, ordinances, and regulations dealing with the project, the OWNER will issue a change order setting forth the additional work that must be undertaken. The change order will not invalidate the Contract and there will be, in addition to a reasonable extension of contract time, if necessary, a reasonable adjustment in the contract price to compensate the CONTRACTOR for all costs and expenses incurred, including overhead, and profit, as a result of the additional work.

1.3 INSPECTION AND TESTING

A. The OWNER or its authorized representative as part of the Construction Quality Assurance (CQA) program will perform all tests identified in the technical specifications and construction quality assurance manual that are designated as the responsibility of the ENGINEER, OWNER, or the CQAO or deemed necessary by the ENGINEER.

B. Testing described in these specifications as construction quality control (CQC) or manufacturer's quality control (MQC) testing is the responsibility of the CONTRACTOR.

1.4 SITE CONDITIONS

A. Hazardous Environment Safety: CONTRACTOR will be working in the presence of municipal solid waste (MSW) and its byproducts including but not limited to landfill gases, leachate, condensate, and contaminated soil and groundwater. CONTRACTOR shall take, and be responsible for, all necessary safety precautions during Work.

B. CONTRACTOR'S Staging Area: An owner designated area will be set aside on the project property for the CONTRACTOR's use as a staging area for workers, equipment, and materials. CONTRACTOR must restore the staging area to its original condition at the conclusion of work.

C. Disposal of Waste Material: Burning will not be permitted on the site. Remove material from the site that cannot be placed in waste areas as determined by the OWNER. Dispose waste in accordance with all Federal, State, and local laws relating to fire prevention, air pollution control, and other restrictions. The OWNER must approve use of the on-site waste disposal units. Any on-site waste disposed of at the Sudbury Landfill by the Contractor will be subject to standard landfill disposal fees.

D. Fire Prevention and Protection: Perform all work in a fire-safe manner. Comply with applicable local and state fire prevention regulations.

1.5 TERMS AND DEFINITIONS

A. Whenever the terms listed below are used, the intent and meaning will be as indicated.

B. AASHTO. American Association of State Highway and Transportation Officials.

C. ASTM. ASTM International, Inc.

D. Construction Quality Assurance (CQA). A planned and systematic pattern of procedures and documentation designed to provide confidence that items of work or services meet the requirements of the contract documents (construction drawings and technical specifications). Construction quality assurance includes verifying that the contractor is performing quality control requirements defined in the technical specifications.

E. Construction Quality Control (CQC). Those actions that provide a means to measure and regulate the characteristics of an item or service to comply with the requirements of the contract documents. Quality control will be performed by the contractor.

F. Construction Drawings. The official plans, profiles, typical cross-sections, elevations, and details, as well as their amendments and supplemental drawings, which show the locations, character, dimensions, and details of the work to be performed. Construction drawings may also be referred to as the "plans."

G. Contract Documents. The official set of documents issued by the owner, which include bidding requirements, contract forms, contract conditions, technical specifications, construction drawings, addenda, and contract modifications.

H. Earthwork. A construction activity involving the use of soil materials as defined in the technical specifications and Section 6 of this document.

I. Geosynthetics Contractor. Also referred to as the “contractor" or “installer.” The person or firm responsible for geosynthetic construction. This definition applies to any party installing geomembrane, geotextile, geocomposite, GCL, geonet, or other geosynthetic material.

J. GRI. Geosynthetic Research Institute.

K. Manufacture Quality Control (MQC). Those actions that provide a means to measure and regulate the manufactured characteristics of a material or product to comply with the requirements of the technical specifications. MQC will be performed by the material manufacturers.

L. Non-conformance. A deficiency in characteristic, documentation, or procedure that renders the quality of an item or activity unacceptable or indeterminate. Examples of non-conformance include, but are not limited to, physical defects, test failures, and inadequate documentation.

M. Non-Woven Geotextile. Non-woven geotextiles are manufactured from continuous or stable filament, polyester or polypropylene oriented into a staple network that maintains its structure during handling, placement, and long-term service.

N. OWNER. The City of Walla Walla, Washington (City).

O. Panel. A unit area of geosynthetic that will be seamed in the field or in the manufacture’s plant.

P. Procedure. A written instruction that specifies or describes how an activity is to be performed.

Q. Project Documents. Contractor submittals, construction drawings, record drawings, technical specifications, shop drawings, construction quality control and quality assurance manuals, health and safety plans, and project schedules.

R. Project Communication Records. Documents created throughout the project that record phone conversations, fax communications or other ancillary contact between participants of the project. Such documents are to be maintained as part of the Project Documents.

S. Record Drawings. Drawings recording the constructed dimensions, details, and coordinates of the project. Also referred to as "as-builts."

T. Technical Specifications. The qualitative requirements for products, materials, and workmanship upon which the contract is based.

U. Testing. Verification that an item meets specified requirements by subjecting that item to a set of physical, chemical, environmental, or operating conditions.

1.6 PERSONNEL DEFINITIONS

A. Construction Manager (CM); The CM is responsible for working directly with the OWNER to administer the construction contract, and to provide coordination between the OWNER, CONTRACTOR and ENGINEERS. The CM is also responsible for managing the CQA program, supervising the CQA monitors, conducting progress meetings, and preparing the construction report for review by the ENGINEER of record. The CM must report to and obtain approval of the engineer of record when issues regarding a design change or CQA procedural change are considered.

B. OWNER'S Project Manager; The OWNER'S project manager is an employee of the Owner, and is the Owner's onsite technical representative responsible for communicating with regulatory agencies such as the Health Department or The Department of Ecology. The Owner's project manager will request assistance from the CM, CQA monitors, and Engineer of Record to resolve technical or regulatory related issues during construction.

C. Construction Quality Assurance Organization (CQAO); The CQAO is the organization that represents the Owner, is an organization independent of the Contractor, and is responsible for implementing the construction quality assurance program.

D. CQA Laboratory; The CQA laboratory is a qualified laboratory working directly for the CQAO that performs off-site tests such as soil and geosynthetics testing.

E. ENGINEER of Record; The ENGINEER of Record is responsible for the design, as it exists at the time construction begins. The ENGINEER of Record must approve all design changes, CQA procedural changes, and provide clarifications to design questions made during construction. The ENGINEER of Record and Construction Manager can be the same individual.

F. CQA Officer; The CQA officer is a registered professional engineer in the State of Washington responsible for certifying that construction was performed in accordance with the design intent, construction drawings, technical specifications and any approved design changes, or CQA procedural changes made during construction. The CQA officer and ENGINEER of Record can be the same individual.

G. CQA Monitors; CQA monitors represent the Construction Quality Assurance Organization (CQAO) and OWNER by monitoring and testing the contractor's work in accordance with the CQA Manual. The CQA monitors report to the CM. CQA monitors observe and document the activities of the contractor in sufficient detail, and with sufficient continuity to provide a high level of confidence that the work product fully complies with the intent of the construction drawings and technical specifications. CQA monitors also perform tests, when appropriate, to provide a high level of confidence that the characteristics of the work meet the requirements of the construction drawings and technical specifications.

H. CONTRACTOR; The General CONTRACTOR is responsible for coordinating amongst themselves including sub contractors, scheduling and performing the work within the timeframe and budget agreed to in the contract, and performing the work in accordance with

the construction drawings and technical specifications. The General Contractor is also responsible for implementing manufacturer's quality control (MQC) procedures, and construction quality control (CQC) procedures, to document materials are manufactured and installed in accordance with the construction drawings and technical specifications. The contractors are also expected to cooperate with the CQA monitors to achieve a quality product.

I. Project Surveyor; The project surveyor will work at the direction of the contractor or the OWNER, as the case may be, to set construction control stakes, perform surveys to document as-built conditions, and perform surveys to measure installed quantities of materials.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

SECTION 01025
MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. General Description of Measurement and Payment.

B. Measurement and Payment Contract Bid Items

1.2 GENERAL DESCRIPTION OF MEASUREMENT AND PAYMENT

A. Measurement and Payment for the bid items listed in the Bid Proposal shall be on the basis of the description in the Technical Specifications and Drawings. Unless the work to be done is specifically called out to be measured and paid for in the Bid Proposal, payment for such work shall be included in other applicable items, and there shall be no separate measurement and payment for the work.

B. Items listed in the Bid Proposal - Unit Price Schedule(s) or lump sum (LS) shall include all work for the complete installation as generally described in the Drawings, Technical Specifications, and Permits.

C. Payment shall be made at the contract bid price listed in the Bid Proposal in accordance with the payment procedures outlined in the Agreement.

D. CONTRACTOR will compute all quantities of Work performed, or of materials and equipment delivered to the site for payment purposes.

E. Partial payment for lump sum bid items only partially completed at the end of monthly pay periods shall be made based upon the ENGINEERs interpretation of the percentage of work completed. Partial payment for unit price bid items other than lump sum bid items will not be made. Partial payment for materials delivered and stored will be considered, if said materials have been submitted to the ENGINEER for review per Section 01300, and supporting invoices and documentation have been provided.

F. Final payment for work governed by unit prices will be made on the basis of the actual measurements and quantities accepted by the ENGINEER multiplied by the unit price for work which is incorporated in or made necessary by the work unless specified otherwise.

G. Payment includes: Full compensation for all required labor, products, tools, equipment, materials, and all other items of expense which are required to construct the respective bid items, in accordance with the contract documents including all work, supervision, overhead, profit, and materials incidental thereto.

H. The number of units and quantities contained in the Bid Schedule are approximate only, and final payment will be made for the actual number of units and quantities incorporate in the work or made necessary to complete the project.

I. If the actual work requires more or fewer quantities than those quantities indicated in the Bid Proposal, the CONTRACTOR shall provide the required quantities. If the actual work requires a 25 percent change in quantity than those quantities indicated, the OWNER or CONTRACTOR may claim for a Contract Price adjustment.

J. .Payment for Compost shall not be made until the CONTRACTOR has submitted receipts providing evidence they have made payment for the compost. A deduction will not be made in monthly progress payments to off-set the CONTRACTOR’s acquiring of compost.

1.3 SCHEDULE 1 BID ITEMS:

1. MOBILIZATION

a. Measurement and Payment will be made at the contract lump sum price for "Mobilization" and shall be measured and paid for in accordance with Section 1-09.7 of the WSDOT Standard Specifications for Road, Bridge, and Municipal Construction, Latest Edition.

2. EROSION AND SEDIMENT CONTROL

a. There will be no measurement for Erosion and Sediment Control as listed in the Bid Proposal.

b. Payment will be made at the contract lump sum price for "Erosion and Sediment Control," stated in the Bid Proposal and shall include all labor, equipment, and materials as required to construct, implement, and maintain all erosion and sediment control best management practices shown on the Contractor Prepared Storm Water Pollution Prevention Plan, and not be limited to the development of surface water protection, temporary erosion and sediment control, and other items of expense as shown on the drawings and described in the specifications and elsewhere in the Contract Documents. Payment shall also include updating and constructing any modifications required to the Storm Water Pollution Prevention Plan to accommodate changing conditions and construction sequencing. The City will turn over the construction storm water permit for the project, and the Contractor will be responsible for managing and closing the permit under this pay item.

3. SPILL PREVENTION, CONTROL, AND COUNTERMEASURES PLAN (SPCC) PLAN

a. There will be no measurement for the SPCC Plan as listed in the Bid Proposal.

b. Payment will be made at the contract lump sum price for "SPCC Plan," stated in the Bid Proposal and shall include all labor, materials, and equipment required to prepare, submit, and execute a Spill Prevention, Control and Countermeasures (SPCC) Plan meeting the requirements of Section 01500, Paragraph 1.16.

4. HEALTH AND SAFETY PLAN

a. There will be no measurement for the Health and Safety Plan as listed in the Bid Proposal.

b. Payment will be made at the contract lump sum price for "Health and Safety Plan," stated in the Bid Proposal and shall include all labor, materials, and equipment required to prepare, submit, and execute a Health and Safety Plan meeting the requirements of SC-7.12.H-L.

5. CONSTRUCTION SURVEYING

a. There will be no measurement for Construction Surveying as listed in the Bid Proposal.

b. Payment will be made at the contract lump sum price for "Construction Surveying," stated in the Bid Proposal and shall include all labor, materials, and equipment required to prepare and execute Construction Surveying to include but not limited to all staking for project improvements, staking to visually verify subgrade at Areas 2/5, staking to visually verify rough grade at Areas 2/5, surveying for measurement and payment and surveying for record drawings as described in the Specifications and elsewhere in the Contract Documents. See Specification Section 01101.

6. MATERIALS TESTING

a. There will be no measurement for Materials Testing as listed in the Bid Proposal.

b. Payment will be made at the contract lump sum price for "Materials Testing," stated in the Bid Proposal and shall include all labor, materials, and equipment required for the CONTRACTOR to prepare and execute Materials Testing as

shown on the Drawings and described in the Specifications, CQA Manual, and elsewhere in the Contract Documents. Including but not limited to: aggregate gradation tests, soil compaction testing, concrete testing, pipe pressure testing, and HMA testing.

7. TRAFFIC CONTROL

    a. There will be no measurement for Traffic Control as listed in the Bid Proposal.

    b. Payment will be at the contract lump sum price for "Project Temporary Traffic Control" stated in the Bid Proposal and shall include all labor, materials and equipment to provide temporary traffic control activities and devices to maintain public access to the landfill facilities. This includes the cost to close the compost road down to public access during improvements to haul road, rough grading for Area 2, construction of gas system, final grading for Area 2, and construction of the Compost Access Road. See Specification Section 01101.

8. CLEARING AND GRUBBING

    a. There will be no measurement for Clearing and Grubbing as listed in the Bid Proposal.

    b. Payment for the performance for clearing and grubbing work as specified herein will be made at the contract lump sum price for "Clearing and Grubbing", as listed in the Bid Proposal. Payment for clearing and grubbing shall include all equipment, labor, tools, materials, stockpiles, and other items of expense necessary to dispose of cleared material as shown on the Plans, grub the sites to stockpile locations shown on the Plans, and apply the grubbed materials as described in the Plans and Specifications. This shall include removal of tree on Area 5 as well as clearing and grubbing for all improvements, including but not limited to: Borrow Site, haul roads, compost road, stockpile areas, and north ditch.

9. IMPORTED FILL

    a. The basis of measurement for Imported Fill shall be by the cubic yard (CY) as measured from the borrow site and as listed in the Bid Proposal. Measurement will be based on topographic surveys performed in the borrow area by the CONTRACTOR in accordance with Section 01052. A separate measurement will not be made for any excavation and loading activities required at the borrow site nor placement activities on Area 2 and Area 5.

    b. Payment will be made at the contract unit price for "Imported Fill," stated in the Bid Proposal and shall include all labor, materials, and equipment required to construct the Area 2 soil cover, Area 5 Soil Cover, North Ditch Improvements, and fill for the Compost Road improvements. This shall include but not be limited to compaction testing, test sections, load, haul, placement, and compaction of soil as shown on the Plans and described in the Specifications. See Specification Section 01101.

10. AREA 2 AND AREA 5 EARTHWORK & SITE GRADING

    a. There will be no measurement for Area 2 and Area 5 Earthwork and Site Grading as listed in the Bid Proposal.

    b. Payment will be made at the contract unit price for "Area 2 and Area 5 Earthwork & Site Grading," stated in the Bid Proposal and shall include all labor, and equipment required to excavate to subgrade and then place fill to the "rough grade" elevations shown on the Plans for Area 2 and Area 5. This includes but is not limited to: preparation of soil cover construction plan, excavate to subgrade, test section, placement and compaction of soil to depth of four feet above subgrade as shown on the Plans and described in the Specifications. This also includes grading necessary for the runoff control berm. This includes all soil

moved for any of the soil cover placed on Area 2 and Area 5 that originated from Area 2 or Area 5, payment for the imported fill will be paid separately in its corresponding unit price listed in the bid proposal. See Specification Section 01101.

11. AREA 2 AND AREA 5 FINAL COVER

    a. The basis of measurement for Area 2 and Area 5 Final Cover shall be by lump sum.

    b. Payment will be made at the contract unit price for "Area 2 and Area 5 Final Cover," stated in the Bid Proposal and shall include all labor, materials, and equipment required to mix Biosolids (approximately 400 CY provided by the City at the Borrow Area) with Imported Fill and place within the final grading soil cover of Area 2 and Area 5 and also to haul, and place the compost purchased from the City. This shall include but not be limited to loading, hauling, placement, compaction, and coordination with City biosolids application and Compost Facility, as shown on the Plans and described in the Specifications. The source of soil fill material needed for the Final Cover (except Biosolids and Compost) will be measured and paid for through Item 9 – Imported Fill. See Specification Section 01101.

12. SHORING - TRENCH SAFETY SYSTEMS

    a. There will be no measurement for Shoring - Trench Safety Systems as listed in the Bid Proposal.

    b. Payment will be made at the contract lump sum price for "Shoring - Trench Safety System," stated in the Bid Proposal and shall include all labor, materials and equipment necessary to meet the requirements of the Washington State Industrial Safety and Health Act, Chapter 49.17 RCW, including all requirements for trench, manholes, and related excavation shoring and safety systems.

13. COMPOST ACCESS ROAD & DRAINAGE

    a. There will be no measurement for Compost Access Road & Drainage as listed in the Bid Proposal.

    b. Payment will be made at the contract lump sum price for "Compost Access Road & Drainage," stated in the Bid Proposal and shall include all labor, materials, and equipment required to construct the Compost Access Road as shown on the Plans and described in the Specifications. Payment will include all excavation, grading, saw cuts, removal and disposal of Hot Mix Asphalt (HMA), placement of crushed surfacing, placement of HMA, and compaction required to complete the roadway. Payment for the imported fill will be paid separately in its corresponding unit price listed in the bid proposal. Payment will also include removal and disposal of existing culvert, and installing storm piping system as shown on the drawings near the Compost Access Road, which includes the storm pipe, storm manhole, concrete inlet, concrete connection to the compost pad, and grading between compost pad and new road.

14. NORTH DITCH IMPROVEMENTS

    a. There will be no measurement for North Ditch Improvements as listed in the Bid Proposal.

    b. Payment will be made at the contract lump sum price for "North Ditch Improvements," stated in the Bid Proposal and shall include all labor, materials, and equipment required to construct the North Ditch Improvements. This shall include but not be limited to subgrade preparation, excavation, grading, removal of existing Pyramat, Reinforced concrete channel, compacted gravel, HDPE liner, prefabricated drainage mat, percolation trench, erosion control mat,

connection to existing culverts, storm drain inlet pipes, and transition to existing inlet pipes as shown on the Plans and described in the Specifications.

15. ECOLOGY BLOCK WALL

    a. Measurement for the Ecology Block Wall will be by the linear foot as listed in the Bid Proposal.

    b. Payment will be made at the contract unit price for "Ecology Block Wall," stated in the Bid Proposal and shall include all labor, materials, and equipment required to construct the Ecology Block Wall on the South side of Area 2. This shall include but not be limited to subgrade preparation, excavation, geotextile fabric, drain rock, and placement of ecology blocks as shown on the Plans and described in the Specifications.

16. CONCRETE BARRIER WALL

    a. Measurement for the Concrete Barrier Wall will be by Lump Sum as listed in the Bid Proposal.

    b. Payment will be made at the contract unit price for "Concrete Barrier Wall," stated in the Bid Proposal and shall include all labor and equipment required to place the Concrete Barrier Wall using the Owner provided Concrete Barriers. This shall include but not be limited to subgrade preparation and placement of concrete barriers as shown on the Plans and described in the Specifications.

17. CONCRETE CRUSHING

    a. Measurement for the Concrete Crushing will be by the ton of crushed and processed concrete aggregate as listed in the Bid Proposal.

    b. Payment will be made at the contract unit price for "Concrete Crushing," stated in the Bid Proposal and shall include all labor and equipment required to mobilize crushing equipment, crush and process the concrete rubble pile, remove and dispose of concrete rebar, weigh the finished product for measurement and payment, and place in a stockpile as shown on the Plans and described in the Specifications.

18. HAUL ROAD DEVELOPMENT AND RESTORATION

    a. Measurement for the Haul Road Development and Restoration will be by the Cubic Yard of crushed concrete aggregate used as source material as listed in the Bid Proposal. Cubic Yards shall be measured by the conveying vehicle.

    b. Payment will be made at the contract unit price for "Haul Road Development and Restoration," stated in the Bid Proposal and shall include all labor, and equipment required to measure, load, haul and place the crushed concrete on the haul road as shown in the Plans and described in the Specifications for initial development of the haul roads as well as weather and dust control and restoration. The quantity shown on the bid form assumes the alternate after hours haul road is NOT constructed. If the Contractor chooses to construct the alternate after hours haul road (for after hours construction), the unit price on the bid form will be used for payment of the additional quantity required.

19. COMPOST ≤10 CY

    a. The basis of measurement for Compost ≤10 CY shall be by cubic yard as listed in the Bid Proposal. Cubic Yards shall be measured by the City as the Compost is loaded.

    b. Payment will be made at the contract unit price for "Compost ≤10 CY," stated in the Bid Proposal and shall include all labor, and equipment required to purchase Compost from the City at the Compost Facility. This does not include loading, hauling, placement, and coordination with City – which is included in the "Area 2

and Area 5 Final Cover" bid item. Payment at the stated bid item price will be paid for up to the initial first 10 cubic yards purchased by the CONTRACTOR.

20. COMPOST > 10 CY, BUT ≤200 CY

    a. The basis of measurement for Compost > 10 CY, BUT ≤200 CY shall be by cubic yard as listed in the Bid Proposal. Cubic Yards shall be measured by the City as the Compost is loaded.

    b. Payment will be made at the contract unit price for "Compost > 10 CY, BUT ≤200 CY," stated in the Bid Proposal and shall include all labor, and equipment required to purchase Compost from the City at the Compost Facility. This does not include hauling, placement, and coordination with City – which is included in the "Area 2 and Area 5 Final Cover" bid item. Payment at the stated bid item price will be paid after the initial first 10 cubic yards have been purchased by the Contractor.

21. COMPOST > 200 CY, BUT ≤500 CY

    a. The basis of measurement for Compost > 200 CY, BUT ≤500 CY shall be by cubic yard as listed in the Bid Proposal. Cubic Yards shall be measured by the City as the Compost is loaded.

    b. Payment will be made at the contract unit price for "Compost > 200 CY, BUT ≤500 CY," stated in the Bid Proposal and shall include all labor, and equipment required to purchase Compost from the City at the Compost Facility. This does not include hauling, placement, and coordination with City – which is included in the "Area 2 and Area 5 Final Cover" bid item. Payment will be made at the stated bid item price after the initial first 200 cubic yards have been purchased by the Contractor.

22. COMPOST > 500 CY

    a. The basis of measurement for Compost > 500 CY shall be by cubic yard as listed in the Bid Proposal. Cubic Yards shall be measured by the City as the Compost is loaded.

    b. Payment will be made at the contract unit price for "Compost > 500 CY," stated in the Bid Proposal and shall include all labor, and equipment required to purchase Compost purchased from the City at the Compost Facility. This does not include hauling, placement, and coordination with City – which is included in the "Area 2 and Area 5 Final Cover" bid item. Payment will be made at the stated bid item price after the initial first 500 cubic yards have been purchased by the Contractor.

23. AREA 2 AND AREA 5 MULCH, TACKIFIER AND DRYLAND SEED

    a. The basis of measurement for Area 2 and Area 5 Mulch, Tackifier, and Dryland Seed shall be by acre.

    b. Payment will be made at the contract unit price for "Area 2 and Area 5 Mulch, Tackifier, and Dryland Seed," stated in the Bid Proposal and shall include all labor, material, and equipment required to apply mulch, tackifier, and dryland seed on the final soil cover of Area 2 and Area 5, as shown on the Plans and described in the Specifications.

24. SITE RESTORATION

    a. There shall be no measurement for the bid item "Site Restoration".

    b. Payment will be made at the contract lump sum price for "Site Restoration," stated in the Bid Proposal and shall include all labor, material, and equipment required to apply mulch, fertilizer, tackifier, and dryland seed on all disturbed construction areas outside of Area 2 and Area 5. This includes but is not limited to stockpile areas, borrow area, concrete rubble area, area between compost road and compost pad, north ditch and all other disturbed areas outside of Areas

2 and 5 as shown on the Plans and described in the Specifications. Mulch, tackifier and dryland seed on Area 2 and Area 5 are paid for in a separate item.

25. EROSION CONTROL DITCH

    a. Measurement for the Erosion Control Ditch will be by the linear foot as listed in the Bid Proposal.

    b. Payment will be made at the contract unit price for "Erosion Control Ditch," stated in the Bid Proposal and shall include all labor, material and equipment required to construct the Erosion Control Ditch as shown on the Plans and described in the Specifications. This includes, but is not limited to site grading, placing seed below the erosion control mat, and installation of erosion control mat.

26. EXTRACTION WELL

    a. Measurement for the Extraction Wells will be by the vertical foot as listed in the Bid Proposal. Measurement shall be based on length of installed pipe from bottom cap to top cap. No additional will be paid for overlap of pipe at slip joint. Borehole depth may extend up to 5-feet past bottom of refuse with no additional payment.

    b. Payment will be made at the contract unit price for "Extraction Well," stated in the Bid Proposal and shall include all labor, material and equipment required to construct the gas extraction wells. This item includes, but is not limited to, drilling the borehole and filling with soil, drainage aggregate, PVC pipe (solid and perforated) and caps, slip joint, geotextile, and bentonite seals as shown on the Drawings and described in the Specifications and elsewhere in the Contract Documents.

27. CONTROL VALVE STATIONS

    a. Measurement for the Control Valve Stations will be per each as listed in the Bid Proposal.

    b. Payment will be made at the contract unit price for "Control Valve Stations," stated in the Bid Proposal and shall include all labor, material and equipment required to construct the control valve stations. This includes but is not limited to wellhead assembly, hose kit, adapters, HPDE pipe and fittings for connection to Header and Lateral, bollards, crushed concrete aggregate pad, start-up and training as shown on the Plans and described in the Specifications.

28. 4-INCH LFG PIPE, TRENCHING AND BACKFILL

    a. Measurement for the 4-inch LFG pipe, trenching and backfill will be by the linear foot as listed in the Bid Proposal.

    b. Payment will be made at the contract unit price for "4-inch LFG pipe, trenching, and backfill," stated in the Bid Proposal and shall include all labor, material and equipment required to construct the 4-inch LFG pipe. This includes but is not limited to trench excavation and backfill (both pipe bedding and soil), installation and testing of pipe, appurtenances and warning tape, and installation of carsonite stakes every 50 feet and at alignment bends as shown on the Plans and described in the Specifications.

29. 8-INCH LFG PIPE, TRENCHING AND BACKFILL

    a. Measurement for the 8-inch LFG Pipe Trenching and Backfill will be by the linear foot as listed in the Bid Proposal.

    b. Payment will be made at the contract unit price for "8-inch LFG pipe, Trenching, and Backfill," stated in the Bid Proposal and shall include all labor, material and equipment required to construct the 8-inch LFG pipe. This includes but is not limited to trench excavation and backfill (both pipe bedding and soil), installation and testing of pipe, appurtenances and warning tape, and installation of carsonite

stakes every 50 feet and at alignment bends as shown on the Plans and described in the Specifications.

30. FLOW METERS, VAULTS, PANELS

    a. Measurement for the Flow Meter, Vault, Panel will be per Lump Sum as listed in the Bid Proposal.

    b. Payment will be made at the contract unit price for "Flow Meters, Vaults, Panels," stated in the Bid Proposal and shall include all labor, material and equipment required to install the Flow Meters, Vaults, and Panels. This includes but is not limited to excavation and backfill for vaults and conduits, vaults with lid, installation of signal and spare conduit pipe and end seals, flow meter with remote display and signal cable, installation of flow meter on header, one concrete base and support for panel, one panel and weather shield, one strip heater, installation of one remote display in panel, installation of one remote display on wall in gas control system out-building and all associated appurtenances as shown on the Plans and described in the Specifications. Payment shall also include the supply of one additional flow meter (flow meter with remote display only) as a spare.

31. POWER SUPPLY FOR FLOW METER

    a. Measurement for the power supply for flow meter will be by the linear foot as listed in the Bid Proposal.

    b. Payment will be made at the contract unit price for "Power Supply for Flow Meter" stated in the Bid Proposal and shall include all labor, material and equipment required to construct the power supply for flow meter. This includes but is not limited to trench excavation and backfill (only in areas where not laid in same trench as the header), installation of power and spare conduit pipe and end seals, power wires, breakers, connection to existing panels, connection to flow meter display, instrument power disconnect switch and appurtenances as shown on the Plans and described in the Specifications.

32. 4-INCH HEADER VALVE

    a. Measurement for the 4-Inch Header Valve will be per each as listed in the Bid Proposal.

    b. Payment will be made at the contract unit price for "4-Inch Header Valve," stated in the Bid Proposal and shall include all labor, material and equipment required to provide and install the 4-Inch Header Valves and appurtenances. This includes but is not limited to HDPE flange adapters, butterfly valve, valve spacers, mechanical joint appurtenances, and valve actuator and housing as shown on the Plans and described in the Specifications.

33. 8-INCH HEADER VALVE

    a. Measurement for the 8-Inch Header Valve will be per each as listed in the Bid Proposal.

    b. Payment will be made at the contract unit price for "8-Inch Header Valve," stated in the Bid Proposal and shall include all labor, material and equipment required to provide and install the 8-Inch Header Valves and appurtenances. This includes but is not limited to HDPE flange adapters, butterfly valve, valve spacers, mechanical joint appurtenances, and valve actuator and housing as shown on the Plans and described in the Specifications.

34. CONNECTION TO EXISTING HEADERS

    a. Measurement for the Connection to Existing Headers will be by lump sum as listed in the Bid Proposal.

b. Payment will be made at the contract unit price for "Connection to Existing Headers," stated in the Bid Proposal and shall include all labor, material and equipment required to connect to the existing Header Pipes. This includes but is not limited to one 8-inch HDPE flange adapter with mechanical joint appurtenances, removal of existing blind flange, one 8-inch by 4-inch HDPE tee, and 8-inch electrofusion couplings as shown on the Plans and described in the Specifications.

35. CONNECTION TO EXISTING FORCEMAIN/AIR

    a. Measurement for the Connection to Existing Forcemain/Air will be by lump sum as listed in the Bid Proposal.

    b. Payment will be made at the contract unit price for "Connection to Existing Forcemain/Air," stated in the Bid Proposal and shall include all labor, material and equipment required to connect to the existing Forcemain/Air Pipes. This includes but is not limited to HDPE to stainless steel transition fittings, ball valves, valve handle extensions and housings, HDPE tee and wye connection to existing, and electrofusion couplings as shown on the Plans and described in the Specifications.

36. CONDENSATE SUMP AND PUMP STATION

    a. Measurement for the Condensate Sump and Pump Station will be per each as listed in the Bid Proposal.

    b. Payment will be made at the contract unit price for "Condensate Sump and Pump Station", stated in the Bid Proposal and shall include all labor, material and equipment required to construct the Condensate Sump and pump station. This includes but is not limited to excavation and backfill (soil and bedding), HDPE and PVC pipe and fittings, valves, adapters, airline connection to sump, condensate connection to sump, 4-inch HDPE connection to sump, cycle counter, vault, bollards, crushed concrete aggregate pad, start-up and training as shown on the Plans and described in the Specifications.

37. FORCEMAIN AND AIRLINE PIPES

    a. Measurement for the Forcemain and Airline Pipes will be by the linear foot of trench the pipes are laid in as listed in the Bid Proposal. Trench excavation and backfill shall be paid under corresponding 4-inch or 8-inch LFG Pipe, Trenching and Backfill.

    b. Payment will be made at the contract unit price for "Forcemain and Airline Pipes," stated in the Bid Proposal and shall include all labor, material and equipment required to construct the Forcemain and the Airline Pipes. This includes but is not limited to installation and testing of both pipes laid in the same trench as shown on the Plans and described in the Specifications.

38. DECOMMISSIONING GAS VENT

    a. Measurement for Decommissioning Gas Vent will be per each as listed in the Bid Proposal.

    b. Payment will be made at the contract unit price for "Decommissioning Gas Vent," stated in the Bid Proposal and shall include all labor, material and equipment required to obtain permits for and properly decommission the gas vent as shown on the Plans and described in the Specifications. This includes, but is not limited to obtaining permits, executing the work, and preparing reports in accordance with regulations for decommissioning wells.

39. ROAD CROSSING

    a. Measurement for the Road Crossings will be per each as listed in the Bid Proposal.

b. Payment will be made at the contract unit price for "Road Crossings," stated in the Bid Proposal and shall include all labor, material and equipment required to construct the gas system road crossings as shown on the Plans and described in the Specifications. **This includes, but is not limited to trenching/backfilling, casing pipe, signs,** temporary patching with CSBC and final HMA pavement patch **as shown on the Plans and described in the Specifications.**

40. FROST PREVENTION

a. There will be no measurement of payment for Frost Prevention, as listed in the Bid Proposal.

b. Payment will be made at the contract lump sum price for "Frost Prevention" as stated in the Bid Proposal and shall include all labor, materials, and equipment required to winterize the flare station as detailed in the plans. This includes, but is not limited to electrical connection at the existing panel, conduit/wire, connection boxes, insulation, and heat tape as shown on the Plans and described in the Specifications.

41. AS-BUILT RECORD DRAWINGS

a. There will be no measurement of payment for As-Built Record Drawings, as listed in the Bid Proposal.

b. Payment will be made at the contract lump sum price for "As-Built Record Drawings" as stated in the Bid Proposal and shall include all labor, materials, and equipment required to create record drawings.

42. MINOR CHANGES

a. Payments or credits for changes amounting to an aggregate amount not to exceed $25,000.00 may be made under this item in accordance with Section 1-04.4(1) of the WSDOT Standard Specifications.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

Not used

END OF SECTION

SECTION 01027
APPLICATIONS FOR PAYMENT

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for payment.

1.2 RELATED SECTIONS

A. Section 01035 - Modification Procedures.

B. Section 01300 - Submittals.

C. Section 01700 - Contract Closeout.

1.3 FORMAT

A. A computer generated spreadsheet in Excel® format. For each bid item and change order items, provide a column listing each of the following:

1. Item number
2. Description of work
3. Unit
4. Contract quantity
5. Contract unit price
6. Contract amount
7. Previous quantity
8. Previous amount
9. Quantity for current period
10. Amount for current period
11. Quantity to date
12. Amount to date
13. Percentage complete for each item
14. Summary of quantities and values of materials on hand

B. Provide a summary that includes the following:

1. Total earned in current month.
2. Total previously earned.
3. Total earned to date.
4. Total value of materials on hand.
5. Subtotal for items 3 and 4.
6. Amount retained.
7. Summary of previous payment.
8. Amount due for current period.

1.4 Schedule of Values

A. Provide detailed statement allocating values for identifiable parts of lump sum items.

1. Submit initial Schedule of Values before or at Pre-Construction Meeting in accordance with Section 01300.

2. Review each month with OWNER's representative for acceptance prior to submitting for payment.

1.5 PREPARATION OF APPLICATIONS

A. Present required information on electronic media printout.

B. Execute certification by signature of authorized officer.

C. Provide dollar value in each column for each line item for portion of work performed.

D. Prepare Application for Final Payment as specified in Section 01700.

1.6 SUBMITTAL PROCEDURES

A. Submit three copies of each Application for Payment.

B. Payment Period: Submit at intervals stipulated in the Agreement.

1.7 SUBSTANTIATING DATA

A. When OWNER requires substantiating information, submit data justifying quantities or dollar amounts in question.

B. Provide one copy of data with cover letter for each copy of submittal.

C. Show application number and date, and line item by number and description.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

SECTION 01035
MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Field Orders.

B. Work Change Directives.

C. Change Orders.

1.2 CHANGE PROCEDURES

A. OWNER will issue Field Orders for minor changes in the Work not involving an adjustment to Contract Price or Contract Time.

B. OWNER may issue a Proposal Request which includes a detailed description of a proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required, and the period of time during which the requested price will be considered valid. CONTRACTOR must prepare and submit a Proposal with estimate within five calendar days.

C. CONTRACTOR may request a change by submitting a Proposal to OWNER describing the proposed change and its full effect on the Work. Include a statement describing the reason for the change, the effect on the Contract Price and Contract Time, and a statement describing the effect on Work by separate or other contractors.

D. OWNER may issue a Work Change Directive for any change that, if not processed expeditiously, might delay the Project. This is not a Change Order, but only a directive to proceed with Work that may be included in a subsequent Change Order.

E. Changes affecting Contract Price or Contract Time, resulting under paragraphs 1.2 B, C, and D of the Section, will be processed as a Change Order

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used

END OF SECTION

SECTION 01039
COORDINATION AND MEETINGS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Coordination and Project Conditions.

B. Pre-Construction Conference.

C. Progress Meetings.

1.2 COORDINATION

A. Coordinate scheduling, submittals, and Work of the various sections of the Project to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Coordinate with the ENGINEER, OWNER, City of Walla Walla, and property owners for on-site access and staging areas.

C. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion.

D. Coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of OWNER's activities.

1.3 Coordinate source for construction water. Water for construction purposes is available from well on site. See Section 01500 PRECONSTRUCTION CONFERENCE

A. See General Conditions Section 2.06.

B. Attendees. CONTRACTOR’s Project Manager and Field Superintendent, Major subcontractors, ENGINEER, OWNER, CQA Monitor, and others as deemed necessary by CONTRACTOR or ENGINEER.

C. Duration and Location. Approximately two hours, travel time excluded. The conference will be held in Sudbury Landfill Conference Room in Walla Walla, Washington.

D. CONTRACTOR shall come prepared to discuss the following subjects as a minimum:

1. General procedures such as communication, issues resolution, roles and responsibilities, project team overview, and other topics deemed necessary or appropriate. The aim of these discussions is to promote understanding and cooperation to facilitate project completion.
2. Specific design and construction requirements.
3. Project schedules. See General Conditions, Section 2.05.
4. Status of Bonds and Insurance.
5. Sequencing of critical path work items.
6. Project changes and clarification procedures.
7. Use of site, access, office and storage areas, security, and temporary facilities.
8. Major product delivery and priorities.
9. CONTRACTOR’s Health and Safety Plan.
10. Progress payment procedures.
11. Stormwater Pollution Prevention Plan (SWPP).

1.4 BI-WEEKLY PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work at intervals of no greater than two weeks.

B. ENGINEER will make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.

C. Attendance Required: OWNER's representative, CQA Monitor, ENGINEER, CONTRACTOR's Job Superintendent, Subcontractors, and suppliers, as requested by ENGINEER and OWNER as appropriate to agenda topics for each meeting.

D. Agenda:

1. Review minutes of previous meetings.
2. Review of Work progress.
3. Field observations, problems, and decisions.
4. Identification of problems, which impede planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of off-site fabrication and delivery schedules.
7. Maintenance of progress schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Coordination of projected progress.
11. Maintenance of quality and work standards.
12. Review of cleanup, restoration, and permit requirements.
13. Effect of proposed changes on progress schedule and coordination.
14. Other business relating to Work.

1.5 DAILY PROGRESS MEETINGS

A. An informal daily progress meeting is to be held before the start of work each day.

B. Attendance required: CONTRACTOR'S Job Superintendent, ENGINEER or OWNER's representative (CQA Monitor). Subcontractors working on the project may be requested to attend.

C. Topics for discussion:

1. Review scheduled work activities for the day.
2. Discuss problems and their resolutions.
3. Review Quality Assurance test data.
4. Discuss CONTRACTOR's personnel and equipment assignments for the day and that of all Subcontractors performing work on the project.
5. Review the previous day's activities and accomplishments.
6. CONTRACTOR and CQA Monitor shall each document the meeting.

1.6 STARTUP AND SHUTDOWN OF EXISTING BLOWER/FLARE

A. Coordinate startup and shutdown of existing blower/flare station with the City.

B. Startup and shutdown of the existing blower/flare station will be done by the City and/or its Operator (CB&I).
C. The Contractor must be present during startup and shutdown of the existing blower/flare station.
D. Up to two startup and shutdowns will be without cost to the Contractor. If more than two startup/shutdowns are required, then the Contractor shall be required to reimburse the City and Operator for the cost of the third and each subsequent startup/shutdown. This includes traveling costs for the City's Operator (CB&I).

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

SECTION 01052
LAYOUT OF WORK AND SURVEYS

PART 1 - GENERAL

1.1 SECTION INLCUDES

A. Section includes general requirement for survey work to be provided by CONTRACTOR including the following:

1. Setting offset stakes, slope stakes, and grade stakes for field layout of features of Work.
2. Surveys to document as-built conditions.
3. Surveys and quantity calculations for payment.

1.2 DESCRIPTION

A. Control Points. Control points provided by the OWNER will include monuments and elevation benchmarks in the vicinity of the Project as shown in the Plans. Control points are unique to the landfill facility. Utilize the basis of bearing and basis of elevation as shown on the construction plans.

B. Verify accuracy of all control points.

C. If displaced during the work, replace the control points.

D. Equipment and Personnel:

1. Provide instruments and other survey equipment that are accurate, suitable for the surveys required in accordance with recognized professional standards and in proper condition and adjustment at all times.
2. Surveys must be performed under the supervision of a professional land surveyor, or a registered civil engineer licensed in the State of Washington.

E. Field Notes and Records:

1. Record surveys in field notebooks and retain copies. Electronic notes may be used if printouts are retained.
2. Raw data generated by data collector must be available at all times for review by the ENGINEER.

F. Use by the OWNER:

1. The OWNER may at any time use line and grade points and markers that have been established by the CONTRACTOR.
2. The CONTRACTOR’s surveys are a part of the Work and may be checked by the OWNER or representatives of the OWNER at any time.

1.3 SURVEYS FOR LAYOUT AND PERFORMANCE OF WORK

A. Perform surveys for layout and performance of the Work, make necessary calculations, and prepare drawings necessary to carry out such work.

B. CONTRACTOR shall provide conventional blue top hubs on a 100’ x 100’ grid over Area 2 and Area 5 to allow ENGINEER to visually verify the subgrade elevation for Areas 2/5 as well as the finish grade elevation for Areas 2/5.

C. Electronic design drawings will not be provided.

1.4 LAYOUT AND PERFORMANCE OF WORK USING DIGITAL TERRAIN MODELING

A. Use of machine or computer controlled grade setting equipment in addition to conventional staking will be allowed. The CONTRACTOR may use any type of equipment and machine control system that produces results meeting the requirements of this Contract. The CONTRACTOR shall submit a written plan for itself, or any of its subcontractors intending to use this method, a minimum of 20 calendar days prior to any grade setting activities using machine/computer controlled equipment. The written plan shall include at a minimum the following:

   a. Type of control system.

   b. General description of how the system operates.

   c. Tolerance/Accuracy of the control system.

   d. Operational range of the control system.

   e. Set-up and testing procedures of the control system.

   f. Method of verification of accuracy of initial set-up of control system.

   g. Required training and/or certification of personnel setting and maintaining the control system and training for the equipment operators.

   h. Grade setting equipment to be used, including description of the control system.

   i. Identify company and staff developing the surface modeling, including resumes and previous projects.

   j. Identify the surface model Review Company and staff, including resumes and previous projects.

B. The use of digital terrain models (DTM) loaded onto construction equipment will be allowed; however, all as-built surveys and surveys for measurement/payment must be completed using conventional surveying methods.

C. Electronic design drawings will not be provided. A DTM will not be provided. Subgrade contours and finish grade contours are shown on the construction plans. The CONTRACTOR shall create only one DTM to be used on the project by itself, or any subcontractors throughout the project. Multiple models shall not be allowed.

D. Conventional blue top hubs must also be provided by CONTRACTOR so that ENGINEER can visually verify subgrade, rough grade, and finish grade elevations. Provide elevations on a 100’ x 100’ grid. Should the elevation verifications indicate repeated failure of meeting the design elevation tolerances, the ENGINEER may require added blue top hubs at a reduced grid of 50’ X 50’ or smaller at no additional cost to the OWNER.

E. The ENGINEER may perform spot checks of the CONTRACTOR’S machine control grading results, calculation, record, field procedures, and quality control measures. If the ENGINEER determines that the Work being performed is not achieving results that will meet the Contract requirements, the CONTRACTOR shall make corrections to the Work at no additional cost to the Contracting Agency.

1.5 SURVEYS FOR RECORD DRAWINGS AND MEASUREMENT AND PAYMENT

A. The use of digital terrain models (DTM) loaded onto construction equipment will be allowed; however, all as-built surveys and surveys for measurement/payment must be completed using conventional surveying methods.

B. Where the Specifications require items of work to be measured by surveying methods, perform the surveys and perform quantity calculations.

   1. Survey Borrow Area following clearing and grubbing and before excavating any soils for placement on Area 2 or Area 5 Soil Cover. Survey Borrow Area again after

completing Area 2 and Area 5 Soil Cover. Each survey shall consist of an equivalent number and distribution of survey points for equal comparison. At a minimum, utilize a grid pattern with 50' spacing. The surveys will be the basis for measurement for payment as set forth in Section 01025. The CONTRACTOR shall not be allowed to remove materials other than that for the Area 2 and Area 5 Soil Cover from the area surveyed prior to final survey for measurement and payment.

2. Calculate quantity of soil removed from the Borrow Area for construction of the Area 2 and Area 5 Soil Cover. Submit quantity and calculations to ENGINEER.
3. Survey Area 2 and Area 5 after placing soil cover for preparation of record drawings. Each survey shall consist of an equivalent number and distribution of survey points for equal comparison. At a minimum, utilize a grid pattern with 50' spacing as shown on plans.
4. Survey Borrow Area again after final grading of entire project site for preparation of record drawings.
5. Submit electronic copies of all surveys and drawings showing all survey points, DTM surfaces, and earthwork calculations in AutoCAD Civil 3D 2015 format to ENGINEER.

C. OWNER may perform independent checks.

D. Use established local bench marks unique to the landfill facility.

E. Provide record (as-built) surveys indicating the horizontal and vertical location for the following items:

1. Horizontal and vertical location of buried pipelines. Surveys must include points at a maximum spacing of 50 feet along all pipe runs and include all angle points.
2. Horizontal and vertical location of all buried conduit. Surveys must include points at a maximum spacing of 50 feet along installed pipe and include all angle points.
3. Horizontal and vertical location of gas extraction wells and condensate sumps.
4. Horizontal and vertical location of all roadways improved or constructed as part of this project.
5. Horizontal and vertical location of Erosion Control Ditches.
6. Horizontal and vertical location of North Ditch.
7. Final survey of borrow area and Areas 2 and 5 surfaces.

1.6 SURVEYING ACCURACY AND TOLERANCES IN SETTING OF SURVEY STAKES

A. The tolerances applicable in setting survey stakes are set forth below.

	Vertical	**Horizontal**
Stationing	N/A	±0.1 feet
Slope stakes	±0.02 feet	±1.0 feet
Subgrade grade stakes at Areas 2/5	±0.025 feet 0feet low	±0.5 feet (parallel to alignment) ±0.1 feet (normal to alignment)
Rough grade stakes at Areas 2/5	±0.025 feet 0.05 high 0 low	±0.5 feet (parallel to alignment) ±0.1 feet (normal to alignment)
Surfacing grade stakes	±0.025 feet	±0.5 feet (parallel to alignment) ±0.1 feet (normal to alignment)
Structures	±0.025 feet	±0.25 feet
Inverts in sanitary sewer structures	±0.025 feet	N/A
Alignment of gas collection and storm pipe	N/A	±0.10 feet
Invert of gas collection and storm pipe	±0.025 feet	N/A
Building footings	N/A	±0.050 feet
Building slabs	N/A	±0.025 feet

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION

SECTION 01101
SEQUENCE AND SPECIAL REQUIREMENTS OF CONSTRUCTION

PART 1 - GENERAL

1.1 SEQUENCE AND SPECIAL REQUIREMENTS OF CONSTRUCTION

A. General: The purpose of the sequence and special requirements of construction is as follows:

1. To comply with permit requirements as ordered by the State of Washington Department of Ecology.
2. To ensure the availability of miscellaneous support systems at all times during the completion of this Contract.
3. To ensure that the CONTRACTOR understands the limitations placed on his work by the specified characteristics of the landfill.
4. Be responsible for work required to maintain OWNER's operations. Sequences other than those specified will be considered by the ENGINEER, provided they afford equivalent continuity of operation.
5. Power outages will be considered upon 96 hours written request to OWNER and ENGINEER unless outage results in the interruption of plant operations, in which case the shutdown provisions set forth above apply. Describe the reason, anticipated length of time, and areas affected by the outage in its written request. Provide temporary provisions for continuous power supply to critical existing facility components.
6. Coordinate proposed work with the ENGINEER and landfill operations personnel before effecting any shutdowns. Under no circumstances cease work at the end of a normal working day if such actions may inadvertently cause a cessation of any landfill operations, in which case, remain onsite until necessary repairs are complete.
7. Do not close lines, open valves, or take other action that would affect the operation of existing systems, except as specifically required by the Contract Documents and after approval of the OWNER and the ENGINEER. Such actions will be considered by the OWNER and the ENGINEER upon 48 hours written notice to the ENGINEER.
8. To provide additional discussion of sequence of work requirements at the preconstruction and construction planning meeting.
9. To comply with the following WDOE clause:

   Protection of the Environment. No construction-related activity shall contribute to the degradation of the environment, allow material to enter surface or ground waters, or allow particulate emissions to the atmosphere, which exceed State or Federal standards. Any actions that potentially allow a discharge to State waters must have prior approval of the State of Washington, Department of Ecology.

B. The CONTRACTOR shall be solely responsible for sequencing all construction activities to meet the requirements of these Contract Documents. The CONTRACTOR shall schedule and conduct his work in a manner consistent with achieving these purposes, and his construction schedule shall comply with the specific sequence, milestones, and limitations of work hereinafter specified.

C. Construct work in stages to allow for OWNER's uninterrupted operation of the landfill during construction. Coordinate construction schedule and construction activities with ENGINEER.

D. Sequence of Work:

1. Crush concrete rubble.
2. Construct improvements to haul access road, temporarily close compost access road to traffic (limit road closure to one week and provide signage for traffic control). Note that the “alternate” haul route does not need to be improved if there are no plans to utilize it – alternate haul route can only be used after hours.
3. Decommission Gas Vent
4. Document locations and condition of all existing Monitoring Wells. See Section 2110.
5. Rough grade Area 5:
    a. Excavate to subgrade (note clearing and grubbing not required)
    b. Provide conventional survey staking (blue top hubs) for visual confirmation of subgrade elevation,
    c. Place first four feet of compacted fill (rough grading)
    d. Provide conventional survey staking (blue top hubs) for visual confirmation of rough grade elevation.
6. Rough grade Area 2:
    a. Temporarily close compost access road to traffic – limit to 48 hours and provide signage for traffic control
    b. Cut down to subgrade (note clearing and grubbing not required)
    c. Provide conventional survey staking for visual confirmation of subgrade elevation,
    d. Place first four feet of compacted fill (rough grading)
        i. Utilize all of cut material from Area 5 prior to haul of any import fill from Borrow Area.
        ii. If “alternate” haul route is utilized, improve this road prior to use.
    e. Provide conventional survey staking (blue top hubs) for visual confirmation of rough grade elevation.
7. Install gas collection system, and gas collection upgrades, temporarily close compost access road to traffic during road crossing (limit road closure to 48 hours and provide signage for traffic control).
8. Restore surfaces to Area 2 and Area 5 cover from well drilling activities
9. Clear and grub Borrow Area, Survey the borrow area in accordance with Section 1052.
10. Final cover for Area 2, temporarily close compost access road to traffic (limit road closure to one week and provide signage for traffic control).
11. Final cover for Area 5, erosion control berm, drainage ditches. Note requirement to add seed beneath erosion control mat.
12. Install final surface improvements for gas collection system.
13. Survey Area 2, Area 5, and Borrow Area in accordance with Section 1052.
14. Construct improvements to the North Ditch.

15. Construct improvements to Compost Access Road, HMA patch of gas pipe crossing, temporarily close road to traffic (limit road closure to one week and provide signage for traffic control).
16. Apply mulch, tackifier, fertilizer, and seed.
17. Complete remainder of project

    NOTE: Some items may be worked on simultaneously.

E. WORK RESTRICTIONS

1. Hot Mix Asphalt (HMA): Place all HMA only during landfill closure hours from Saturday at 6:00 p.m. to Monday at 8:30 a.m. Access road must be kept open to public during all Landfill open hours.
2. The “Alternate Haul Route” can only be used during hours when landfill is closed to public. After hours haul road may only be used between the hours of 6:30 pm – 8:00 am.
3. Compost Access Road shall be closed for maximum 48 hours at the following stages of the project: Haul Road Development, Area 2 Rough Grading, Gas pipe crossing of Compost Access Road, and Area 2 Final Cover. Coordinate road closures with Owner as Owner will need to provide alternative location for public to drop off green waste.
4. No seeding may occur prior to September 15.

F. MILESTONES

a. Sequence of work items 1 through 7 must be completed by **June 30, 2016**. A penalty for not reaching this milestone is listed in the Agreement.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION

SECTION 01300
SUBMITTALS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Submittal procedures and requirements.

1.2 SUBMITTAL PROCEDURES

A. Submittals not following these procedures or requirements will be returned to the CONTRACTOR without being reviewed.

B. Provide a Submittal Control Document showing the project submittals required by the Special Provisions, Project Plans, and Specifications. Indicate all submittals requested for review and for information. Indicate status of each required submittal including day submitted for review, ENGINEER's response, re-submittal information. Submit this log to the ENGINEER as a spreadsheet in EXCEL® format within five (5) working days after the effective date of the Notice to Proceed. Update Submittal Control Document on a weekly basis and provide for review.

C. Except for samples or when exception is previously agreed to by ENGINEER, all submittals shall be submitted electronically via e-mail. Each submittal shall be attached as a single file in portable document format (*.pdf). If the single file is greater than 7 megabytes, multiple files may be submitted, although the number of files shall be minimized. The term "submittal" as used herein shall be understood to include detail design calculations, shop drawings, fabrication and installation drawings, erection drawings, lists, graphs, operating instructions, catalog sheets, data sheets, samples, and similar items. The e-mail address in which to send the submittals will be provided to the CONTRACTOR at the Pre Construction Conference.

D. Sequentially number the submittals as shown in the Submittal Control Document. Specific items submitted under a general item shall be given a dashed number suffix. For example, under a general item "Valves" (Submittal No. 6), product data for gate valves would be submitted with a dashed number suffix such as Submittal No. 6-01. Resubmittals of the same item shall be given the original number with an alphabetic suffix. For example, the first resubmittal of the product data for the gate valve would be designated Submittal No. 6-01a.

E. A separate transmittal form (and separate pdf document file) shall be used for each specific item or class of material or equipment for which a submittal is required. Combining of items will be permitted only when the items taken together constitute a manufacturer's package or are so functionally related that expediency indicates review of the group or package as a whole.

F. Transmit each submittal with a submittal form identifying the Project Name, CONTRACTOR, Subcontractor or supplier, corresponding plans sheet or specification section, submittal name, and number.

G. Provide a CONTRACTOR's stamp or cover letter, signed or initialed, certifying that the submittal has been reviewed by the CONTRACTOR and is in accordance with the requirements of the Work and Contract Documents. SUBMITTAL WILL BE RETURNED IF NOT CERTIFIED.

H. The CONTRACTOR shall coordinate submittals with the work so that work will not be delayed. The CONTRACTOR shall coordinate and schedule different categories of submittals, so that one will not be delayed for lack of coordination with another. No extension of time will be allowed because of failure to properly schedule submittals. The CONTRACTOR shall not proceed with work related to a submittal until the submittal process is complete.

I. Provide sufficient information together with technical cuts and technical data to allow an evaluation to be made to determine that the item submitted is in compliance with Contract Documents. The CONTRACTOR shall submit a copy of the technical specification with each subsection clearly marked for conformance or nonconformance with the subsection. Where the proposed equipment deviates from the specification, all necessary information and supporting calculations to evaluate the deviation shall be attached. The OWNER retains its right to reject without justification the proposed deviation in favor of the specification, as written. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work. Identify requests for “or equal” “or equivalent” items. Justify the said deviation or “substitution” in detail in a separate letter immediately following transmittal sheet (written requests through CONTRACTOR only):

1. If the justification is not given, shop drawing can be rejected and returned without further action.
2. If justification is not given, deviation is not approved even if shop drawing is approved.

J. In making request for “or equal” “or equivalent” item, CONTRACTOR represents: (Note: This section does not address substitutions for major equipment during the bidding period.)

1. CONTRACTOR has personally investigated proposed item, has determined that it is adequate or superior in all respects to that specified, and that it will perform the function for which it is intended.
2. CONTRACTOR will provide same guarantee for “or equal” “or equivalent” item as for item specified.
3. CONTRACTOR will coordinate installation of accepted “or equal” “or equivalent” into work, to include building modifications if necessary, making such changes as may be required for work to be complete in all respects.
4. CONTRACTOR waives all claims for additional costs and/or time related to “or equal” “or equivalent” which subsequently arise.

K. The ENGINEER will respond to submittals via e-mail with a submittal review comment sheet in portable document format (*.pdf). A sample of the comment review sheet is at the end of this section.

L. The CONTRACTOR shall be responsible for submitting complete and accurate information in accordance with the Contract Documents. All submittals requiring a third review by the ENGINEER shall be considered unresponsive and the OWNER will charge the CONTRACTOR on a time and materials basis for all subsequent reviews and all related administrative costs.

M. Distribute copies of reviewed submittals to affected parties. Instruct parties to promptly report any inability to comply with provisions.

N. Fabrication of an item shall not be commenced before the ENGINEER has reviewed the pertinent submittals and responded, unless allowed otherwise by the ENGINEER. Revisions indicated on submittals shall be considered as changes necessary to meet the requirements of the Contract Drawings and Specifications and shall not be taken as the basis of claims for extra work.

1.3 O&M SUBMITTALS

A. O&M Information shall be provided for all major equipment items as required by the Drawings and Specifications and indicated in the Submittal Control Document including but not limited to:

1. All piping, fittings and valves.
2. Electrical and control equipment.

3. Gas extraction wells.
4. Improvements to Flare facility.
5. Condensate collection system.

B. **IMPORTANT**: Prior to startup, submit and bind together all O&M information in one complete manual binder that includes all of the O&M information for the entire project including mechanical and electrical. An electronic copy in .pdf format shall also be provided. Only submittals provided in this format and as described below will be reviewed for acceptance. The manual binders shall be the heavy-duty, three-ring type and shall have tabbed dividers separating each section. If O&M information does not fit in a single binder, multiple binders labeled "Volume 1", "Volume 2", etc. may be submitted. Each binder shall be labeled on the front and on the binder spine as follows:

"City of Walla Walla Sudbury Landfill Remedial Action 2016 Information (Volume _)"

C. Provide six (6) copies of the specified O&M manuals, which will be retained by the OWNER. For ease of identification, each manufacturer's brochure and manual shall be appropriately labeled with the equipment name and equipment number as it appears in the project drawings and specifications. The manuals shall be indexed and reference the discrete equipment number on all manuals, data sheets and drawings. The manuals shall be provided with a table of contents and tab sheets to permit easy location of desired information.

D. If manufacturers' standard brochures and manuals are used to describe O&M procedures, such brochures and manuals shall be modified to reflect only the model or series of equipment used on this project. Extraneous material shall be crossed out neatly or otherwise annotated or eliminated.

E. Submit operation and maintenance information printed on 8½ in. x 11 in. size heavy quality paper (20 lb. or heavier). Reduce drawings or diagrams bound in manual to 8½ in. x 11 in. or 11 in. x 17 in. size.

F. Following the acceptable installation and operation of an equipment item, the item's instructions and procedures shall be modified and supplemented by the CONTRACTOR to reflect any field changes or information requiring field data.

G. Include manufacturer contact data, operating instructions, preventive and corrective maintenance requirements, warranty information, parts lists, and any other applicable information.

1.4 MANUFACTURERS CERTIFICATE OF PROPER INSTALLATION

A. Where manufacturer's installation and inspection services have been specified or provided, the CONTRACTOR shall submit a Manufacturer's Certificate of Proper Installation on the form provided. Attach any additional reports or checklists to the provided form.

1.5 MANUFACTURER'S CERTIFICATE OF TRAINING

A. Where training requirements have been specified, or provided, the CONTRACTOR shall submit a Certificate of Training. The CONTRACTOR shall not be given credit for training unless a signed certificate has been submitted. A copy shall be included in the Project Operations and Maintenance Manual.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.1 REVIEW PROCEDURE

A. Submittals for Review and Comment. Unless otherwise specified, within thirty (30) days after receipt of the submittal, the ENGINEER will review the submittal. The returned submittal will indicate one of the following actions:

1. If the review indicates that the material, equipment or work method is in general conformance with the contract drawings/specifications, the submittal copies shall be marked “Reviewed”. In this event, the CONTRACTOR may begin to incorporate the material/ equipment/work method covered in the submittal, subject to the full requirements of the Contract Documents.

2. If the review indicates that the submittal is insufficient or that limited corrections are required, the submittal copies shall be marked “Furnish as Corrected”. The CONTRACTOR may begin to implement the work methods or incorporate materials/equipment covered in the submittal, in accordance with the corrections/comments noted. Where submittal information is to be incorporated in O&M data, a corrected copy shall be provided, otherwise no further action is required.

3. If the review reveals that the submittal is insufficient or contains incorrect data and that the comments require revision and resubmittal, the submittal copies shall be marked “Revise and Resubmit”. (In this case, except at its own risk, the CONTRACTOR shall not undertake work covered by this submittal until the attached comments have been confirmed by a separate written communication of the submittal that has been revised, resubmitted, and returned to the CONTRACTOR).

4. If the review indicates that the material, equipment, or work method is not in general conformance with the design concept or in compliance with the contract drawings/specifications, or if the submittal is incomplete, the submittal copies shall be marked “Rejected” Submittals containing deviations from contract drawings/specifications that have not been clearly identified and that have not been noted previously in correspondence also shall be considered rejected, even if the ENGINEER fails to note the deviation. No deviation will be accepted unless clearly marked on the submittal. (In this case, except at its own risk, the CONTRACTOR shall not undertake work covered by this submittal until the attached comments have been confirmed by a separate written communication or the submittal has been revised, resubmitted, and returned to the CONTRACTOR).

3.2 EFFECT OF REVIEW OF CONTRACTOR’S SUBMITTALS

A. Review of drawings, methods of work, or information regarding materials or equipment the CONTRACTOR proposes to provide, shall not relieve the CONTRACTOR of its responsibility for errors therein and shall not be regarded as an assumption of risks or liability by the ENGINEER on behalf of the City, or by any officer or employee of the City, and the CONTRACTOR shall have no claim under the Contract on account of the failure, or partial failure, of the method of work, material, or equipment so reviewed.

END OF SECTION

SUBMITTAL REVIEW COMMENTS

DATE:		**PROJECT:**	LF09010 - Walla Walla Sudbury Road Landfill Remedial Action
SUBMITTAL NO.:	_____	**PROJECT NO.:**	30-11-012
SPEC SECTION:		**REVIEWER NAME:**	
DESCRIPTION:		**PAGE:**	_____

SUBMITTAL TYPE: ☐**SHOP DRAWING** ☐**SAMPLE** ☐**INFORMATION**

1. REVIEWED	4. FURNISH AS CORRECTED
2. REJECTED	5. REVISE AND RESUBMIT
3. SUBMIT SPECIFIC ITEM	

NO.	**COMMENT**	**RELATED SPEC PARA./ DRAWING #**
1		
2		
3		

This review is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections or comments made on the shop drawings during this review do not relieve CONTRACTOR from compliance with the requirements of the plans and specifications. Approval of a specific item shall not include approval of an assembly of which the item is a component. CONTRACTOR is responsible for: dimensions to be confirmed and correlated at the jobsite; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and the procedures of construction; coordination of his or her work with that of all other trades; and for performing all work in a safe and satisfactory manner.

J-U-B ENGINEERS, INC.

Date:	By:

SECTION 01400
QUALITY CONTROL

PART 1 - GENERAL

1.1 SECTION INCLUDES:

A. Quality Control - control of installation.

B. Tolerances.

C. References.

D. Mockup.

E. Inspecting and testing laboratory services.

F. Manufacturers' field services and reports.

1.2 RELATED SECTIONS

A. Section 01090 - References.

B. Section 01300 – Submittals.

C. Section 01410 - Quality Testing and Certificates.

1.3 DEFINITIONS

A. Construction Quality Assurance Organization (CQAO): The CQAO is the organization that represents the OWNER, is an organization independent of the Contractor, and is responsible for implementing the construction quality assurance program.

B. Construction Quality Assurance Monitor (CQA Monitor): The CQAO site representative, who also represents the OWNER and is responsible for on site implementation of CQA procedures defined by the CQA Manual.

1.4 QUALITY CONTROL - CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from OWNER before proceeding.

D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Perform work by persons qualified to produce workmanship of specified quality.

1.5 TOLERANCES

A. Monitor tolerance control of installed Products to produce acceptable Work.

B. Do not permit tolerances to accumulate.

C. Comply with manufacturers' tolerances.

D. Should manufacturers' tolerances conflict with Contract Documents, request clarification from ENGINEER before proceeding.

E. Adjust Products to appropriate dimensions and position before securing Products in place.

1.6 REFERENCES

A. For Products or workmanship specified by association, trade, or other consensus standards, complies with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Conform to reference standard by date of issue current on date for receiving bids, except where a specific date is established by code.

C. Obtain copies of standards where required by product specification sections.

D. Do not alter the contractual relationship, duties, and responsibilities of the parties in Contract nor those of the OWNER from the Contract Documents by mention or inference otherwise in any reference document.

1.7 CQA INSPECTING AND TESTING SERVICES

A. The ENGINEER will recognize the materials testing agency selected by the CONTRACTOR as the Construction Quality Assurance Organization (CQAO) to perform inspecting and testing. CONTRACTOR will provide and pay for all testing as required by the CQA Manual.

B. The CQAO will perform inspections, tests, and other services specified in individual specification sections identified as construction quality assurance (CQA) testing and as required by CQA Manual.

C. The OWNER and ENGINEER shall have direct access to the CQAO and all reports.

D. Inspecting, testing, and source quality assurance may occur on or off the project site.

E. Reports will be submitted by the CQAO indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.

F. Cooperate with the CQAO;

1. Furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.

2. Notify the CQAO 24 hours prior to expected time for operations requiring services.

G. CQA testing or inspecting does not relieve CONTRACTOR to perform construction quality control (CQC) work indicated in specifications, or manufactures quality control (MQC) work indicated in the specifications.

1.8 MANUFACTURERS' FIELD SERVICES AND REPORTS

A. When specified in individual specification sections, require material or Product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment, and as applicable, to initiate instructions when necessary.

B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

C. Submit report within 30 days of observation to OWNER for information.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

SECTION 01410
QUALITY TESTING AND CERTIFICATES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Quality assurance testing performed by the CQAO.

B. Quality control testing by CONTRACTOR.

C. Certificates of compliance.

1.2 RELATED SECTIONS

A. Section 01300 — Submittals.

1.3 DEFINITIONS

A. Construction Quality Assurance Organization (CQAO): The CQAO is the organization that represents the OWNER, is an organization independent of the Contractor, and is responsible for implementing the construction quality assurance program. The ENGINEER will recognize the materials testing agency selected by the CONTRACTOR as the CQAO. The CONTRACTOR will pay for all testing requirements outlined in the CQA Manual.

B. Construction Quality Assurance Monitor (CQA Monitor): The CQAO site representative, who also represents the OWNER and is responsible for on site implementation of CQA procedures defined by the CQA Manual.

1.4 REFERENCES

A. Construction Quality Assurance Manual:

1. The purpose of the construction quality assurance (CQA) manual is to describe construction quality assurance procedures that will be used during construction of the Sudbury Road Landfill Remedial Action.

2. The CQAO will use this manual as their guidance document to implement the CQA program.

3. Detailed manufactures quality control (MQC) and construction quality control (CQC) requirements, which are the responsibility of organizations that manufacture materials, and contractors that install these materials are provided in the technical specifications issued for construction.

1.5 SOURCE OF MATERIALS

A. CONTRACTOR must notify OWNER in writing of the sources from which it proposes to obtain material requiring CQA testing.

B. Such notification must be made as soon as possible after award of Contract but no later than 10 days after receipt of the Notice to Proceed.

1.6 QUALITY ASSURANCE TESTING

A. Quality assurance testing is the testing of materials prior to their use in the Work and also any testing deemed necessary by OWNER for acceptance of the installed Work.

B. The CQAO will perform quality assurance testing of materials and workmanship in accordance with the Construction Quality Assurance Manual and reserves the right to perform additional testing at any time to determine conformance with the requirements of the Contract Documents.

C. Do not consider quality assurance testing by the CQAO as a replacement for quality control testing conducted by CONTRACTOR, or a manufacturer producing materials for CONTRACTOR. Quality assurance testing will be at the expense of CONTRACTOR.

1.7 QUALITY CONTROL TESTING

A. Quality control testing is the testing of materials prior to their delivery from a manufacturer (MQC Testing), or during construction, such as geomembrane liner seam testing, and such other tests specified in the various sections of the Specifications to ensure compliance with the Contract Documents.

B. CONTRACTOR must assume full responsibility for quality control testing and give sufficient notice to the OWNER, ENGINEER, and/or the CQAO to permit them to witness the tests.

C. Quality control testing is at the expense of CONTRACTOR and where specifically required, performed by an independent testing firm.

D. Submit the name, address, and qualifications, together with the scope of proposed services, of the proposed testing firm(s) submit to OWNER for approval at least 10 days prior to the scheduled commencement of any work involving such testing.

E. Within five days after completion of testing performed by or for CONTRACTOR, submit test results to OWNER.

F. Identify test reports with the information specified for samples in Section 01300 and additionally, the name and address of the organization performing the test, and the date of the tests.

1.8 CERTIFICATES OF COMPLIANCE

A. Where specifically indicated, CONTRACTOR may use certificates of compliance for certain materials and products in lieu of the specified sampling and testing procedures.

B. Submit certificates required for demonstrating proof of compliance of materials with specification requirements in duplicate with each lot of material delivered to the Work or prior to delivery as required by the Contract.

C. The lots so certified must be clearly identified by the certificate.

D. Certificates must be signed by an authorized representative of the producer or manufacturer and state that the material complies in all respects with the requirements of the Contract Documents.

E. In the case of multiple shipments, each shipment must be accompanied or preceded by a Certificate of Compliance.

F. The Certificate of Compliance must be accompanied by a certified copy of tests results or state that such test results are on file with the producer or manufacturer and must be furnished to OWNER on request.

G. The certificate must give the information specified for samples in Section 01300, the name and address of the organization performing the tests, the date of the tests, and the quantity of material shipped.

H. Materials used on the basis of a Certificate of Compliance may be sampled and tested at any time.

I. The fact that material is used on the basis of a Certificate of Compliance does not relieve CONTRACTOR of responsibility for incorporating material in the Work which conform to the requirements of the Contract and any such material not conforming to such requirements will be subject to rejection, whether in place or not.

J. OWNER reserves the right to refuse to permit the use of certain materials on the basis of a Certificate of Compliance.

1.9 REPAIR COSTS

A. All costs to repair or replace non-conforming materials or installation are the responsibility of the CONTRACTOR.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

SECTION 01500
TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Temporary Utilities:

1. Temporary electricity.
2. Temporary lighting for construction purposes.
3. Temporary telephone service.
4. Temporary water service.
5. Temporary sanitary facilities.

B. Construction Facilities:

1. Field Office.
2. Vehicular access.
3. Storage of Materials and Equipment.
4. Construction Equipment.
5. First Aid Facilities.
6. Security.
7. Parking.
8. Progress cleaning and waste removal.
9. Traffic control.
10. Platform scales.

C. Temporary Controls:

1. Water control.
2. Dust control.
3. Erosion and sediment control.
4. Noise control.
5. Pollution control.
6. Spill Prevention, Control, and Countermeasures.

D. Removal of utilities, facilities, and controls.

1.2 TEMPORARY ELECTRICITY

A. Provide and pay for any power service required as needed for construction operation.

1.3 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

A. Provide and maintain any lighting required for construction operations to achieve minimum lighting level of 2 watts/sq ft.

1.4 TELEPHONE SERVICE

A. During contract time duration CONTRACTOR's supervisor shall have full-time access to cellular telephone services. CONTRACTOR to provide, maintain, and pay for cellular telephone services.

1.5 TEMPORARY WATER SERVICE

A. Provide and pay for suitable quality water service as needed to maintain specified conditions for construction operations.

B. Limited non-potable water is available on-site for construction purposes. Make arrangement with OWNER to access on-site water supplies. Approximate flow is 1,200 gpm. CONTRACTOR to provide backflow assemblies and connection hardware.

C. An OWNER provided portable elevated construction water tank is available for use by the CONTRACTOR at the site.

1.6 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Existing facility use is not permitted. Provide facilities at time of project mobilization.

1.7 FIELD OFFICE

A. If deemed necessary, the CONTRACTOR must provide an office for his own staff.

B. The location of the office must be as approved by OWNER.

C. At a minimum provide telephone and fax capabilities for communication.

1.8 VEHICULAR ACCESS

A. The CONTRACTOR shall be responsible for all conditions of any arrangements the CONTRACTOR makes for the use of any privately or publicly owned property.

B. The CONTRACTOR shall make his own investigation of the condition of available public and private roads and of clearances, restrictions, bridge load limits, and other limitations affecting transportation and ingress and egress to the site of the work. It shall be the CONTRACTOR's responsibility to construct and maintain, at his own expense, any haul roads required for his construction operations.

C. If the source of materials provided by the CONTRACTOR necessitates hauling over other than the roads on the project, the CONTRACTOR shall, at the CONTRACTOR's expense, make all arrangements for the use of the haul routes.

D. Maintain continuous access for OWNER and ENGINEER and vehicle traffic.

E. Extend and relocate vehicular access, as Work progress requires, provide detours as necessary for unimpeded traffic flow.

F. Provide unimpeded access for emergency vehicles.

1.9 STORAGE OF MATERIALS AND EQUIPMENT

A. Make arrangements for material and equipment storage areas. Locations and configurations of such facilities are subject to the acceptance of OWNER.

B. Confine all operations, including storage of materials, to approved areas. CONTRACTOR is liable for any and all damage caused during such use of property of the OWNER or others. Store materials in accordance with manufacturer's instructions when applicable.

C. Store construction materials and equipment within boundaries of designated areas. Storage of gasoline or similar fuels must conform to state and local regulations and be limited to the areas approved for this purpose by the OWNER.

1.10 CONSTRUCTION EQUIPMENT

A. Erect, equip, and maintain all construction equipment in accordance with all applicable statutes, laws, ordinances, rules, and regulations of OWNER or other authority having jurisdiction.

B. Provide and maintain scaffolding, staging, runways, hoists, barricades, and similar equipment required for performance of the Contract. Provide hoists or similar equipment with operators and signals, as required.

C. Provide, maintain, and remove upon completion of the Work, all temporary rigging, scaffolding, hoisting equipment, debris boxes, barricades around openings and excavations, fences, ladders, and all other temporary work, as required for all work hereunder unless otherwise directed by OWNER.

D. Construction equipment and temporary work must conform to all the requirements of state, county, and local authorities, OSHA, and underwriters that pertain to operation, safety, and fire hazard. Furnish and install all items necessary for conformity with such requirements, whether or not called for under separate sections of these Specifications.

1.11 FIRST AID FACILITIES

A. Provide first aid equipment and supplies to serve all CONTRACTOR personnel at the site.

1.12 SECURITY

A. Make all necessary provisions and be responsible for the security of the Work and the site until final inspection and acceptance of the Work unless otherwise approved by the OWNER.

1.13 PARKING

A. Parking within 10 feet from outside edge of traveled way of a public roadway not allowed.

B. Tracked vehicles not allowed on paved areas.

C. Confine construction parking to limits of the project.

1.14 PROGRESS CLEANING AND WASTE REMOVAL

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.

B. Remove debris and rubbish from drainage collection points at substantial completion.

C. Collect and remove waste materials, debris, and rubbish from site and dispose off-site.

1.15 TRAFFIC CONTROL

A. Signs, Signals, and Devices:

1. Post construction areas and roads with traffic control signs or devices used for protection of workmen, the public, and equipment.

2. Post Mounted and Stand Mounted Traffic Control and Informational Signs: As approved by authority having jurisdiction, and recommended by the MUTCD.

3. Traffic Cones and Drums, Concrete Barriers and Lights: As approved by authority having jurisdiction and conforming with the MUTCD.

4. Flaggers and Spotters Equipment and Apparel: Meeting the requirements of Section 1-07.8 and 1-10.3 of the Washington State Department of Transportation Standard Specifications for Road, Bridge and Municipal Construction and its amendments, 2016 editions.

B. Traffic Control Supervisor: The CONTRACTOR shall provide a dedicated Traffic Control Supervisor at all times when traffic controls are in place. Traffic Control Supervisors shall be certified by one of the following:

1. Northwest Laborers-Employers Trust Training
2. Evergreen Safety Council

C. Flaggers and Spotters: Provide trained persons possessing current flagging card issued by the State of Washington, Oregon, or Idaho, to regulate traffic when construction operations or traffic encroach on public traffic lanes.

D. Lights: Use lights during hours of low visibility to delineate traffic lanes and to guide traffic.

E. Removal:

1. Remove equipment and devices when no longer required.
2. Repair damage caused by installation.
3. Remove post settings, backfill and compact.

1.16 WATER CONTROL

A. Grade work area to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

B. Protect site from puddling or running water.

1.17 DUST CONTROL

A. Execute Work by methods to minimize raising dust from construction operations.

B. Provide positive means to prevent air-borne dust from dispersing into atmosphere.

C. Maintain proper dust control in accordance with the requirements of WAC 173-400-040 and governing Clean Air Authority.

1.18 EROSION AND SEDIMENT CONTROL

A. Plan and execute construction to prevent erosion and sedimentation. Comply with Stormwater Pollution Prevention Plan, Sudbury Landfill, City of Walla Walla, January 2003.

B. Temporary erosion and sediment control is required for this project. The CONTRACTOR's attention is directed to the Plans, Specification Section 02800 and Sections 1-07.15 and 8-01 of the WSDOT Standard Specifications.

C. The CONTRACTOR shall be responsible for all dust, erosion, and sediment control on the site. The CONTRACTOR is to be familiar with the following requirements.

1. Section 402(p) Federal Water Pollution Control Act (Clean Water Act).
2. 40 CFR Parts 122, 123, and 124 (November 9, 1999) EPA Administration Permit Programs the NPDES.
3. WDOE (Storm Water Permit Program General Permit for Storm Water Discharges Associated with Industries and Construction).
4. "Storm Water Management Manual for the Eastern Washington" Latest Version.
5. Stormwater Pollution Prevention Plan, Sudbury Road Landfill, City of Walla Walla, Washington, January 2003.
6. Governing Clean Air Authority.
7. Project Permits.

D. During the life of the contract the CONTRACTOR will be required to provide reasonable erosion control measures to prevent, control, and stop water pollution, erosion or dust pollution which could adversely affect adjacent properties.

E. Controlling erosion may require the CONTRACTOR to perform temporary work including but not limited to the following:

1. Providing ditches, berms, silt fencing, culverts, and other measures to control surface runoff water.
2. Building berms, settling basins, energy dissipaters, and other measures to control downstream flows.
3. Controlling silt build-up in storm drainage collection structures.
4. Controlling groundwater found during construction.
5. Covering and/or otherwise protecting road backslopes and disturbed areas until such time that permanent erosion control measures are established.

F. The CONTRACTOR shall be responsible for obtaining and complying with all local, State, and Federal permits required for stormwater pollution prevention as a result of construction activities.

G. The CONTRACTOR shall obtain the U.S. Environmental Protection Agency's NPDES General Permit for Storm Water Discharges Associated with Construction Activity (otherwise known as the Construction General Permit or CGP) and submit a “Notice of Intent" (NOI) [EPA Form 3510-9 (6/03)] for permit coverage under the General Permit. The CGP may be found on the Internet at http://www.epa.gov/npdes/stormwater/cgp, or by contacting the U.S. EPA Office of Water directly at (800) 424-4372. The NOI was filed electronically at the following website: http://cfpub.epa.gov/npdes/stormwater/enoi.cfm.

H. The OWNER has already submitted the NOI. The NOI public notification was/will be placed in the newspaper on Jan 25th and Feb 2nd. The 30 day comment period will end on March 2nd. The Construction Stormwater General Permit will be transferred to the CONTRACTOR. The CONTRACTOR will be responsible for permit coverage from start to end of construction.

I. The CGP does not relieve the CONTRACTOR from compliance with other regulations or contract requirements regarding stormwater pollution prevention including but not limited to: protection of surface waters, prevention of soil runoff into drains, dust control, prevention of tracking soils to adjacent streets, fuel containment, spill control, etc.

J. The CONTRACTOR shall prepare a written Stormwater Pollution Prevention Plan (SWPP) for approval by the ENGINEER. A draft Temporary Erosion and Sediment Control Plan has been provided in the construction plans for use by the CONTRACTOR.

K. A minimum ten (10) days prior to beginning construction, CONTRACTOR shall provide their SWPP outlining their proposed temporary water pollution/erosion and sediment control procedures and methods to the ENGINEER. A template for preparation of the plan can be found on the EPA website. The information provided shall include, but not be limited to the following:

1. A description of the intended sequence of major activities that disturb soils in major portions of the site.
2. Estimates of the total area of the site that is expected to be disturbed by excavation, grading, or other activities.

3. Description and details of the Best Management Practices (BMP's) which will be used to control erosion and sedimentation on the site over and above those shown on the Plans. Select and install BMP's to protect adjacent properties and surface waters from erosion and sedimentation. The BMP's will identify each of the major activities identified above, the appropriate control measures for each activity, and the timing during the construction process that the BMP's will be implemented and removed.
4. Non-Erosion and Sediment Control BMP's. Provide written description, methods, and procedures for implementing BMP's used to control pollutants, other than sediment, from areas that can be a source of such pollutant. Such areas include equipment washdown, maintenance and refueling areas, materials storage areas, and waste disposal areas.
5. Other information as required by the Construction General Permit and SWPP Guidelines.

L. The CONTRACTOR shall submit Notice of Termination after Project Completion and Final Stabilization has been established.

1.19 NOISE CONTROL

A. Comply with local regulations on noise control.

1.20 POLLUTION CONTROL

A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, hazardous substances, and pollutants produced by construction operations.

B. Comply with pollution and environmental control requirements of authorities having jurisdiction.

C. See additional requirements of Project Permits (Appendix).

1.21 SPILL PREVENTION, CONTROL, AND COUNTERMEASURES PLAN

A. Prepare project specific spill prevention, control, and countermeasures (SPCC) plan to be used for duration of project.

B. Submit plan to ENGINEER prior to the commencement of any on site construction activities.

C. SPCC plan shall address the following project specific information:

1. SPCC Plan Elements

a. Site Information

Identify general site information useful in construction planning, recognizing potential sources of spills, and identifying personnel responsible for managing and implementing the plan.

b. Project Site Description

Identify staging, storage, maintenance, and refueling areas and their relationship to drainage pathways, waterways, and other sensitive areas. Specifically address:

- The CONTRACTOR's equipment maintenance, refueling, and cleaning activities.
- The CONTRACTOR's on-site storage areas for hazardous materials.

c. Spill Prevention and Containment

For each of the locations identified in b, above, specifically address:

1. Spill prevention and containment measures to be used at each location.
2. The method of collecting and treating, or disposing of runoff from each location.
3. The method of diverting project runoff from each location.

d. Spill Response

Outline spill response procedures including assessment of the hazard, securing spill response and personal protective equipment, containing and eliminating the spill source, and mitigation, removal and disposal of the material.

e. Standby, On-Site, Material and Equipment

The plan shall identify the equipment and materials the CONTRACTOR will maintain on-site to carry out the preventive and responsive measures for the items listed.

f. Reporting

The plan shall list all federal, state, and local agency telephone numbers the CONTRACTOR must notify in the event of a spill.

g. Program Management

Identify site security measures, inspection procedures and personnel training procedures as they relate to spill prevention, containment, response, management, and cleanup.

h. Preexisting Contamination

If preexisting contamination in the project area is described elsewhere in the plans or specifications, the SPCC plan shall indicate measures the CONTRACTOR will take to conduct work without allowing release or further spreading of the materials.

2. Attachments

a. Site plan showing the locations identified in (1. b. and 1. c.) noted previously.

b. Spill and Incident Report Forms, if any, that the CONTRACTOR will be using.

3. Implementation Requirements

a. CONTRACTOR shall implement prevention and containment measures identified in the SPCC plan prior to performing any of the following:

1. Placing materials or equipment in staging or storage areas
2. Equipment refueling
3. Equipment washing
4. Stockpiling contaminated materials

1.22 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, and materials prior to Substantial Completion inspection.

B. Clean and repair damage caused by installation or use of temporary work.

C. Restore existing and permanent facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

D. See Section 02800 – Site Restoration.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used

END OF SECTION

SECTION 01505
MOBILIZATION

PART 1 - GENERAL

1.1 DESCRIPTION

A. Mobilization consists of work described in Division 1 of the technical specifications not specifically paid for under other bid items, and preparatory work and operations, including but not limited to those necessary for the movement of personnel, project safety, including adequate personnel, equipment, supplies, and incidentals to the project site; for the establishment of offices, buildings and other facilities necessary for work on the project for premiums on bond and insurance for the project and for other work and operations the CONTRACTOR must perform or costs the CONTRACTOR must incur before beginning work on the project, which are not covered in other bid items.

B. Demobilization consists of work and operations included but not limited to, whose necessary for movement of personnel, equipment, supplies, incidentals, and offices off-site, and for cleaning the site.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used

END OF SECTION

SECTION 01630
PRODUCT OPTIONS AND SUBSTITUTIONS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section describes product options available to the CONTRACTOR, plus procedures for securing approval of proposed substitutions

B. Related Work:

1. Make submittals in accordance with pertinent provisions of Section 1300.

1.2 PRODUCT OPTIONS

A. The Contract is based on standards of quality established in the Contract Documents.

1. In agreeing to the terms and conditions of the Contract, the CONTRACTOR has accepted a responsibility to verify that the specified products will be available and to place orders for all required materials in such a timely manner as is needed to meet his agreed construction schedule.

2. Neither the OWNER nor the ENGINEER has agreed to the substitution of materials or methods called for in the Contract Documents, except as they may specifically otherwise state in writing.

B. Materials and/or methods specified by name:

1. Where materials and/or methods are specified by naming one single manufacturer and/or model number, without stating that equal products will be considered, only the material and/or method named is approved for incorporation into the Work.

2. Should the CONTRACTOR demonstrate to the approval of the OWNER that a specified material or method was ordered in a timely manner and will not be available in time for incorporation into this Work, the CONTRACTOR must submit to the OWNER such data on proposed substitute materials and/or methods as are needed to help the OWNER determine suitability of the proposed substitution.

C. Where materials and/or methods are specified by name and/or model number, followed by the words "or an equal approved in advance by the OWNER" or similar wording:

1. The material and/or method specified by name establishes the required standard of quality;

2. Materials and/or methods proposed by the CONTRACTOR to be used in lieu of materials and/or methods so specified by name must in all ways equal or exceed the qualities of the named materials and/or methods;

3. Proposed substitutions must be described in the CONTRACTOR's General Contract bid.

D. The following products do not require further approval except for interface within the Work:

1. Products specified by reference to standard specifications such as ASTM and similar standards;

2. Products specified by manufacturer's name and catalog model number.

E. Where the phrase "or equal," or "or equal as approved by the OWNER," occurs in the Contract Documents, do not assume that the materials, equipment, or methods will be accepted as equal unless the item has been specifically so approved for this Work by the ENGINEER.

F. The decision of the ENGINEER is final.

1.3 DELAYS

A. Delays in construction arising by virtue of the non-availability of a specified material and/or method will not be considered by the OWNER as justifying an extension of the agreed Time of Completion.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used

END OF SECTION

SECTION 01669
PIPE PRESSURE TESTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. The CONTRACTOR shall furnish all labor, materials, equipment, tools, and appurtenances required to test landfill gas and landfill gas related piping systems.

B. CONTRACTOR is responsible for repairing damage caused to pipe or related equipment as a result of the pipe test. All damaged items must be replaced or repaired to the satisfaction of the OWNER.

1.02 RELATED SECTIONS

A. Section 15060 – Pipe and Pipe Fittings.

1.03 SUBMITTALS

A. CONTRACTOR shall submit a plan detailing how pipe tests will be conducted including a list of all equipment and materials that will be utilized. The plan shall indicate how, if any, the plan deviates from this Specification.

B. Test Reports.

PART 2 PRODUCTS

2.01 PROVISIONS

A. Provide air compressor flanges, caps, gauges, bulkheads and monitoring apparatus as necessary to complete the pressure test.

PART 3 EXECUTION

3.01 PREPARATION

A. Commence test procedures when following conditions have been met.
   1. Pipe section to be tested is clean and free of dirt, sand or other foreign material.
   2. Seal pipe ends with fused end caps or blind flanges.
   3. Add pressure slowly.
   4. Pressurizing equipment shall include regulator set to avoid over-pressurizing and damaging otherwise acceptable line.

B. Provide necessary piping connections between section of line being tested and air supply, together with test pressure equipment, meters, pressure gauge, and other equipment, materials, and facilities necessary to make specified tests.

C. Furnish and install bulkheads, flanges, valves, bracing, blocking or other temporary sectionalizing devices that may be required.

3.02 TESTING EQUIPMENT

A. Provide equipment for this testing procedure.

B. Testing Equipment:
1. Polyethylene flange adapter with steel blind flange.
2. Temperature gauge (0ºC to 100ºC) tapped and threaded into blind flange.
3. Pressure gauge (0 to 15 psig).
4. Inlet valve to facilitate air pressure to pipe.
5. Ball valve to release pipe pressure at test completion.
6. Polyethylene reducers to be used to adapt test flange to size of pipe being tested.
7. Air compressor shall provide adequate air supply for testing.
8. Pressurizing equipment shall include a regulator set to avoid over-pressurizing and damaging otherwise acceptable pipe.

C. Provide verification and results of gauge calibration performed less than 60 days prior to test.

3.03 TESTING

A. OWNER shall be given 24-hr notification prior to test.

B. Appropriate safety precautions must be in-place.

C. Pipe Test Segments:
1. Butt-fusion welded pipe segments.
2. Maximum test section length: 2,000 lineal feet.
3. Provide blind flange with test apparatus on one end and fused cap or blind flange assembly on opposite end.

D. Environment:
1. Test segment shall be buried before test.
2. Perform test during period when temperature fluctuations are at a minimum.

E. Test:
1. Apply test pressure of 10 psig to test segment.
2. Observe test pressure for 1-hour.
3. Correct pressure drop for temperature change per the attached form and equations.
4. Pressure drop over 1-hour period should not exceed 1%.
5. If retest is necessary, allow pressure to relax to 0 psig for a minimum of 8 hours prior to retest.

F. Test Failure.
1. If retest is necessary, allow pressure to relax to 0 psig prior to retest.
2. Perform the following when pipe segment fails test.
   a. Check entire length of pipe and fusion welds for cracks, pinholes, perforations or other possible leakage points.
   b. Check blocked risers and capped end for leakage and check gaskets at blind flanges.
   c. Verify leaks by applying soap water solution and observe for bubble formation.
3. Repair pipe and fused joint leaks by cutting out leak area and re-welding suitable replacement segments.
4. After leaks are repaired, retest.

G. Remove temporary sectionalizing device after tests have been completed.

3.04 TEST REPORTING

A. Each test shall be reported in writing to OWNER with 24 hours of completing each test. Provide report on Attachment 1 included with this section.

B. Include following information if failure occurs:
   1. Location of failure segment.
   2. Nature of leaks.
   3. Details of repairs performed.
   4. Retest results.

END OF SECTION

ATTACHMENT 1 TO SECTION 01669
FORM
PE PIPE PRESSURE TEST REPORT

Project Name/No.: _____ Date: _____

Contractor: _____ Time: _____

Person Performing Tests: _____

Description/Location of Test Segment: (Pipe Diameter, Length, and SDRs).

_____

_____

Location of Pipe Test Segment

Station From: Station To:

T_i = Initial Temperature = _____ °C
P_i = Initial test pressure = _____ psig
P_c = Initial Pressure in psig corrected for temperature (T_t) at time "t"
t = Time in minutes from initiation of test
T_t = Temperature in °C at time 't'
P_t = Test pressure in psig at time 't'

$$P_c = \frac{(P_i + 14.7)(T_t + 273)}{(T_i + 273)} - 14.7$$

$$\text{Percent Pressure Drop} = \frac{P_c - P_t}{P_c} \times 100$$

Time (min)	T_t Temp Reading (°C)	P_t Gauge Pressure (psig)	P_c Corrected Pressure (psig)	Pressure Drop (%)
0				
20				
30				
40				
50				
60				

Pass/Fail: _____ Retest (yes/no) _____

Description/Nature of leaks repair of retest segment:

_____

_____

_____

SECTION 01700
PROJECT CLOSE-OUT

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Closeout procedures.

B. Final cleaning.

C. Protecting installed construction.

D. Project record documents.

1.2 CLOSEOUT PROCEDURES

A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for ENGINEER's review.

B. Provide submittals to ENGINEER required by authorities having jurisdiction.

C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.3 FINAL CLEANING

A. Execute final cleaning prior to final project assessment.

B. Clean debris from drainage systems.

C. Clean site; sweep paved areas, rake clean surfaces damaged under this contract.

D. Remove waste and surplus materials, rubbish, and construction facilities from site.

E. Remove temporary sanitary facilities.

1.4 PROTECTING INSTALLED CONSTRUCTION

A. Protect installed Work and provide special protection where specified in individual specification sections or noted on Drawings.

B. Provide temporary and removable protection for installed products where specified in individual sections or noted on Drawings. Control activity in immediate work area to prevent damage.

C. Prohibit traffic from landscaped areas.

1.5 PROJECT RECORD DOCUMENTS

A. Maintain one set of the following record documents; record actual revisions to the Work:

1. Drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Reviewed Shop Drawings, Product Data, and Samples.
6. Manufacturer's instruction for assembly, installation, and adjusting.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress, not less than daily.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:

1. Manufacturer's name and product model and number.
2. Product substitutions or alternates utilized.
3. Changes made by Addenda and modifications.
4. Record Drawings: Legibly mark each item to record actual construction.

F. Submit documents to ENGINEER with claim for final Application for Payment.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01745
WARRANTY PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Warranty requirements

B. Correction of defective work during warranty period

C. Definitions

D. Types of warranties

E. Disclaimers and limitation

F. OWNERs Recourse

1.2 WARRANTY REQUIREMENTS

A. The CONTRACTOR warrants and guarantees to the OWNER that all materials and equipment incorporated in the Project will be new unless otherwise specified, and that all Work will be of good quality, free from faults and defects, and in conformance with the Contract Documents. All Work not so conforming to these standards, including substitutions not properly approved and authorized, may be considered defective by the OWNER. If required by the OWNER, the CONTRACTOR shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

B. As a condition precedent to final acceptance of the Work by the OWNER and prior to submission of the request for final payment by the CONTRACTOR, the CONTRACTOR shall guarantee or warrant in writing to the OWNER that he will repair or replace any and all Work, together with any other Work which may be replaced, damaged, or marred in so doing, that may prove defective in materials or workmanship or fail to conform to the contract provisions and requirements, all without any additional expense to the OWNER, ordinary wear and tear and unusual abuse or neglect excepted. All guarantees or warranties shall be satisfactory in form and substance to the OWNER, and unless otherwise stipulated in the Contract Documents, shall be for a period of one (1) year, dated from the date of final acceptance of the Project by the OWNER.

C. Additional requirements for warranties may be included in individual specification sections. Neither the final certificate of payment nor any provision in the Contract nor partial or entire use of occupancy by the OWNER shall constitute an acceptance of work not done in accordance with the Contract or relieve the CONTRACTOR of liability in respect to any warranties or responsibilities for faulty materials and workmanship.

1.3 CORRECTION OF DEFECTIVE WORK DURING WARRANTY PERIOD

A. The CONTRACTOR hereby agrees to make, at his own expense, all repairs or replacements necessitated by defects in materials or workmanship provided under the terms of this Contract, and pay for any damage to other works resulting from such defects, that become evident within one year after the date of final acceptance of the work or within one year after the date of substantial completion established by the ENGINEER for specified items of equipment, or within such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents. Unremedied defects identified for correction during the warranty period but remaining after its expiration shall be considered as part of the obligations of the warranty.

B. Defects in material, workmanship, or equipment that are remedied as a result of obligations of the warranty shall subject the remedied portion of the work to an extended warranty period of one year after the defect has been remedied.

C. The CONTRACTOR further assumes responsibility for a similar guarantee for all work and materials provided by subcontractors or manufacturers of packaged equipment components. The effective date for the start of the guarantee or warranty period for equipment qualifying is the date of Substantial Completion as defined in the General Conditions.

D. The CONTRACTOR also agrees to hold the OWNER and the ENGINEER harmless from liability of any kind arising from damage due to said defects. The CONTRACTOR shall make all repairs and replacements promptly upon receipt of written order for same from the OWNER. If the CONTRACTOR fails to make the repairs and replacements promptly or in an emergency where delay would cause serious risk, loss, or damage, the OWNER may have the defective work corrected or the rejected work removed and replaced, and the CONTRACTOR and his Surety shall be liable for the cost thereof.

1.4 DEFINITIONS

A. “Guarantee” and “Warranty” are used interchangeably and are understood to mean the same thing.

B. “Standard product warranties” are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the OWNER.

C. “Special warranties” are written warranties required by or incorporated in the Contract Documents either to extend time limits provided by standard warranties or to provide greater rights for the OWNER.

1.5 TYPES

A. Categories of warranties required for the work and specified in these Contract Documents include:

1. Specified product warranty issued by a manufacturer or fabricator for compliance with requirements in the Contract Documents.

2. Coincidental product warranty, available on products incorporated into the work by virtue of manufacturer’s publication warranty without regard for application requirements (non-specified warranty).

3. Refer to individual sections of Specifications for requirements of specified warranties.

1.6 DISCLAIMERS AND LIMITATIONS

A. Manufacturer’s disclaimers and limitations on product warranties do not relieve the CONTRACTOR of the warranty on the work that incorporates the product.

1.7 OWNER’S RECOURSE

A. Warranties and warranty periods do not deprive the OWNER of actions, rights, and remedies otherwise available for the CONTRACTOR’s failure to fulfill requirements of the Contract Documents. The OWNER reserves the right to reject coincidental product warranties considered to be conflicting with or detracting from the requirements of the Contract Documents.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION

SECTION 01750
SAFETY AND HEALTH

PART 1 GENERAL

1.01 DESCRIPTION

A. This Section specifies procedures for complying with applicable laws and regulations related to worker safety and health. It is not the responsibility of the Owner to develop and/or manage the safety and health programs of CONTRACTORs, or in any way assume the responsibility for the safety and health of their employees. It is required that all CONTRACTORs adhere to applicable federal, state and local safety and health standards.

B. Construction of this project is being performed on, and adjacent to buried wastes and refuse. As these buried materials decompose anaerobically, they generate landfill gas (LFG), which normally consists of carbon dioxide (CO2), methane (CH4), occasionally hydrogen sulfide (H2S) and other gases, dependent on the composition of the buried materials. Hazardous conditions due to landfill gases include, but are not limited to, fires, explosions, oxygen deficiency, and toxic environments. Leachate (i.e., contaminated liquid) and contaminated soil that has come in contact with refuse and contains waste degradation products may be present in excavations.

C. Landfill gases have the potential to create hazardous conditions if not controlled or recognized. Some of the hazards include:

1. Fires that may start spontaneously from exposed and/or decomposing refuse
2. Fires and explosions that may occur from the presence of methane gas
3. Landfill gases and other trace gases that may have toxic effects or create an oxygen deficiency in pipelines, vents, wells, trenches, vaults, conduits, and structures
4. Hydrogen sulfide, a highly toxic and flammable gas, which may be present
5. Exposure to leachate is potentially hazardous to human health because of toxic and/or carcinogenic compounds that may be present in the leachate

D. Groundwater encountered on the site may contain volatile organic constituents at concentrations that may be hazardous to human health.

1.02 RELATED SECTIONS:

A. Section 15300 – Condensate Pumps and Controls

B. Section 15100 – Landfill Gas Wells

1.03 REFERENCES

A. Landfill Gas Field Practices and Procedures as prepared by the Solid Waste Association of North America (SWANA) National Landfill Gas Committee. The most current version of this document is dated March 1992. Copies may be obtained by writing SWANA, P.O. Box 7219, Silver Springs, Maryland 20910, telephone (301) 585-2898.

B. NIOSH/OSHA/USCG/EPA: Occupational Safety and Health Guidance Publication 85-115: Manual for Hazardous Waste Site Activities, October 1985

C. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

D. Federal Water Pollution Control Act (FWPCA)

E. Toxic Substance Control Act (TSCA)

F. Resource Conservation and Recovery Act (RCRA)

G. Ecology Eastern Regional Office Regulations for Clean Air

H. In addition, the CONTRACTOR shall comply with, and implement, current applicable local, state and federal Health and Safety Standards on the project site, including, but not limited to, the following:

Reference	Title
29 CFR 1910	OSHA General Health and Safety Standards
29 CFR 1926	OSHA Construction Safety and Health Standards
Chapter 173-303 WAC	Dangerous Waste Regulations
Chapter 173-340 WAC	Model Toxics Control Act
Chapter 173-351 WAC	Criteria for Municipal Solid Waste Landfills
Chapter 296-24 WAC	General Safety and Health Standards
Chapter 296-27 WAC	Recordkeeping and Reporting
Chapter 296-36 WAC	Safety Standards-Compressed Air Work
Chapter 296-44 WAC	Safety Standards for Electrical Construction Work
Chapter 296-45 WAC	Electrical Workers Safety Rules
Chapter 296-62 WAC	General Occupational Health Standards
Chapter 296-155 WAC	Safety Standards for Construction Work
Chapter 296-800 WAC	Safety and Health Core Rules
Chapter 296-843 WAC	Hazardous Waste Operations
PSCAA Regulation 3, Article 4	Asbestos Control Standards
Engineering Design Report	Health and Safety Plan for Sudbury Road Landfill Remedial Action

1.04 DEFINITIONS

A. HAZARDOUS SUBSTANCE:

1. Any dangerous or extremely hazardous waste as defined in RCW 70.105.010 (5) and (6), or any dangerous or extremely dangerous waste as designated by rule under chapter 70.105 RCW; any hazardous substance as defined in RCW 70.105.010(14) or any hazardous substance as defined by rule under chapter 70.105 RCW; any substance that is a hazardous substance under section 101(14) of the federal cleanup law, 42 U.S.C., Sec. 9601(14); petroleum or petroleum products; and any substance or cate-gory of substances, including solid waste decomposition products, determined to present a threat to human health or the environment if released into the environment.

2. A solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may:

   a. Cause or significantly contribute to an increase in mortality or increase in serious, irreversible, or incapacitating reversible illness; or

   b. Pose substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed or otherwise managed.

3. Asbestos material.

B. CONTAMINATED SUBSTANCE:

1. Any material containing a hazardous substance.

1.05 SUBMITTALS

A. Submit a Health and Safety Plan in accordance with Chapter 296-843 WAC – Hazardous Waste Operations prior to commencing Work at the site or within ten (10) days following the Notice to Proceed, whichever comes first.

B. The CONTRACTOR'S written site Health and Safety Plan shall include, but not be limited to:

1. A list of names of key personnel and alternates responsible for site safety and health, including the Site Safety and Health Officer
2. A list of chemical and physical hazards (such as methane exposure), allowable OSHA exposure levels, threshold limit values, other regulatory exposure levels, and the emergency response should an exposure or injury occur
3. Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of monitoring and sampling equipment to be used
4. Personal protective equipment to be used by employees for each of the site tasks and operations and criteria for upgrading level of worker protection from Level D to Levels C and B
5. A list of safety and monitoring equipment at the job site and locations where equipment is stored or maintained
6. An emergency evacuation plan for immediate removal to a hospital or a doctor's care any person who may be injured on the job site including routes to medical treatment, and emergency telephone numbers including hospital, ambulance, fire, sheriff/police, poison control, the Owner’s Project Representative, and others as deemed necessary
7. Employee training assignments
8. Medical surveillance requirements
9. Decontamination procedures
10. A spill containment program for handling contaminated liquids
11. Copies of individual 40-hour Hazardous Waste Operations and Emergency Response training (HAZWOP) and 8-hour annual HAZWOP refresher certificates for every employee that is to work in contact with landfill material or be exposed to LFG
12. Documentation of participation in ongoing respiratory protection program, as per Part E of WAC 296-G2, including results of fit-testing conducted within the past 6 months

1.06 QUALITY ASSURANCE

A. CONTRACTOR shall comply with the Washington Industrial Safety and Health Act of 1973, Chapter 49.17 Revised Code of Washington (RCW).

B. Comply with the provisions of the Federal Occupational Safety and Health Act, as amended.

C. Ensure that subcontractor receive a copy of this Specification section, as well as ensure compliance with the Health and Safety Plan by its employees and subcontractors, at all tiers.

D. Site Safety and Health Officer

1. The CONTRACTOR shall provide a person designated as the Site Safety and Health Officer, who is thoroughly trained in rescue procedures, the use of safety equipment and gas detectors, and the potential hazards that may be present at municipal solid waste landfills. The person must be present at all times while Work is being performed and implement the written site safety and health plan and conduct testing.
2. The Site Safety and Health Officer shall have taken a course satisfying the training requirements of 29 CFR 1910.120 for Hazardous Waste Site Operations. A copy of the

Site Safety and Health Officer's 40 hour OSHA Hazmat Certificate shall be submitted to the Engineer, within 10 days after receipt of Notice to Proceed.

3. The Site Safety and Health Officer is responsible for determining the extent to which any safety equipment must be utilized, depending on conditions encountered at the site.

E. Coordinate with the Construction Manager for approval of disconnection/ reconnection of utilities.

F. Coordinate with the Construction Manager in regard to the shutdown and safety tagout/lockout of pressurized systems, electrical, mechanical, pneumatic, hydraulic, etc. systems, and other equipment and utilities.

G. Maintain tidiness in work areas, in accordance with Chapter 296-155-020 WAC.

H. Ensure that ergonomic principles and practices are followed during project tasks.

I. Provide, on site, a qualified health and safety supervisor, with the responsibility and full authority to coordinate, implement and enforce the CONTRACTOR's Health and Safety Plan for the duration of this Contract. The name and telephone number of the safety supervisor shall be listed in the Health and Safety Plan.

PART 2 PRODUCTS – NOT USED.

PART 3 EXECUTION

3.01 GENERAL

A. The CONTRACTOR shall comply with health and safety rules, regulations, ordinances promulgated by the Local, State, and Federal Government, the various construction permits, and other sections of the Contract Documents.

B. In addition to complying with health and safety rules, regulations, and ordinances promulgated by the Local, State, and Federal Government, the various construction permits, and other sections of the Contract Documents, the CONTRACTOR shall inform its employees and subcontractors and their employees of the potential danger in working on and near solid waste landfills.

C. The CONTRACTOR and all subcontractors shall be familiar with the prepared Health and Safety Plan.

D. CONTRACTOR shall perform whatever Work is necessary for safety and be solely and completely responsible for conditions of the job site, including safety of all persons (including employees of the City, Engineer, any site visitors, and CONTRACTOR) and property during the Contract period. This requirement applies continuously and is not limited to normal working hours.

E. The CONTRACTOR's Site Safety and Health Officer shall be delegated the authority to order any person or worker on the landfill site to follow the safety rules. Failure to observe these rules is sufficient cause for removal of the person or worker(s) from the project.

F. The Engineer's review of the CONTRACTOR's performance is not intended to include a review or approval of the adequacy of the CONTRACTOR's safety supervisor, the safety program or any safety measures taken in, on, or near the construction site.

G. The CONTRACTOR shall provide for the protection of employees and all others from fire, explosion, toxic gas exposure, or asphyxiation caused by any gases encountered during construction and landfill leachate emitted from, and present within, the existing solid waste landfill.

H. The CONTRACTOR shall provide at all times proper facilities for safe access to the Work by authorized government officials.

I. Accidents causing death, injures, or damage must be reported immediately to the Construction Manager by telephone or messenger. In addition, promptly report in writing to the Construction Manager all accidents whatsoever arising out of, or in connection with, the performance of the Work whether on, or adjacent to, the site, giving full details and statements of witnesses.

J. If a claim is made by anyone against the CONTRACTOR or any subCONTRACTOR on account of any accident, the CONTRACTOR shall promptly report the facts in writing within 24 hours after occurrence, to the Construction Manager, giving full details of the claim.

3.02 CONTRACTOR SAFETY EQUIPMENT

A. CONTRACTOR shall maintain at the job site, safety equipment applicable to the Work as prescribed by the governing safety authorities in quantities that are adequate for the construction worker, as well as the Construction Manager and all articles necessary for giving first aid to the injured.

B. CONTRACTOR shall train all personnel in use of the appropriate safety equipment that would be utilized during the course of their Work. It is the responsibility of the Site Safety and Health Officer, or person(s) in authority, to ascertain that all safety equipment is being used when appropriate.

3.03 SAFETY AND HEALTH COMPLIANCE

A. The Walla Walla County Health Department or Washington State Department of Ecology may audit the CONTRACTOR's Health and Safety Plan. The Owner reserves the right to stop that portion of the CONTRACTOR's work that is determined to be a serious health and safety violation. On-going work that is considered a safety or health risk by the Site Safety and Health Officer or Engineer shall be corrected immediately.

B. Ensure that necessary air monitoring, ventilation equipment, protective clothing, and other supplies and equipment as specified are available to implement the Accident Prevention Plan.

C. Notify the Engineer immediately of accidents resulting in an immediate or probable fatality to one or more employees or the public, or which result in hospitalization of two or more employees.

D. Complete the Monthly CONTRACTOR Injury Summary Report.

END OF SECTION 01750

SECTION 02110
SITE CLEARING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Protection of existing features.

B. Removing and disposing of Municipal Solid Waste.

C. Stripping of top layer of vegetation.

D. Clean-up.

1.2 REFERENCES

Not used.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.1 PROTECTION OF EXISTING FEATURES

A. Protect all existing piping and appurtenances not required to be removed and relocated.

B. Protect benchmarks and survey monuments from damage and displacement.

C. Protect all existing drainageways from damage.

D. Protect existing fence and gates

E. Protect all existing monitoring wells. The existing monitoring wells are shown in the construction plans and are marked in the field with bollards. The CONTRACTOR shall be solely responsible for the protection of existing site monitoring wells during construction. It is the responsibility of the CONTRACTOR to inspect and document the condition of the monitoring wells before and after the Project. Pictures and monitoring well condition documentation shall be provided to the City within 1 day prior to site mobilization, and within 15 days after project demobilization. In the event of any damage due to construction activities to a monitoring well, including but not limited to the well casings, seals, vaults, well apparatus, or sampling equipment, the CONTRACTOR shall promptly notify the City of the damage. The CONTRACTOR shall pay the City $25,000 for any damages to a well caused by their construction activities. The City will have the option to withhold the $25,000 damage fee from monthly progress payments or the project retainage. It will be the City's obligation to decommission, design, and repair or install a new monitoring well.

3.2 REMOVAL AND DISPOSAL OF MUNICPAL SOLID WASTE

A. Remove debris, garbage and other objectionable materials identified by the OWNER or ENGINEER. Materials to be disposed at adjacent landfill site provided by OWNER. Burning of any materials is prohibited.

3.3 CLEARING AND GRUBBING

A. Only areas designated on the construction drawings or within the footprint of items to be constructed shall be cleared and grubbed except Areas 2 and 5.

B. Remove all vegetation and roots to a depth of 4 inches. Vegetation material smaller than 3 inches in diameter to be disposed at OWNER provided compost collection site shown on the plans. Vegetation larger than 3 inches in diameter shall be disposed of in the active Area 7 cell at the Sudbury Landfill. Contractor will be required to pay landfill fees for any on-site garbage disposed of at the Sudbury landfill.

C. Do not grub Areas 2 and 5.

3.4 CLEANUP

A. Upon completion of the site work and project, clean the entire work area. Remove all hazardous materials, paints and residues or debris of any type from the site and dispose at a site in compliance with Federal, State, and Local Regulations.

END OF SECTION

SECTION 02205
SOIL MATERIALS AND AGGREGATES FOR STRUCTURAL FILL, GENERAL FILL, DRAINAGE, PIPE BEDDING, AND TRENCH BACKFILL

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Soil Materials

B. Structural Fill, Fill Materials and Soil Cover

C. Aggregates

D. Pipe Bedding

E. Trench Backfill Materials

PART 2 - REFERENCES

2.1 ASTM D 698 - Test Method for Moisture-Density Relations of Soils and Soil Aggregate Mixtures Using 5.5-lb (2.48 Kg) Rammer and 12 inch (305 mm) Drop.

A. ASTM D 2487 - Classification of Soils for Engineering Purposes.

B. ASTM D 6938 – Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

C. ASTM D 2167 – Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.

D. AASHTO M147 - American Association of State Highway and Transportation Officials – Materials for Aggregate and Soil Aggregate.

E. ASTM C 136 – Method for Sieve Analysis of Fine and Coarse Aggregate.

F. ASTM D 4318 – Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils

G. Washington State Department of Transportation (WSDOT) Standard Specifications for Road, Bridge and Municipal Construction, 2016 edition with amendments to date.

H. Final Geotechnical Data Report, Area 6 Closure Project, Sudbury Road Landfill, Walla Walla, Washington, prepared for J-U-B Engineers by HWA GeoSciences Inc on October 23, 2009.

2.2 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Samples: Submit, in airtight containers, 45 lb. (20 kg) sample of each type of soil trench backfill and bedding materials, crushed aggregates, and structural fill to testing laboratory. See paragraph 2.6.B this section for testing requiements. Submit gradations and mositure densitiy curve information to Engineer.

C. Materials Source: Submit name and WSDOT Pit Identifications Number of imported materials and crushed aggregate suppliers. Provide materials from same source throughout the work. Change of source requires Engineer's approval.

PART 3 - PRODUCTS

3.1 SOIL MATERIALS

A. Topsoil: The top 8 inches of material of the existing ground surface within the project site. Topsoil shall not be used for structural fill and embankment construction of any type where Subsoil Type S1 And S2 are called for.

B. Subsoil Type S1: On-site borrow materials from City stockpile, free of wood, vegetation, sticks, and angular stones. Maximum stone size ½ inch consisting of silt loam.

C. Subsoil Type S2: Excavated and/or imported materials, graded and smooth, free of wood, vegetation, sticks, and stones greater than 2 inches.

3.2 STRUCTURAL FILL AND BACKFILL MATERIALS and AREAS 2/5 SOIL COVER

A. Structural Fill: Crushed Aggregate Base Course Conforming to Section 9-03.9(3) of the WSDOT Standard Specificatons.

B. Area 2 and Area 5 Soil Cover: Unless otherwise specified, Soil Cover shall be borrowed from the designated on-site soil stockpile and consiste of silt loam conforming to the requirements of Subsoil Type S1 and Table A in Section 02211.

C. All other general fill: Backfill shall conform to the requirements of Subsoil Type S2.

3.3 AGGREGATES

A. Top Course: Conforming to Section 9-03.9(3) of the WSDOT Standard Specifications.

B. Base Course: Conforming to Section 9-03.9(3) of the WSDOT Standard Specifications.

C. Drainage Aggregate Conforming to gradation of Section 9-03.12(5) of the WSDOT Standard Specifications. The drainage aggregate shall be round river rock. Crushed processed rock will not be accepted.

D. Pea Gravel: Clean rounded rock conforming to the gradation of Section 9-03.1(4)C AASHTO Grading No. 8 of the WSDOT Standard Specifications.

3.4 PIPE BEDDING, PIPE ZONE BACKFILL AND TRENCHLINE BACKFILL

A. Pipe Zone Bedding: Conforming to Section 7-09.3(9) of the WSDOT Standard Specifications. Onsite soils do not meet this requirement.

B. Trenchline Backfill conforming to the requirements of Subsoil Type S1.

3.5 QUARRY SPALLS

A. Quarry Spalls shall meet the requirement of Section 9-13 of the WSDOT Standard Specifications.

3.6 SOURCE QUALITY CONTROL

A. Samping and testing will be performedby a AASHTO or WABO materials testing laboratory licensed in the State of Washington. All sampling and testing shall be at the expense of the Contractor.

B. Tests and analysis of soil material will be performed in accordance with ASTM D698, ASTM D6938, ASTM C136, and ASTM D4318.

C. If tests indicate materials do not meet specified requirements, change material and retest at no cost to Contracting Agency.

PART 4 - EXECUTION

4.1 ON-SITE BORROW AREA

A. Excavaton for borrow material shall not exceed elevations and limits shown on Borrow Area Grading Plan.

B. Coordinate excavation and loading of borrow material with OWNER.

4.2 STOCKPILING

A. Stockpile soil materials on site.

B. Stockpile in sufficient quantities to meet project schedule and requirements.

C. Separate differing materials with dividers or stockpile apart to prevent mixing.

D. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.

4.3 STOCKPILE CLEANUP

A. Remove stockpile and leave area in a clean and neat condition. Grade stockpile site surface to prevent free standing surface water.

END OF SECTION

SECTION 02211
SITE GRADING, EARTHWORK, AREA 2 AND AREA 5 COVER

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Cutting, grading, filling, rough contouring, and compacting the site

B. Area 2 and Area 5 Soil Cover

C. Area 2 and Area 5 Final Cover

D. Structural excavation, fill, and backfill

1.2 REFERENCES

A. ASTM C 136 - Method For Sieve Analysis of Fine and Coarse Aggregates.

B. ASTM D 698 - Test Method for Moisture-Density Relations of Soils and Soil Aggregate Mixtures Using 5.5-lb (2.48 Kg) Rammer and 12 inch (305 mm) Drop.

C. ASTM D 6938 – Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

D. Washington State Department of Transportation (WSDOT) Standard Specifications for Road, Bridge and Municipal Construction, 2016 edition with amendments to date.

E. Final Geotechnical Geotechnical Data Report, Area 6 Closure Project, Sudbury Road Landfill, Walla Walla, Washington, prepared for J-U-B ENGINEERs by HWA GeoSciences Inc. on October 23, 2009.

F. Alternative Final Cover Design: Area 6 Closure, Sudbury Road Landfill, Walla Walla, Washington; prepared for J-U-B ENGINEERs by HWA GeoSciences Inc. On January 27, 2010.

G. Materials Laboratory Report: Sudbury Remedial Investigation, Sudbury Road Landfill, Walla Walla, Washington, prepared for Schwyn Environmental Services by HWA GeoSciences Inc. on June 15, 2012.

1.3 PROJECT RECORD DOCUMENTS

A. Accurately record actual locations of utilities remaining by horizontal dimensions, elevations or inverts, and slope gradients.

B. Accurately record all field quality control (CQC) testing results and submit to CQAO.

1.4 CONTRACTOR OR SUBCONTRACTOR QUALIFICATIONS

A. Contractor or Subcontractor have successfully completed within the past five years 3 similar type projects which included a minimum of 100,000 cubic yards of excavation/placement of soil materials meeting specific compaction criteria.

1.5 SUBMITTALS

A. Submit all materials requiring compaction testing to materials testing laboratory. Submit reports and test results from compaction testing by the independent materials testing laboratory to the ENGINEER. Indicate observations, results, and compliance or noncompliance with Contract Documents.

B. Area 2 and Area 5 Soil Cover Construction Plan: Submit written plan on means and methods to constuct Soil Cover. Plan shall include:

1. Proposed source material testing results including gradation, moisture/density, and compaction per Table A of this section;
2. Proposed equipment list;
3. Proposed means of transporting, placing and compacting the soil materials;
4. Proposed method to achieve optimum moisture of Soil Cover;
5. Proposed sequencing plan for Areas 2/5 rough grading – excavate to subgrade, temporary stockpile locations for excavated material, re-placing excavated material to construct first four feet of soil cover, completion of Area 5 rough grade prior to Area 2 rough grade, utilizing all excavated material from Area 5 at Area 2 prior to import of any material from borrow site.
6. Revise plan as required after completing test section in paragaraph 3.4.B.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Soils, Fill Materials and Aggregates: As specified in Section 02205.

B. Compost: Purchased by Contractor from OWNER at site location shown on the Plans.

C. Biosolids: OWNER provided at site location shown on the Plans.

PART 3 - EXECUTION

3.1 EXCAVATION CLASSIFICATION

A. All excavation shall be considered as unclassified.

3.2 PREPARATION

A. Identify required lines, levels, contours, and datum.

B. Verify location of potentially conflicting utilities.

C. CONTRACTOR is responsible to protect all construction stakes and benchmarks. If original survey stakes or markers are destroyed, they will be replaced at the CONTRACTOR's expense.

D. Stake and flag locations of known utilities.

E. Protect above and below grade utilities that remain.

F. Protect plant life, lawns, and other features remaining as a portion of final landscaping.

G. Protect benchmarks, survey control point, monotoring wells, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

H. No grading shall occur within 10' of any existing monitoring well. See Section 2110 for special requirements regarding existing monitoring wells.

3.3 TOLERANCES

A. Top Surface of Subgrade Grades: Minus 0.05 foot to plus 0.05 foot from required elevation.

B. Top Surface of Finish Grades: Minus 0.10 foot to plus zero foot from required elevation.

3.4 AREA 2 AND AREA 5 SOIL COVER AND RUNOFF CONTROL BERM

A. No grading shall occur within 10' of any existing monitoring well. See Section 2110 for special requirements regarding existing monitoring wells.

B. Do not clear and grub Areas 2/5.

C. Use available on site S1 soils for Area 2 and Area 5 Soil Cover.

D. Test Section: Construct 2,500 square yards soil cover test section to full depth at location designated by ENGINEER. Test section shall verify means and methods submitted in written plan meet densities and moisture tolerances.

E. Do not proceed with general construction of Area 2 and Area 5 Soil Cover and Runoff Control Berm until test section has been successfully completed and approved by ENGINEER.

F. Excavate to subgrade for Areas 2/5 to countours and elevations shown. Provide conventional construction blue top staking on a 100' x 100' grid pattern to allow ENGINEER to visually verify that subgrade has been reached prior to placement of any fill.

G. Fill areas to contours and elevations shown to develop first four feet of soil cover (rough grade). Provide conventional construction blue top staking on a 100' x 100' grid pattern to allow ENGINEER to visually verify that subgrade has been reached prior to placement of any fill. Place soil in lifts not to exceed 24 inches in thickness. CONTRACTOR shall not develop the Area 2 Soil Cover until the Area 5 Soil Cover rough grading is complete – all excess excavated material from Area 5 must be used at Area 2 and exhausted prior to import of fill to Area 2. CONTRACTOR may phase the cut/fill in various sub-areas to minimize haul distances but may not stockpile excavated material on any portion of the "rough grade" (first four feet of soil cover) that has already been visually verified.

H. Make grade changes gradual from a minimum slope of 3% to a maximum slope of 33%. Blend slope into level area. All finish grades shall drain towards perimeter drains.

I. Complete placement of soil cover to its final thickness as shown in the drawings on a section by section basis each day. Place soil in lifts no thicker than 24 inches and compact to the allowable in place density range of 82% - 88% of its maximum standard density (ASTM D 698) within a moisture range optimum to minus 4%. Scarify/till and recompact areas where densnities exceed 90%. No rubber tire marks allowed on finished soil cover surface.

J. Changes in approved Area 2 and Area 5 Soil Cover Constuction Plan shall require verification prior to full implementation.

K. Upon completion of rough grading (first four feet of soil cover), the gas system shall be constructed. Following construction of the gas system, CONTRACTR shall repair soil cover in the areas of disturbance for gas well development as necessary and conduct compaction testing to verify that the soil cover meets specifications. Once the ENGINEER is satisfied that the rough grading (first four feet of soil cover) has bee restored, then the construction of the final cover (last 12 inches of soil cover) may commence.

L. Soil material for Final Cover (final 12 inches of soil cover) shall be imported from designated Borrow Area. Note that the OWNERwill intermittently spread layers of biosolids on the Borrow Area to be incorporated into the Area 2 and Area 5 Final Cover (final 12 inches of soil cover). The quantity of biosolids to be hauled and spread by the OWNER(at the Borrow Area) is approximately 400 cubic yards. There will be no separate measurement/payment for hauling of biosolids.OWNER

3.5 AREA 2 AND AREA 5 COMPOST LAYER AND MULCH, TACKIFIER AND DRYLAND SEED APPLICATION

A. Construct compost layer using compost purchased from OWNER after completion of constructing soil cover and runoff control berm.

B. Installation of mulch, tackifier, and dryland seed shall be limited to the following time period: September 15 to November 15

C. Load, haul and place compost to a depth of one inch over Area 2 and Area 5 Soil Cover. Compost distributing equipment shall be of type which can evenly apply compost to the prescribed thickness. OWNERwill load purchased compost into CONTRACTOR'S hauling equipment with a front-end loader at the existing Compost Facility.

D. Within two calendar days of placement of compost, track into place with low ground pressure wide track equpment. Throughly track-walk up and down slope in direction perpendicuar to the slope. No cross-slope track walking wil be permitted.

E. Apply seed, fertilizer, mulch and takifier in accordance with Section 02800 witnin one (1) week of constructing compost layer. Reduce the fertilizer requirements as shown in Section 02800 to zero pounds of Nitrogen per acre for the Area 2 and Area 5 cover only.

3.6 NORTH DITCH

A. Remove and dispose of existing Pyramat erosion mat.

B. Clear and grub surface areas where ditch is to be constructed.

C. Scarify and compact all surfaces prior to placement of any embankment. Compact to 95% of maximum density as determined by ASTM D 698.

D. Place embankment in lifts not to exceed 8 inches unless approved by ENGINEER. Compact to 95% of maximum density as determined by ASTM D 698.

E. Construct percolation sump on west end as shown in plans.

F. Construct HDPE Second Liner as shown in plans. Note requirement for one long continuous roll with no seams.

G. Backfill HDPE Secondary Liner with compacted gravel backfill as shown in plans.

H. Construct concrete channel and channel inlets as shown in the plans.

I. Constructe HDPE surface strips as shown in plans. Bolt to concrete channel on one end and weld to HDPE Secondary Liner on the other end.

J. Construct strip of erosion control mat as shown in plans.

3.7 COMPOST ACCESS ROAD

A. Provide signage and traffic control to close the Compost Access Road – limit closure to 48 hours.

B. Clear and grub surface areas where ditch is to be constructed.

C. Scarify and compact all surfaces prior to placement of any embankment. Compact to 95% of maximum density as determined by ASTM D 698.

D. Place embankment in lifts not to exceed 8 inches unless approved by ENGINEER. Compact to 95% of maximum density as determined by ASTM D 698.

E. Construct culvert, headwall, and storm piping to connect to existing Compost Pad.

F. Place compacted rock subgrade and HMA. Coordinate HMA with patch repair for gas pipe crossing.

3.8 HAUL ROAD

A. Provide signage and traffic control to close the Compost Access Road – limit closure to 48 hours.

B. Clear and grub surface areas where necessary.

C. Construct a level 18-foot wide roadway and place crushed concrete rubble as shown in the plans. Note some areas require a 6-inch depth while others require a 12-inch depth.

D. During construction, the OWNER will also utilize this haul road for daily landfill operations.

E. During the course of construction, ENGINEER may direct CONTRACTOR to place supplemental lifts of crushed concrete aggregate as necessary to maintain the roadway.

3.9 FIELD QUALITY CONTROL AREA 2 AND AREA 5 SOIL COVER

A. See Table A of this section for testing schedule.

B. Sampling and testing will be performed by an AASHTO or WABO materials testing laboratory licensed in the State of Washington. All sampling and testing shall be at the expense of the CONTRACTOR.

C. Submit reports and test results to ENGINEER by the independent testing laboratory in duplicate, indicating observations and results of tests and indicating compliance or noncompliance with Contract Documents.

D. Testing laboratory to report immediately all failing tests to ENGINEER and CONTRACTOR. No payment will be made for those bid items requiring testing until results have been accepted by the ENGINEER. Areas of repeated testing failure may require removal and replacement of material at no cost to OWNER.

E. The frequency of testing may be increased by the ENGINEER when repeated failed tests have been recorded or if in the opinion of the ENGINEER compaction efforts by CONTRACTOR are not consistent. CONTRACTOR shall be responsible for all costs of added frequency for material testing.

1. When tests indicate Work does not meet specified requirements, remove Work, replace and retest at cost to CONTRACTOR.

2. Testing: In accordance with ASTM D698 and ASTM D6938.

3. Perform sampling and testing prior to construction to support compaction testing. Re-sample and test when onsite materials change and source of materials change.

3.10 FIELD QUALITY ASSURANCE AREA 2 AND AREA 5 SOIL COVER

A. CQAO will direct CONTRACTOR to make adjustments to finish grade necessary to achieve a total 5’ thick soil cover.

B. Contractor must provide survey staking for the ENGINEER to verify that the subgrade surface and rough grade surface levels have been reached.

3.11 FIELD QUALITY CONTROL ROADWAYS, STRUCTURES, AGGREGATE BASE AND SOIL COVER

A. Sampling and testing will be performed by an AASHTO or WABO materials testing laboratory licensed in the State of Washington. All sampling and testing shall be at the expense of the Contractor.

B. At the discretion of the OWNER, the OWNER and ENGINEER may have full access to the sample results from the Contractor’s Independent testing laboratory.

C. Submit reports and test results to ENGINEER by the independent testing laboratory in duplicate, indicating observations and results of tests and indicating compliance or noncompliance with Contract Documents.

D. Testing laboratory to report immediately all failing tests to ENGINEER and CONTRACTOR. No payment will be made for those bid items requiring testing until results have been accepted by the ENGINEER. Areas of repeated testing failure may require removal and replacement of material at no cost to OWNER.

E. The frequency of testing may be increased by the ENGINEER when repeated failed tests have been recorded or if in the opinion of the ENGINEER compaction efforts by CONTRACTOR are not consistent. CONTRACTOR shall be responsible for all costs of added frequency for material testing.

1. When tests indicate Work does not meet specified requirements, remove Work, replace and retest at cost to CONTRACTOR.

2. Testing: In accordance with ASTM D698 and ASTM D6938.

3. Perform sampling and testing prior to construction to support compaction testing. Re-sample and test when onsite materials change and source of materials change.

3.12 TESTING SCHEDULES

A. Compaction requirements for all areas other than Area 2 and Area 5 Soil Cover:

In no case less than 95 percent of maximum density at a moisture content within 3 percent of optimum as determined by ASTM D698.

Minimum Frequency of Compaction Tests:

1.	Roadways	2 test each on compacted sugrade areas prior to receiving embankment fill; 2 test per lift of compacted embankment; 2 tests of constructed subgrade on roadway; and 1 additional test on subgrade for cement concrete roadway crossing.
2.	Structure and Structural Backfill:	1 test on underlying surface of each structure; 1 at midpoint of backfill of each structure; 1 test at finished surface grade of each structure.
3.	Placed Crushed Aggregate Bases:	A minimum of 2 tests for each area or per 1,000 S.F. whichever is less.

B. Area 2 and Area 5 Soil Cover compaction: Minimum of 82%, Maximum of 88% of maximum density at a mositure content of optimum to minus 4%. See Table A this Section.

C. Perform test at start of work and when materials or procedures change.

Table A
Area 2 and Area 5 Soil Cover Quality Control

Layer	Property	Procedure	Frequency	Requirement
Soil Cover	Subgrade and Rough Grade	Visual VisualVerification from Survey Staking	100-foot Grid	. ±0.05 foot
Soil Cover	Material	Visual/Gradation ASTM D 422 sieve & hydrometer	As-needed or change in material	Available onsite S1 Soil
Soil Cover	Moisture/Density	ASTM D 698	As needed if change in material	N/A
Soil Cover	Hydraulic	Laboratory Test	1 soil type	<3.0 X 10-5

	Conductivity	ASTM D 5084		
Soil Cover	Compaction	Field Density-nuclear gauge ASTM D 6938	3 per lift per acre	Min. 82% Max 88%.
Soil Cover	Moisture	Field Moisture-nuclear gauge ASTM D 6938	3 per lift per acre	Optimum to minus 4%
Compost	Thickness	Field Visual Verification	As-needed	1-inch Min.

Table B
Area 2 and Area 5 Soil Cover and Final Grading Quality Assurance

Layer	Property	Procedure	Frequency	Requirement
Soil Cover	Thickness Finish Grade	Field Visual Verifcation from Hand Auge Survey Stakingr	100-foot Grid	-0.10 foot to 0 foot
Soil Cover	Material	Review CQC Submittals	As-needed or change in material	Available onsite S1 Soil
Soil Cover	Moisture/Density	Review CQC Submittals	As needed if change in material	N/A
Soil Cover	Hydraulic Conductivity	Review CQC Submittals	1 soil type	<3.0 X 10-5
Soil Cover	Compaction	Review CQC Submittals	3 per lift per acre	Min. 82% Max 88%.
Soil Cover	Moisture	Review CQC Submittals	3 per lift per acre	Optimum to minus 4%
Compost	Thickness	Field Visual Verification from Survey Staking	As-needed	1-inch Min.

END OF SECTION

SECTION 02225
TRENCHING AND BACKFILL FOR PIPELINES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Excavated trenches for pipelines.

B. Compacted pipe zone bedding from bottom of pipe trench to bottom of trenchline backfill.

C. Compacted trenchline backfill from top of pipe zone bedding to subgrade elevations.

1.2 REFERENCES

A. ASTM D 698 - Test Method for Moisture-Density Relations of Soils and Soil Aggregate Mixtures Using 5.5-lb (2.48 Kg) Rammer and 12 inch (305 mm) Drop.

B. ASTM D 6938 – Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

C. Washington State Department of Transportation (WSDOT) Standard Specifications for Road, Bridge, and Municipal Construction, 2016 edition with amendments to date.

1.3 FIELD MEASUREMENTS

A. Verify that survey benchmark and intended elevations for the Work are as shown on Drawings.

1.4 SUBMITTALS

A. Submit reports and test results by the independent materials testing laboratory from compaction testing to the ENGINEER. Indicate observations, results, and compliance or noncompliance with Contract Documents.

PART 2 - PRODUCTS

2.1 TRENCHLINE BACKFILL MATERIALS

A. As specified in Section 02205.

B. Aggregates: Crushed surfacing base course and top course as specified in Section 02205.

2.2 PIPE ZONE BEDDING MATERIALS

A. As specified in Section 02205.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Field verify tie-in and existing buried utility locations and elevations prior to beginning trenching

B. It is imperative that positive or negative pipeline grades be maintained between pumps and terminations to prevent gas/air from trapping inside the pipeline. Where shown on the drawings or as required by field conditions, field verify existing ground low spots and develop pipeline grades (minimum 0.03%) prior to pipeline excavation and installation. Excavations exceeding 48" minimum cover will be required in some areas to achieve the proper pipe grades.

C. Install gas extraction pipelines and other utilities that traverse Areas 2 and 5 prior to the installation of the final soil cover system on Areas 2 and 5.

3.2 PREPARATION

A. Identify required lines, levels, contours, and datum.

B. Verify location, maintain and protect existing utilities which pass through work area.

C. Protect plant life and other features remaining as a portion of final landscaping.

D. Protect benchmarks, existing structures and fences from excavation equipment and vehicular traffic.

E. Protect above and below ground utilities which are to remain.

F. Cut out soft areas of subgrade not capable of insitu compaction. Backfill with crushed surfacing base course as necessary and compact to density equal to or greater than requirements for subsequent backfill material.

3.3 EXCAVATION

A. Excavate subsoil required for piping and structures.

B. Cut trenches sufficiently wide to enable installation of utilities.

C. Shoring and Trench Safety System: Provide shoring and trench safety systems meeting the requirements of the Washington Industrial Safety Act, Chapter 49.17 RCW.

D. Excavation shall not interfere with normal 45 degree bearing splay of foundations.

E. Hand trim excavation. Hand trim for bell and spigot pipe joints. Remove loose matter.

F. Remove lumped subsoil, boulders, and rock.

G. Remove any debris or refuse encountered during excavation for construction gas collection pipe system. Dispose of debris at OWNER furnished site.

H. Correct unauthorized excavation at no cost to OWNER.

I. Compact trench foundation to 95% maximum density as determined by ANSI/ASTM D698 prior to installing pipe and when required pipe bedding.

J. Correct areas over-excavated with similar native material compacted to 95% maximum density as determined by ANSI/ASTM D698.

K. Provide additional excavation for placement of bedding when bedding is required.

L. Stockpile excavated material in area on site and remove excess material not being used.

3.4 BEDDING

A. Bed piping with pipe zone backfill as shown on drawings/details. Compact bedding prior to installing pipe.

B. Support pipe during placement pipe zone bedding. Compact pipe zone bedding including area around the pipe in accordance with Section 7-09.3(9) of the WSDOT Standard Specifications.

C. Maintain optimum moisture content of bedding material to attain required compaction density.

D. Place no bedding in standing water.

3.5 BACKFILLING AND COMPACTION

A. Backfill areas to contours and elevations with materials specified in Section 02205, unless otherwise shown on the drawings.

B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy subgrade surfaces.

C. Crushed Surfacing Base Course Fill: Place and compact materials in continuous layers not exceeding 6 inches compacted depth.

D. Trench Backfill: Place and compact material in continuous layers not exceeding 12 inches compacted depth.

E. Trench backfill material shall be compacted by means approved by the ENGINEER, as required to preclude future settlement.

F. As a minimum, all trenches which cross or parallel the street centerline shall be water settled and compacted with a hoe-mounted or double drum vibratory mechanical compactor. Hand operated jumping jacks or shoe-type mechanical tampers will not be approved.

G. Employ a placement method that does not disturb or damage existing structures or utilities.

H. Maintain optimum moisture content of backfill materials to attain required compaction density.

3.6 PIPE LOCATOR RIBBON

A. The CONTRACTOR shall, after backfilling and compacting the trench to within 12-inches of the top of the finished ground grade, install a continuous 2-inch minimum width plastic coated aluminum pipe locator ribbon over the top of the pipeline, which shall be clearly marked continuously along the length of the ribbon.

3.7 PIPE TRACER WIRE

A. Install tracer wire per details in drawings.

3.8 FIELD QUALITY CONTROL

A. Sampling and testing will be performed by an AASHTO or WABO materials testing laboratory licensed in the State of Washington. All sampling and testing shall be at the expense of the CONTRACTOR.

B. Submit reports and test results to ENGINEER by the independent testing laboratory in duplicate, indicating observations and results of tests and indicating compliance or noncompliance with Contract Documents.

C. Testing laboratory to report immediately all failing tests to ENGINEER and CONTRACTOR. No payment will be made for those bid items requiring testing until results have been accepted by the ENGINEER. Areas of repeated testing failure may require removal and replacement of material at no cost to OWNER.

D. The frequency of testing may be increased by the ENGINEER when repeated failed tests have been recorded or if in the opinion of the ENGINEER compaction efforts by CONTRACTOR are not consistent. CONTRACTOR shall be responsible for all costs of added frequency for material testing.

E. When tests indicate Work does not meet specified requirements, remove Work, replace and retest at cost to CONTRACTOR.

F. Testing: In accordance with ASTM D698 and ASTM D2922.

G. Perform sampling and testing prior to construction to support compaction testing. Re-sample and test when onsite materials change and source of materials change.

3.9 PROTECTION

A. Re-compact fills subjected to vehicular traffic.

B. Meet all federal, state and local requirements for workman safety in all excavations and trenches. Provide all labor, equipment materials and all other incidentals necessary to meet the requirements of the Washington Industrial Safety and Health Act, Chapter 49.17 RCW, including all requirements for trench, structure and related excavation shoring and safety system.

3.10 TESTING SCHEDULES

A. Compaction requirements:

In no case less than 95 percent of maximum density for pipe foundation bedding and the upper two feet of trench backfill. Trench backfill above the pipe except the upper two feet shall be compacted to at least 92 percent of the maximum density.

B. Minimum Frequency of Compaction Tests:

A minimum of every 200 linear feet of trench foundation, bedding and backfill at the following depths:

1. Trench foundation (unless undisturbed native material with ENGINEER's approval) and bedding when required.
2. 2-foot above the top of pipe.
3. Increments of 2-feet vertical depth thereafter or finished subgrade, whichever is lower.

C. Perform test at start of work and when materials or procedures change.

END OF SECTION

SECTION 02235
RECLAIMED CONCRETE AGGREGATE

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Production of Reclaimed Concrete Aggregate.

1.2 RELATED SECTIONS

A. Section 01025 Measurement and Payment

B. Section 01101 Sequencing and Special Requirements

C. Section 01300 Submittals

D. Section 01500 Temporary Facilities

E. Section 02205 Soil Material and Aggregate for Structural Fill, General Fill, Drainage, Pipe Bedding, and Trench Backfill

1.3 REFERENCES

A. ASTM C136 - Sieve Analysis of Fine and Coarse Aggregates

1.4 SUBMITTALS

A. Scale Certifications.

B. Equipment Layout Plan.

C. Sieve Analyses.

D. Weight of crushed material for measurement and payment.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Reclaimed Concrete Aggregate Gradation: Well sorted, uniformly graded with 100% passing a 2-inch sieve and a maximum of 10% passing the No. 200 sieve, free of reinforcing steel, wire mesh and other objectionable materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify stockpile of material available for producing reclaimed concrete aggregate.

B. Verify suitability of equipment staging area and stockpile area.

3.2 EQUIPMENT

A. Reclaiming equipment: Capable of producing aggregate meeting the specified gradation using the available stockpile of cement concrete ruble.

B. Equipment shall have means to remove steel particles including reinforcing steel and wire mesh during production of the aggregate.

C. Equipment shall have means of weighing the produced aggregate prior to being placed in stockpile. All weighing equipment shall be certified after set up on site and prior to reclaimed concrete aggregate production.

E. Support Equipment: Provide all auxiliary equipment required for production of the reclaimed

concrete aggregate.

3.3 SET UP AND PRODUCTION

A. Set-up of equipment at the allowed locations shown in the Plans. Prepare and submit equipment layout plan showing type and approximate locations of stationary equipment

B. Electrical Power: The OWNER will not provide source for electrical power. All electrical power required for the production of the reclaimed concrete aggregate will be the responsibility of the CONTRACTOR.

C. Production Time Limits: Site will be accessible weekdays from 7 am to 6 pm. Other hours of reclaimed concrete aggregate production by approval of the OWNER.

D. Presort existing concrete ruble as required to remove all obvious objectionable materials.

E. Stockpile of produced aggregate in the allowed locations shown in the Plans. Stockpiles shall not exceed 25-feet in height. Steel track equipment not permitted to construct stockpiles.

F. All removed reinforcing steel, wire mesh, other steel particles and objectionable materials shall become the property of the CONTRACTOR.

3.4 FIELD QUALITY CONTROL

A. CONTRACTOR to provide certified sieve analysis verifying the reclaimed concrete aggregate meets the graduation requirements. Sieve analysis shall be conducted at startup until the gradation is met.

3.5 FINISH OF WORK AND FINAL CLEANUP

A. At completion of work, clear site of all rubbish from production activities, temporary structures and equipment. Site shall be left in neat and presentable condition.

B. Grade area of removed concrete ruble to a uniform surface to drain toward compost pad. Restore with hydroseeding per Site Restoration.

END OF SECTION

SECTION 2609
STORM DRAIN PIPE AND CULVERTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Furnishing and installation of storm drain pipe and culverts.

1.2 REFERENCES

A. ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lb (2.49 Kg) Rammer and 12 inch (304.8 mm) Drop.

B. ASTM D 6938 – Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

C. AASHTO M252: Corrugated Polyethylene Drainage Tubing.

D. AASHTO M294: Corrugated Polyethylene Pipe, 12 to 36 Inch Diameter.

E. ASTM D-1248: Standard Test Method for Polyethylene Plastics Molding and Extrusion.

F. ASTM D-3350: Standard Test Method for Polyethylene Plastic Pipe and Fittings.

G. ASTM F-667:Standard Test Method for Large Diameter Corrugated Polyethylene Tubing and Fittings.

H. ASTM F-892:Standard Test Method for Polyethylene (PE) Corrugated Pipe With a Smooth Interior and Fittings.

I. ASTM F-894:Standard Test Method for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe

1.3 SUBMITTALS FOR REVIEW

A. Product Data: Within two weeks of receiving notice to proceed submit catalog cut sheet for proposed pipe and fittings.

B. With each shipment of pipe, submit Manufacturer's certification of compliance with product specifications. Submit on same day of receipt of pipe.

PART 2 - PRODUCTS

2.1 CORRUGATED POLYETHYLENE DRAIN PIPE

A. Corrugated polyethylene drain pipe, couplings, and fittings 10-inch through 60-inch diameter maximum, shall meet the requirements of AASHTO M294, Type S.

B. Approved Manufacturers: Advanced Drainage Systems (ADS) N-12.

2.2 BEDDING AND COVER MATERIALS

A. Culvert backfill materials:

1. In accordance with Section 02205.
2. Fill material is subject to the acceptance of the OWNER.

B. Pipe Bedding: In accordance with Section 02205.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that trench cut is ready to receive work and excavations, dimensions, and elevations are as indicated on drawings.

3.2 PREPARATION

A. Remove large stones or other hard matter, which could damage piping or impede consistent backfilling or compaction.

3.3 BEDDING

A. Excavate culvert trench to 6 inches below pipe invert. Hand trim excavation for accurate placement of pipe to elevations indicated.

B. Place bedding material at trench bottom, level fill materials in one continuous layer not exceeding 6 inches compacted depth.

C. Backfill around sides and to top of pipe with backfill materials, tamped in place and compacted to a minimum of 95 percent relative compaction as determined by ASTM D698.

D. Maintain optimum moisture content of bedding material to attain required compaction density.

3.4 PIPE INSTALLATION

A. Install pipe and accessories in accordance with manufacturer's instructions.

B. Lift or roll pipe into position. Do not drop or drag pipe over prepared bedding.

C. Shore pipe to required position; retain in place until after compaction of adjacent fills. Ensure pipe remains in correct position and to required slope.

D. Install backfill materials at sides and over top of pipe. Provide top cover to minimum compacted thickness of 12 inches.

3.5 TOLERANCES

A. Lay pipe to alignment and slope gradients noted on drawings; with maximum variation from true slope of 1 inch in 10 feet.

B. Maximum Variation From Intended Elevation of Culvert Invert: 0.1 feet.

C. Maximum Offset of Pipe From True Alignment: 1.0 feet.

END OF SECTION

SECTION 02612
HOT MIX ASPHALT

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. The work included in this section consists of furnishing and installing all paving materials for new construction, repair or replacement as shown on the Drawings and specified herein, and includes removal of existing pavement, subgrade preparation, aggregate base course, tack coat, hot mix asphalt (HMA), pavement markings and related work.

1.2 STANDARD SPECIFICATIONS

A. Paving materials and methods of construction shall be in accordance with referenced sections of the latest edition of the Washington State Department of Transportation (WSDOT) Standard Specifications for Road, Bridge and Municipal Construction. All provisions contained in the referenced Standard Specifications involving measurement and payment are not applicable to the work performed under this section.

1.3 SUBMITTALS

A. Submittals shall conform to the provisions of Section 01300 of the Specifications. Data in the form of material tests, mix designs, and compaction testing results shall be submitted to the ENGINEER.

PART 2 - PRODUCTS

2.1 GENERAL DESCRIPTION/REQUIREMENTS

A. Base Course Aggregate. Base course material shall be as specified in Section 9.03.9(3) of the WSDOT Standard Specifications.

B. Top Course Aggregate. Top course material shall be as specified in Section 9.03.9(3) of the WSDOT Standard Specifications.

C. Pavement Marking Paint: Low Voc solvent Base or Waterborne Paint. Manufacturer to be on the WSDOT current QPL list.

D. Glass Beads for Pavement Markings: Shall meet the requirements of Section 9-34.4 of the WSDOT Standard Specifications

2.2 HOT MIX ASPHALT (HMA)

A. HMA Commercial Class ½ inch as specified in Section 9.03.8 of the Standard Specifications.

B. Aggregate. As specified in Section 9.03.8 (6) of the Standard WSDOT Specifications for HMA proportions of materials.

C. Asphalt Binder. Asphalt material shall be Performance Grade PG 64-28, as specified in Section 9-02.1(4)A of the WSDOT Standard Specifications and supplier shall be on the current WSDOT Qualified Products List.

D. Anti-strip Agent: As required by the mix design in accordance with Section 9-02.4 of the WSDOT Standard Specifications. The anti-strip additive shall be on the current WSDOT Qualified Products List.

E. Tack Coat. CSS-1 , In accordance with the Section 9-02.1(6) of the WSDOT Standard Specifications and supplier be on the current WSDOT Qualified Products List.

F. Mineral Filler. As specified in Section 9-03.8(5) of the WSDOT Standard Specifications.

PART 3 - EXECUTION

3.1 GENERAL

A. Application Equipment. In accordance with Section 5-04 of the WSDOT Standard Specifications.

B. Shoulders. Construct to lines, grades, and cross-sections shown.

C. Traffic Control. Minimize inconvenience to traffic, but keep vehicles off freshly treated or paved surfaces to avoid pickup and tracking of asphalt.

D. Traffic Control. CONTRACTOR shall be solely responsible for traffic control and for meeting all Federal, State, and local requirements for such.

3.2 STRIPPING

A. Excavation for stripping of existing base course and/or subgrade material shall be sufficient for the required base and paving courses and shall be accomplished in conformance with other sections herein.

3.3 SUBGRADE PREPARATION

A. Construct subgrade to grades and cross sections shown in the Plans in accordance with Section 2-06 of the WSDOT Standard Specifications. Remove all soft or spongy areas, backfill and compact to meet grade and density requirements. Dispose of excess materials resulting from grading. Protect from damage all structures within or adjacent to subgrade.

B. Compact subgrade to a depth of 12 inches to 95 percent of maximum density as determined by ASTM D 698.

C. The subgrade shall be maintained in the finished condition until the first succeeding course is placed.

D. Do not proceed with placement of any succeeding course on subgrade without authorization from the ENGINEER.

3.4 BASE COURSE

A. Place, mix, spread, shape and compact crushed surfacing base course where shown in the Plans in accordance with Section 4-04 of the WSDOT Standard Specifications, except the nominal compacted depth of any one layer shall not exceed 6 inches. Compact entire base course surface to 95% of the maximum density as determined by ASTM D698. Do not place any succeeding courses where required without authorization of the ENGINEER. Maintain the surface in its finished condition until the succeeding layer is placed.

3.5 TOP COURSE

A. Place, mix, spread, shape and compact crushed surfacing top course where shown in the Plans in accordance with Section 4-04 of the WSDOT Standard Specifications, except the nominal compacted depth of any one layer shall not exceed 3 inches. Compact entire top course surface to 95% of the maximum density as determined by ASTM D698. Maintain finished surface to proper line and grade until placement of HMA. Do not place HMA on prepared surface without authorization of the ENGINEER.

3.6 CONSTRUCTION OF HMA

A. Place HMA to the depths shown in the Plans. Production, hauling, placing and compacting the HMA shall be in accordance with Section 5-04 of the WSDOT Standard Specifications. At no time shall the coarse aggregate segregated from the mix either from hand spreading or raking of joints be scattered across the paved mat. Such material shall be collected and disposed of.

B. The ENGINEER will examine the base before the paving is begun and bring any deficiencies to the CONTRACTOR's attention to be corrected before the paving is started. Roll each lift of the HMA and compact to at least 91.0 percent of the reference maximum density as determined WSDOT FOP or AASHTO T 209. The specified level of density will be determined in the field by utilizing a nuclear density gauge at locations specified by the ENGINEER in accordance with ASTM D 2950. The grade, line, and cross section of the finished surface shall conform to the Drawings. HMA, asphalt binder and tack coat stains that are noticeable upon surfaces of concrete or materials that will be exposed to view shall be promptly and completely removed.

3.7 UTILITY ADJUSTMENT

A. The tops of all manholes, cleanouts, valve boxes, catch basins, and related items shall be adjusted to be flush with the finished paved surface prior to beginning paving.

3.8 CONTROL OF LINE AND GRADE

A. Provide and maintain intermediate control, independent of the underlying base, to meet finish surface grades and minimum thickness.

3.9 TACK COAT

A. Do apply more tack coat than necessary for the day's paving operation.

B. Application. Apply tack coat uniformly to clean, dry surfaces. Avoid overlapping of applications. Touch up missed or lightly coated surfaces and remove excess tack coat.

C. Application Rate. Minimum 0.05 gallon to maximum 0.12 gallon of asphalt (residual if diluted emulsified asphalt) per square yard of surface area. Apply at rate, within range specified, sufficient to assure good bonding, but not so heavy that surplus asphalt flushes into HMA being placed.

3.10 CONNECTIONS WITH EXISTING FACILITIES

A. Where HMA connects to an existing roadway surface, bridge, railway crossing, or other facility, modify existing roadway profile to produce a smooth riding connection to existing facility.

B. Modifying Existing Surfaces. Burn or chip existing paved surfaces to provide meet lines and surfaces. Allow for sufficient depth of removal to reinstall a minimum thickness of 1 inch of asphalt concrete.

1. Meet Lines. Lines straight and edges vertical.
2. Edges of Meet Line Cuts. Paint with tack coat prior to placing pavement.
3. Sealing Meet Line. After placement of pavement, by painting with liquid asphalt or emulsified asphalt, cover immediately with clean, dry sand.

C. Paint edges of contact surfaces (curbs, manhole frames) before laying pavement with tack coat or paving asphalt cement to provide watertight joints. Do not stain adjacent surfaces not intended to be coated.

D. Obtain and comply with permit requirements of other jurisdictions.

3.11 PATCHING

A. Patch Thickness. 3 inches or thickness of adjacent pavement, whichever is greater.

B. Preparation

1. Remove damaged, broken, or unsound asphalt concrete adjacent to patches. Trim to straight lines exposing smooth, sound, vertical edges.

2. Prepare patch subgrade as specified in Section 02211, Site Grading and Earthwork.

C. Construction

1. Place HMA across full width of patch in layers of equal thickness.
2. Spread and grade HMA with hand tools or mechanical spreader, depending on size of area to be patched.
3. Finished surface of patch shall be flush with adjacent surface and match grade, slope, and crown of adjacent surface.

D. Compaction

E. The type of rollers shall be the CONTRACTOR'S option provided the specific densities are attained. Compacted mixes shall be a minimum of 91 percent of the referenced maximum densities when tested with a nuclear density gauge. Any cores taken as requested by the CONTACTOR for gauge correlation factors will be at the expense of the CONTRACTOR. The sequence of rolling shall provide a uniform surface and on the pavement mat and at all joints. Rollers shall not be operated in the vibratory mode when the internal temperature of the mix is less than 175˚F.Surface Smoothness of Replaced Pavement. New pavement shall not deviate more than plus ¼ inch or minus 0 inches when a straightedge is laid across patched area between edges of new pavement and surface of old surfacing.

3.12 TOLERANCES

A. Conduct measurements for conformity with crown and grade immediately after initial compression. Correct variations immediately by removal or addition of materials and by continuous rolling.

B. Tolerance Measurements

1. Completed Surface of Top or Wearing Layer. Uniform texture, smooth, and uniform to crown and grade.
2. Completed surface shall not vary more than ⅛ inch from lower edge of 10-foot straightedge placed on surface parallel to centerline.
3. Transverse slope of completed surface shall not vary more than ¼ inch in 10 feet from the rate of transverse slope shown.
4. Finished grade shall not vary more than 0.02 foot.

C. Correct deviations in excess of specified tolerances by addition of asphalt concrete mixture to low places or removal of material from high places.

D. Wearing surface may be removed and replaced to achieve a satisfactory finish surface if surface of completed pavement deviates by more than twice the specified tolerances.

3.13 TESTING

A. All testing shall be the responsibility of the CONTRACTOR.

B. Frequencies:

1. HMA Extraction for Asphalt Content and Gradation: One (1) for each day of HMA placement.
2. HMA Densities shall be taken at randomly selected locations as follows:
   Road Crossing: 2 Each.
   Compost Access Road: 4 Each.

C. Tolerances shall meet the requirement of Sections 9-03.8(7) of the WSDOT Standard Specifications for Commercial Evaluations

D. Remove and replace any placed HMA which does not meet tolerances or density requirements. Densities shall be determined by averaging those taken at each location.

3.14 PAVEMENT MARKINGS

A. Pavement shall cure for a minimum of 30 days prior to placing any pavement marking paint.

B. Thoroughly clean areas where paint is to be applied.

C. Apply pavement marking paint in accordance with Section 8-22 of the WSDOT Standard Specifications.

END OF SECTION

SECTION 02711
POLYETHYLENE PIPE

PART 1 - PART 1 GENERAL

1.1 SECTION INCLUDES

A. Minimum specifications for polyethylene (HDPE) for pipe used to construct components of the gas collection and control system.

1.2 RELATED SECTIONS

A. Section 15060 – Pipe and Pipe Fittings

B. Section 15100 – Landfill Gas Wells

C. Section 15300 – Condensate Pumps and Controls

1.3 REFERENCES

A. ASTM D638 - Standard Test Method for Tensile Properties of Plastics.

B. ASTM D696 - Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between minus 30 degrees C and 30 Degrees C with a Vitreous Silica Dilatometer.

C. ASTM - D748 - Standard Specification for Natural Block Mica and Mica Films Suitable for Use in Fixed Mica-Dielectric Capacitors.

D. ASTM D790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

E. ASTM D1238 - Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer.

F. ASTM D1248 - Standard Specification for Polyethylene Plastics Extrusion Materials For Wire and Cable.

G. ASTM D1505 - Standard Test Method for Density of Plastics by the Density-Gradient Technique.

H. ASTM D1525 - Standard Test Method for Vicat Softening Temperature of Plastics.

I. ASTM D1603 - Standard Test Method for Carbon Black In Olefin Plastics.

J. ASTM D1693 - Standard Test Method for Environmental Stress-Cracking of Ethylene Plastics.

K. ASTM D2240 - Standard Test Method for Rubber Property-Durometer Hardness.

L. ASTM D2657 - Standard Practice for Heat Fusion Joining of Polyolefin Pipe and Fittings.

M. ASTM D2837 - Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials.

N. ASTM D3035 - Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter.

O. ASTM D3261 - Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing.

P. ASTM D3350 - Specification for Polyethylene Plastics Pipe and Fitting Materials.

1.4 DEFINITIONS

A. Standard Dimensional Ratio (SDR) is defined as the actual outside pipe diameter divided by the wall thickness.

B. Construction Quality Assurance Consultant (CQAC): The party, independent from the manufacturer or installer, responsible for observing and documenting activities related to the quality assurance of the production and installation of the geosynthetic components of the geotextile. Also responsible for issuing a construction monitoring report and certification sealed by a Registered Professional Engineer.

C. Construction Quality Assurance Monitor (CQA Monitor): The CQAC site representative, who also represents the OWNER and is responsible for on-site implementation of CQA procedures defined by the CQA Manual.

1.5 SUBMITTALS FOR REVIEW

A. Submit pipe and fittings product data and manufacturer's quality control data-demonstrating material complies with Part 2 of this Section to the ENGINEER prior to material delivery.

PART 2 - PRODUCTS

2.1 PIPE SPECIFICATIONS

A. All pipe sizes indicated on the Drawings and specified in this Section reference nominal diameter unless otherwise indicated on the Drawings or in this Section.

B. Pipe Size and Dimensions:

1. 8-inch diameter pipe with an SDR of 17,
2. 4-inch diameter pipe with an SDR of 17,
3. 1.5-inch diameter pipe with an SDR of 11,
4. 1.5-inch diameter pipe with an SDR of 9.

C. Provide pipe manufacturers quality control data demonstrating conformance to the requirements of ASTM D3261 and ASTM D3035 and the following:

	Property	Specification	Unit	Nominal Value
1.	Material Designation	PPI / ASTM	-	PE 3408
2.	Material Classification	ASTM D-1248	-	III C 5 P34
3.	Cell Classification	ASTM D3350-99	-	345464C
4.	Density (3)	ASTM D-1505	gm/cm3	0.955
5.	Melt Index (4)	ASTM D-1238	gm/10 min.	0.41
6.	Flex Modulus (5)	ASTM D-790	psi	Min 133,000
7.	Tensile Strength (4)	ASTM D-638	psi	Min 3,200
8.	HDB	ASTM D-2837	psi	Min 1,600
9.	Environmental Stress Crack	ASTM D-1693	-	>5,000
10.	U-V Stabilizer (C)	ASTM D-1603	% C	2.5
11.	Modulus of Elasticity	ASTM D-638	psi	130,000
12.	Brittleness Temp.	ASTM D-746	degrees F	< -180
13.	Vicat Soft. Temp.	ASTM D-1525	degrees F	257
14.	Thermal Expansion	ASTM D-696	in / in/°F	1.2x10-4
15.	Hardness	ASTM D-2240	Shore "D"	65

D. Containing no recycled compound except that generated in the manufacturer's own plant and from resin of the same specification as the raw material supplier.

E. Resin for pipe and fittings shall be manufactured in accordance with ASTM D-3035/F. 714-81.

F. Homogeneous throughout and free of visible cracks, holes, foreign inclusions, or other injurious defects. Being uniform in color, capacity, density, and other physical properties.

G. Pipe must be labeled to provide the following information continuously marked on the pipe or spaced at intervals not exceeding 5 feet.

1. Name and/or trademark of the pipe manufacturer.
2. Nominal pipe size.
3. Standard Dimensional Ratio (SDR).
4. PE 3408. (Indicating the pipe meets ASTM D-3350 requirements for pressurized PE pipe.
5. Manufacturers Standard Reference.
6. A production code from which the date and place of manufacturer can be determined.

2.2 PIPE COUPLINGS AND FITTINGS

A. Provide manufacturer’s quality control data showing HDPE flange adapters and other fittings will be provided in accordance with the drawings and manufactured from the same resin as the pipe.

B. See Section 15060 for pipe fitting specifications.

PART 3 - EXECUTION

A. HDPE pipe used for installation of this gas collection and control system must meet the minimum requirements set forth in this Section. Provisions of this article should be coordinated with Section 15060 – Pipe and Pipe Fittings. Refer to Section 15060 – Pipe and Pipe Fittings for specifications regarding delivery and installation. Refer to Section 01669 – Pipe Pressure Testing for specifications regarding pipe testing.

END OF SECTION

SECTION 02800
SITE RESTORATION

PART 1 - GENERAL

1.1 DESCRIPTION

A. The work included in this section consists of preparing placed soils and applying non-irrigated seed, fertilizer mulch and tackifier for erosion control and erosion control mats.

B. The CONTRACTOR shall exercise care to protect all trees, shrubs and ground cover. Trees and shrubs will require replacement if damaged as determined by the ENGINEER or OWNER (solely at the CONTRACTOR's expense), or indicated on the Drawings.

1.2 QUALITY ASSURANCE

A. For actual installation of the work of this section, utilize personnel who are thoroughly experienced with the materials and methods required.

1.3 SUBMITTALS

A. Submittals shall conform to the provisions of Section 01300 of the Specifications and shall include seed certificates of inspection and/or variety and percentages as indicated herein, fencing and specifications, erosion control mat materials, and other items as required.

1.4 JOB CONDITIONS

A. Proceed with and complete restoration work as rapidly as portions of site become available, working within seasonal limitations for each kind of work required.

1.5 SPECIAL WARRANTY

A. Warranty any applied seed, for a period of one year after substantial project completion, against defect, including death and unsatisfactory growth, except for defects resulting from neglect by OWNER, abuse or damage by others, or unusual phenomena or incidents which are beyond the CONTRACTOR's control. Remove and replace items found to be dead or in unhealthy condition during warranty period.

B. Make replacements during growth season following end of warranty period. Replace items which are in doubtful condition at the end of the warranty period, unless, in the opinion of the ENGINEER, may extend the warranty period for a full growing season.

PART 2 - PRODUCTS

2.1 TOPSOIL

A. Soil type S1, see Section 02205.

2.2 NON-IRRIGATED LAND – SEED, FERTILIZER AND MULCH

A. Non-Irrigated Seed

Grass seed shall be a commercially prepared mix that will grow without irrigation at the project location. The seed mix blend shall be as follows:

Kind and Variety of Seed in Mixture by Common and (Botanical Name)	Pounds Pure Live Seed (PLS) Per Acre
Idaho Fescue (Festuca idahoensis)	7.30
Secar Snake River Wheatgrass	9.10
Sand Droopseed (Sporobolus Cryptandrus)	0.25
Prairie Junegrass (Koeleria cristata)	0.50
Sherman Big Bluegrass	5.75
Critana Thickspike Wheatgrass	9.00
Silky Lupine (Lupinus sericea)	1.55
Red Columbine (Aquilegia Formosa)	.90
Venus Penstemon “Blue Mountains” (Penstemon venustus)	0.60
Common Yarrow (Achillea millefolium)	0.05
Total Pounds PLS Per Acre	**35.00**

Non-Source identified seed shall meet or exceed Washington State Department of Agriculture Certified Seed Standards and be from within the Columbia Plateau or Blue Mountains Ecoregions, as identified by the US Environmental Protection Agency(EPA) and shown at:

The Seed Certification class shall be Certified (blue tag) in accordance with WAC 16-302 and meet the following requirements:

Prohibited Weed	0% max.
Noxious Weed	0% max.
Other Weed	0.20% max.
Other Crop	0.40% max.

The Contractor shall document all Source Identified seed by providing the Association of Official Seed Certifying Agents (AOSCA) yellow seed label for each species in the mix. Site Identification Logs can be supplied for collection where the AOSCA yellow label is not available.

Fertilizer – All Areas Except Area 2 and Area 5
Sufficient quantities of fertilizer shall be applied to supply the following amounts of nutrients:

Total Nitrogen as N – 134 pounds per acre.
Available Phosphoric Acid as P2O5 – 60 pounds per acre.
Soluble Potash as K2O – 60 pounds per acre.

Ninety pounds of nitrogen applied per acre shall be derived from isobutyidene diurea (IBDU), cyclo-di-urea (CDU) or a time release, polyurethane coated source with a minimum of 6 months. The remainder may be derived from any source.

B. Fertilizer – Area 2 and Area 5

No artificial fertilizer shall be added to Areas 2/5.

C. Mulch

Mulch shall meet the requirements to Section 9-14.4(2) of the WSDOT Standard Specifications and shall be on the current WSDOT Qualified Products List.

D. Tacking Agent

Tacking agents shall meet the requirements to Section 9-14.4(7) of the WSDOT Standard Specifications and shall be on the current WSDOT Qualified Products List.

2.3 EROSION CONTROL MAT

A. Erosion control mat: PYRAMAT® HPTRM manufactured by Propex, Inc. or approved equal.

2.4 OTHER ITEMS

A. Other damaged items to be replaced shall equal as near as possible the original items as approved by the ENGINEER.

PART 3 - EXECUTION

3.1 GENERAL

A. Equipment in good condition shall be provided for the proper preparation of the ground and for handling and placing all materials. Equipment shall be approved before work is started.

B. All plant materials shall be installed in accordance with grower's recommendations and/or in accordance with locally acceptable best landscape practice and as approved by the ENGINEER.

C. Application of seed, fertilizer, mulch and compost to take place in the fall period of September 15 to November 15 or other time periods as approved by the ENGINEER. Seed to be applied under the erosion control mat can be placed outside of this time period.

D. The Contractor will be required to pay landfill fees to dispose of on-site waste generated by the Contractor that is disposed of at the landfill.

3.2 HYDROSEEDING

A. Hydraulic (hydroseeding) and equipment used for the application of fertilizer, seed and slurry of prepared wood cellulose fiber shall have a built-in agitation system with an operating capacity sufficient to agitate, suspend and homogeneously mix the slurry specified. The slurry distribution lines shall be large enough to prevent plugging. The discharge line shall be equipped with a set of spray nozzles that will provide even distribution of the slurry on the areas to be mulched.

B. The slurry tank shall have a minimum capacity of 1000 gallons and shall be mounted on a traveling unit which may be either self-propelled or drawn by a separate unit that will place the slurry tank and spray nozzles near the areas to be mulched so as to provide uniform distribution without waste. The ENGINEER may authorize equipment with small tank capacity provided that the equipment has the necessary agitation system and sufficient pump capacity to spray the slurry in a uniform coat over the surface of the area to be hydroseeded.

3.3 SOIL PREPARATION

A. Prior to applying seed fertilizer, mulch and tackifier, construct Area 2 and 5 Final Cover Layer in accordance with Section 02211.

B. Prepare borrow site surfaces in accordance with Section 8-01.3(2)A of the WSDOT Standard Specifications. All surfaces shall be thoroughly track-walked up and down slope in direction perpendicular to the slope. No cross-slope track walking will be permitted.

3.4 NON-IRRIGATED LAND – SEEDING, FERTILIZING AND MULCHING

A. Apply seed, fertilizer and mulch (Hydroseeding) during the fall period of September 15 to November 15 or other time periods as approved by the ENGINEER. Compost application and subsequent track walking of Areas 2 and 5 Final Cover Layer shall have been completed no less than 5 calendar days prior to applying seed, fertilizer and mulch. Prepare borrow area and all other disturbed area surfaces no less than 5 calendars prior to applying seed, fertilizer and mulch.

B. Hydroseeding shall be with approved hydraulic seeding equipment, in combination with cellulose fiber mulch and fertilizer at the rate of 150 pounds of seed per acre in field and slope areas. Seed shall be distributed uniformly over designated areas. Half of the seed shall be applied with the sower moving in one direction, and the remainder with the sower moving at right angles to the first sowing. Seed shall not be broadcast during windy weather. The cellulose fiber shall be applied at the rate of 2000 pounds per acre. Tack shall be applied at the rate of 60 lb/acre. Polyacrlyimides will not be allowed for use in tack. At completion of applying the seed and fertilizer the CONTRACTOR shall “re-walk” the areas of application in accordance with the second paragraph of Section 8-01.3(2)A.

C. When the area to be seeded adjoins undisturbed vegetation, hydroseeding shall extend into the vegetation 2 feet or as designated by the ENGINEER. When the area to be seeded adjoins a building, care shall be taken not to apply the seed on the building.

D. Areas shall be maintained until all work or designated portions thereof have been completed and accepted. Any damage shall be repaired, and mulch material that has been removed by wind, water or other causes shall be replaced and secured. The CONTRACTOR is responsible for proper care of seeded areas for one (1) year after completion of entire project unless desired cover is established in a shorter period of time and the ENGINEER shortens the responsibility period.

3.5 EROSION CONTROL MAT

A. Construct erosion control mat on Area 5 Runoff Berms and in North Ditch in accordance with the Plans prior to applying seed, fertilizer and mulch.

B. Install and secure mats in accordance with manufacturer’s recommendations.

C. Place seed under erosion control mat.

END OF SECTION

SECTION 03100
CONCRETE FORMWORK

PART 1 - GENERAL

1.1 WORK INCLUDED

This item of work includes the formwork and shoring for cast-in-place concrete and the installation into formwork of items such as anchor bolts, pipe and pipe fittings, and other items to be embedded in concrete (but not including reinforcing steel - see Section 03200, CONCRETE REINFORCEMENT.

1.2 QUALITY ASSURANCE

A. Codes and Standards

1. The CONTRACTOR shall design, construct, erect, maintain, and remove forms and related structures for cast-in-place concrete work in compliance with the American Concrete Institute Standard ACI 347, "Recommended Practice for Concrete Formwork."

B. Allowable Tolerances

1. The CONTRACTOR shall construct formwork to provide complete cast-in-place concrete work as follows:

a. Variation from plumb lines and surfaces: 1/4 inch per 10 feet, but not more than 1 inch. For exposed corners, control joints grooves and other conspicuous lines: 1/4 inch in 20 feet maximum; ½ inch maximum in 40 feet or more. Depressions In Wall Surface: Maximum ¼ inch when 10-foot straightedge is placed on high points in any direction or at any location. Wall Thicknesses: Maximum ¼ inch minus or ½ inch plus from dimension shown

b. Variation from level or grade in slabs, and in arises: 1/4 inch in 10 feet, 3/8 inch in 40 feet or more. For exposed horizontal grooves and other conspicuous lines: 1/4 inch in 20 feet maximum and ½ inch in 40 feet or more. Slab Finish Tolerances and Slope Tolerances: Floor surface shall not have crowns so high as to prevent 10-foot straightedge from resting on ¼-inch end blocks, nor low spots that allow a block of twice the tolerance in thickness to pass under the supported 10-foot straightedge. Finish Slab Elevation: Within ½ inch of elevation specified except slabs which are designed and detailed to drain to floor drain or gutter shall adequately drain regardless of tolerances. Repair floor slopes in an approved manner if necessary to provide complete drainage. Thickness: Maximum ¼ inch minus or ½ inch plus from thickness shown.

c. Forms for sidewalks and driveways shall be standard steel forms or wood forms constructed and fastened to prevent movement. Set forms to true lines and grades, and securely stake in position.

2. Before concrete placement, the CONTRACTOR must check the lines and levels of erected formwork. The CONTRACTOR shall make corrections and adjustments to ensure proper size and locations of concrete members and stability of forming systems.

3. During concrete placement, the CONTRACTOR must check formwork and related supports to ensure that forms are not displaced and that completed work will be within the specified tolerances.

1.3 SUBMITTALS

A. Samples: Prior to start of work, submit data information for the following:

1. Form ties.
2. Form coating.
3. Reinforcing spacers and rebar supports.

1.4 SEQUENCING AND SCHEDULING

A. Schedule work for embedded, buried, or other items of work that affects form layout before completing concrete formwork.

PART 2 - PRODUCTS

2.1 FORMS FOR EXPOSED FINISH CONCRETE

A. Unless otherwise shown or specified, the CONTRACTOR shall construct formwork for exposed concrete surfaces with plywood, plywood faced metal frames, steel or other panel type materials to provide continuous, straight and smooth as-cast surfaces. The CONTRACTOR shall furnish the forms in the largest practicable sizes to minimize the number of joints and to conform to the joint system shown on the construction documents. The CONTRACTOR shall provide form material with sufficient thickness to withstand the pressure of the newly placed concrete without bow or deflection.

2.2 FORM TIES

A. The CONTRACTOR shall provide factory fabricated, adjustable length, removable or snap-off metal form ties with conical or spherical type inserts, designed to prevent form deflection and to prevent spalling concrete surfaces upon removal. Do not use wire ties.

B. The CONTRACTOR shall provide ties so that portion remaining within the concrete after removal of exterior parts is at least 1-1/2 inch from the outer concrete surface except as otherwise specified. Form ties shall be provided which will not leave a hole larger than 1-inch diameter in the concrete surface. The holes shall be filled as per Section 03300, CONCRETE.

C. Form ties and wire ties fabricated on the project site are not acceptable. Do not use wire ties of any kind. Ties shall withstand form pressures and limit form deflection to specified tolerances. Flat bar ties for panel forms shall have plastic or rubber inserts with minimum 1-inch depth and sufficient dimensions to permit proper patching of tie hole.

D. Water Stop Ties:

1. Provide for water-holding structures or dry structures with access such as basements, pipe galleries, etc., that are below finish grade.
2. Ties shall have either an integral steel water stop 0.103-inch thick and 0.625 inch in diameter tightly and continuously welded to tie, or neoprene water stop 3/16-inch thick and 15/16 inch in diameter whose center hole is ½ diameter of snap tie, or a molded plastic water stop of comparable size.
3. The CONTRACTOR shall provide factory fabricated, adjustable length, removable or snap-off metal form ties with conical or spherical type inserts, designed to prevent form deflection and to prevent spalling concrete surfaces upon removal. Do not use wire ties.
4. The CONTRACTOR shall provide ties so that portion remaining within the concrete after removal of exterior parts is at least 1-1/2 inch from the outer concrete surface except as otherwise specified. Form ties shall be provided which will not leave a hole larger than 1-inch diameter in the concrete surface. The holes shall be filled as per Section 03300, CONCRETE.

5. Water Stop: Considerably larger in area than tie cross-sectional area, oriented perpendicular to tie and symmetrical about center of tie.

6. Construct ties to provide positive means of preventing rotation or disturbance of center portion of tie during removal of ends and prevent water leaking along tie.

2.3 FORM COATING

A. The CONTRACTOR shall provide commercial formulation form-coating compounds that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatment of concrete surfaces requiring bond or adhesion, or impede the wetting of surfaces to be cured with water or curing compounds. All coating and curing compounds shall be ANSI/NSF Standard 61 approved.

B. Form coating (nonstaining form oil) shall be equal to:

1. Nox-Crete Company, Omaha, Nebraska.

2. "Form-Guard," W.R. Grace and Company, Cambridge, Massachusetts.

3. "Rheofinish," Master Builders, Inc.

4. "FormReleaase 88 or WB ," Lambert Corporation, Houston, Texas.

2.4 DESIGN OF FORMWORK

A. The design of forms, shores, and bracing is the responsibility of the CONTRACTOR.

B. The CONTRACTOR shall design, erect, support, brace, and maintain formwork so that it will safely support vertical and lateral loads that might be applied, until such loads can be supported by the concrete structure. Formwork shall be constructed so that concrete members and structures are of correct size, shape, alignment, elevation, and position.

C. The CONTRACTOR shall support form facing materials by structural members spaced sufficiently close to prevent deflection. Forms placed in successive units for continuous surfaces shall be fitted to accurate alignment, free from irregularities, and within allowable tolerances.

D. Design joints in forms to remain watertight and withstand placing pressures without bulging outward or creating surface patterns. Do not use formwork that leaks mortar.

E. Where poor formwork is used and finish obtained is less than specified, upgrade finish to an acceptable finish at no additional cost.

F. Panel Deflections: Limit as required to achieve tolerances specified herein.

G. Design shall account for tolerances, form ties, finishes, architectural features, rebar supports, construction joint locations, and other nonstructural formwork requirements specified.

H. Design formwork strong enough to hold high liquid heads without form distortion and to meet tolerances as specified herein. Coordinate form design with admixture company information and concrete slump.

I. Structurally design forms, falsework, shoring, and other structural formwork and meet applicable safety regulations, current OSHA regulations, and other codes.

J. Meet applicable portions of ACI 347, ACI 318 current edition, and these Specifications.

2.5 REINFORCING SPACERS AND REBAR SUPPORTS

A. Walls:

1. Provide positive spacers or chairs specifically designed for wall forms to hold forms and reinforcing at correct dimensions and clearances.

2. Remove spacer or chair if not designed to remain in place as concrete is placed, consolidated, and proper support and spacing is achieved.

PART 3 - EXECUTION

3.1 FORM CONSTRUCTION

A. General: The CONTRACTOR shall construct forms complying with ACI Standards 318 and 347, to the exact sizes, shapes, lines, and dimensions shown, and as required to obtain accurate alignment, location, grades, level and plumb work in finish structures. All necessary detail work, construction aids, and embedded items shall be provided as required.

B. The CONTRACTOR shall fabricate forms for easy removal without hammering or prying against concrete surfaces. Crush plates or wrecking plates shall be provided where stripping may damage cast concrete surfaces. Kerf wood inserts shall be provided for forming keyways, reglets, recesses, chamfers and the like, to prevent swelling and assure ease of removal.

C. Forms for Exposed Concrete:

1. The CONTRACTOR shall drill forms to suit the ties used and to prevent leakage of concrete mortar around the tie holes. The CONTRACTOR shall not splinter forms by driving ties through improperly prepared holes.

2. The CONTRACTOR shall not use metal cover slates for patching holes or defects in forms.

3. The CONTRACTOR shall provide sharp, clean corners at intersecting planes, without visible edges or offsets. Back joints with extra studs or girts to maintain true, square intersections shall be provided.

4. The CONTRACTOR shall use extra studs, walers, and bracing to prevent bowing of forms between studs and to avoid bowed appearance in concrete. Narrow strips of form material which will allow the forms to bow shall not be used.

5. The CONTRACTOR shall assemble forms so that they may be readily removed without damage to exposed concrete surfaces.

6. The CONTRACTOR shall place carefully and accurately all bracing to prevent sagging or misalignment.

7. All forms shall be new or in first class condition free from holes, indentations, or irregular surfaces.

8. The exposed concrete joints shall be formed with special care to assure proper alignment and uniform cross section.

9. The CONTRACTOR shall form molding shapes, recesses and projections with smooth finish materials, and install these in the forms with sealed joints to prevent displacement.

D. Cleaning and Tightening:

1. The CONTRACTOR shall thoroughly clean forms and adjacent surfaces to receive concrete. All chips, wood sawdust, dirt, or other debris shall be removed just before concrete is to be placed. All forms shall be re-tightened immediately after concrete placement as required to eliminate leaks.

3.2 FORM COATINGS

A. The CONTRACTOR shall coat the contact surfaces of forms with form-coating compound before steel reinforcement is placed. No form coating shall be allowed on steel reinforcement or on previously cast concrete sections which abut the new concrete pour.

B. The CONTRACTOR shall thin form-coating compounds only with the thinning agent of type and in amount and under the conditions recommended by the coating compound manufacturer. Excess form-coating material shall not be allowed to accumulate in the forms or to come into contact with concrete surfaces against which fresh concrete will be placed. All form coatings shall be applied in compliance with the manufacturer's instructions.

C. Steel forms shall be coated with a non-staining, rust-preventative form oil or otherwise to protect against rusting. Rust-stained steel formwork will not be accepted. Coat contact surfaces of forms with a light uniform film (a coverage rate of 1,200 square feet per gallon or higher) of the surface consolidation agent. Apply to steel forms as soon as they are cleaned to prevent discoloration of concrete from rust. Do not get surface consolidation agent on concrete surfaces or reinforcing steel against which fresh concrete will be placed.

3.3 INSTALLATION OF EMBEDDED ITEMS

A. General: Set and build into the work anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in-place concrete. Use setting drawings, diagrams, instructions, and directions provided by suppliers of the items to be attached thereto. Securely anchor embedded items to prevent displacement during placement of concrete.

B. Edge Forms and Screed Strips for Slabs:

The edge forms or bulkheads and intermediate screed strips for slabs shall be set to obtain the required elevations and contours in the finished slab surface. The CONTRACTOR shall provide and secure units to support the types of screeds required.

3.4 BEVELED EDGES (CHAMFER)

A. Form 3/4-inch bevels at concrete edges, unless otherwise shown.

B. Where beveled edges on existing adjacent structures are other than 3/4 inch, obtain ENGINEER's approval of size prior to placement of bevel form strip.

3.5 REMOVAL OF FORMS

A. General: Formwork not supporting concrete, such as sides of walls, and similar parts of the work, may be removed after cumulatively curing at not less than 50 degrees Fahrenheit for 24 hours after placing concrete, provided; (1) concrete strength is sufficient to withstand damage by form removal operation and the forces acting on it, and (2) that curing and protection operations are maintained.

B. Formwork supporting the weight of concrete, such as slabs and other structural elements, may not be removed in less than 14 days, and not until the concrete has attained the minimum 28-day compressive strength as indicated by field cured test cylinders taken from that placement.

C. CONTRACTOR shall assume responsibility for damage resulting from improper and premature removal of forms.

D. Satisfy applicable OSHA requirements with regard to safety of personnel and property.

E. Do not remove supports and reshore prior to obtaining adequate field cured cylinder results.

3.6 CONCRETE FINISHES

A. As specified in Section 03300, CONCRETE.

3.7 BACKFILL AGAINST WALLS

A. Do not backfill against walls until concrete has obtained compressive strength equal to specified 28-day compressive strength.

B. Place backfill simultaneously on both sides of wall where required to prevent differential pressures.

3.8 FIELD TESTS

A. Wall Finish Tolerances: Test for compliance with tolerances as specified.

B. Slab Finish Tolerances and Slope Tolerances:

C. Floor flatness measurements will be made the day after floor is finished and before shoring is removed, to eliminate effect of shrinkage, curling, and deflection.

D. Support 10-foot long straightedge at each end with steel gauge blocks of thicknesses equal to specified tolerance.

E. Compliance with designated limits in four of five consecutive measurements is satisfactory unless obvious faults are observed.

F. A check for adequate slope and drainage will also be made to confirm compliance with these Specifications.

G. Finish Tolerance Failures: Repair or replace concrete as specified in Section 03300, CONCRETE.

3.9 REUSE OF FORMS

A. All forms to be reused shall be clean and surfaces repaired to be reused in following work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable. The CONTRACTOR shall apply new form-coating compound material to concrete contact surfaces as specified for new formwork.

B. When forms are extended for successive concrete placement, the CONTRACTOR shall thoroughly clean all surfaces, remove fins and laitance, and tighten forms to close all joints. All joints shall be secured and tightened to avoid offsets.

END OF SECTION

SECTION 03200
CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Fabrication of steel reinforcement for cast-in-place concrete structures, including bars, ties, supports, and welded wire fabric.

B. Placement of steel reinforcement for cast-in-place concrete structures.

1.2 QUALITY ASSURANCE

A. Codes and Standards: The CONTRACTOR shall comply with all requirements of the following codes and standards (most recent edition), except as modified herein:

1. American Welding Society, AWS D12.1 "Recommended Practices for Welding Reinforcing Steel, Metal Inserts and Connections in Reinforced Concrete Construction."
2. Concrete Reinforcing Steel Institute, "Manual of Standard Practice."
3. American Concrete Institute, ACI 318 "Building Code Requirements for Reinforced Concrete."
4. American Concrete Institute, ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structure."
5. Other References:
    a. ASTM A 82 - Specification for Steel Wire, Plain, for Concrete Reinforcement.
    b. ASTM A 615 - Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
    c. AASHTO M31- Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
    d. AASHTO M32- Cold Drawn Steel Wire for Concrete.
    e. AASHTO M54- Fabricated Steel Bar or Rod Mats for Concrete Reinforcement.

1.3 SUBMITTALS

A. Manufacturer's Data:

The CONTRACTOR shall submit the Manufacturer's specifications and installation instructions for all proprietary materials and reinforcement accessories.

B. Shop Drawings:

1. The CONTRACTOR shall submit shop drawings for the fabrication, bending, and placement of concrete reinforcement. All work shall comply with the ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures." Submittals shall show bar schedules, stirrup spacing, diagrams of bent bars, arrangements and assemblies.
2. The CONTRACTOR shall submit certification of grade, chemical analysis and tensile properties of the steel furnished.
3. Also see Section 01300, SUBMITTALS.

1.4 DELIVERY, HANDLING, AND STORAGE

A. All steel reinforcement delivered to the project site shall be bundled, tagged, and marked. Metal tags shall be used indicating the bar size, lengths, and other information corresponding to markings shown on placement diagrams in accordance with ACI 315.

B. The CONTRACTOR shall store concrete reinforcement materials at the site in a manner that will prevent damage and accumulation of dirt or excessive rust. Store to prevent contact with the ground. Protect all reinforcement from any contact with oil, grease, or petroleum based products of any kind.

PART 2 - PRODUCTS

2.1 REINFORCING STEEL GRADE

A. Unless otherwise called for on the Drawings, all rein-forcing steel for this project shall conform to ASTM A615 Grade 60, except for #3 stirrups or column ties which shall be Grade 40.

B. Bar mats shall conform to the requirements of AASHTO M54 (ASTM A82).

2.2 ACCESSORIES

A. Chairs and spacers shall be metal stock, designed for the purpose intended.

B. All accessories shall comply with CRSI "Recommended Practice for Placing Bar Supports, Specifications and Nomenclature."

C. The CONTRACTOR shall provide stainless steel accessories for sight-exposed concrete (exterior), and concrete surfaces exposed to moisture or containing water.

D. Slabs on grade where the base material will not support chairs, shall use supports with sand plates or horizontal runners to properly locate steel reinforcing in the slab.

E. Wire-bar type supports shall comply with CRSI recommendations. Wood, brick, or other materials will not be accepted.

F. Tie wire shall be 16-gauge, black, soft-annealed wire. Tie wire shall not be closer than 1-inch from surface of wall or slab after tying in place.

PART 3 - EXECUTION

3.1 FABRICATION

General: The CONTRACTOR shall fabricate reinforcing bars to conform to required shapes and dimensions, with fabrication tolerances complying with CRSI "Manual of Standard Practice" and ACI 301. In case of fabricating errors, the heating, rebending or straightening of reinforcement will not be permitted.

3.2 GENERAL

A. Meet requirements in the manual titled, "Placing Reinforcing Bars", published by Concrete Reinforcing Steel Institute (CRSI).

B. Steel reinforcement shall be protected at all times from injury. When placed in the work, it shall be free from dirt, detrimental scale, paint, oil and other foreign substance. When steel reinforcement has detrimental rust, loose scale and dust which is easily removable, it shall be cleaned by a satisfactory method, if approved.

C. All bars shall be bent cold, unless otherwise permitted. No bars partially embedded in concrete shall be field bent except as shown on the Drawings or otherwise permitted.

D. Details of concrete reinforcement and accessories not covered herein or on the Drawings shall be in accordance with ACI 315.

E. Notify ENGINEER when reinforcing is ready for inspection and allow sufficient time for this inspection prior to close-up of the forming system or placing concrete.

3.3 INSTALLATION

A. The CONTRACTOR shall clean reinforcement to remove all loose rust and mill scale, earth, ice, oil or grease, and other materials which reduce or destroy the bond between the concrete and reinforcing steel.

B. The CONTRACTOR shall position, support, and secure all reinforcement to prevent displacement by formwork, construction loadings, or concrete placement operations. Steel reinforcing shall be located and supported by metal chairs, runners, bolsters, spacers and hangers, as required. The reinforcement shall be placed to obtain the coverage for concrete protection noted on the Drawings. Where the coverage is not shown, the reinforcement shall be placed to obtain at least the minimum coverage specified hereinafter. The CONTRACTOR shall arrange, space, and securely tie bars and bar supports together with 16-gauge wire to hold reinforcement accurately and solidly in position during concrete placement operations. Wire ties shall be set so that the twisted ends are directed away from the exposed concrete surfaces. All reinforcement will be tied and secured in the correct position in the forms before placing concrete. Do not stab reinforcing into fresh placed concrete.

C. The CONTRACTOR shall provide a sufficient number of supports of adequate strength to carry the reinforcement. Reinforcing bars shall not be placed more than 2 inches beyond the last leg of any continuous bar support. Supports shall not be used as bases for runways for concrete conveying equipment and similar construction loads.

D. Supports or spacers of pebbles, pieces of broken stone, concrete rubble, broken brick or building blocks, metal pipe or wooden blocks will not be permitted.

E. Splices:

1. Standard reinforcement splices shall be done by lapping the ends, placing the bars in contact, and tightly wiring the splice together. The requirements of ACI 318 for minimum lap of spliced bars shall be provided. Use lap splices unless otherwise shown on the Drawings or permitted in writing by the ENGINEER. Stagger splices minimum of 48 bar diameters in adjacent bars unless otherwise shown on the Drawings or permitted in writing by the ENGINEER.

2. No field welding or tacking of reinforcement will be permitted.

F. Unless otherwise shown on the Drawings, the CONTRACTOR shall provide cover as follows:

1. Not less than 3 inches where the concrete is placed against the ground and without use of forms.

2. Not less than 1 1/2-inches for bars smaller than No. 6 and not less than 2-inches for No. 6 bars and larger where concrete is exposed to the weather, water, or in contact with earth, but placed in forms.

3. Not less than 1 1/2-inches for interior slabs, walls, beams, and columns.

G. The CONTRACTOR shall provide a minimum of two No. 4 bars in the top and bottom of a slab or wall face at 45 degrees on all four corners at all openings in structural slabs and walls, unless otherwise shown on the Drawings. Bars shall extend on each side sufficiently to develop bond in each bar.

H. The CONTRACTOR shall notify the ENGINEER when reinforcing is in place so that an inspection of reinforcement placement can be made prior to the close-up of formwork or the placement of concrete.

I. Conform to ACI 301 for all placing tolerances.

J. Bars may be moved to avoid interference with other reinforcing steel, conduits, or embedded items. If moved more than one bar diameter or the stipulated tolerance, the CONTRACTOR shall consult with the ENGINEER to determine final placement.

K. At construction joints and before constructing concrete form work for next stage of construction, the CONTRACTOR shall clean all dowels, reinforcing bars and concrete surfaces. All loose material and foreign objects shall be cleaned out of forming before placement of concrete.

L. Field Bending:

1. Straightening and Rebending: Do not straighten or rebend metal reinforcement. Field bending of reinforcing steel bars is not permitted.

2. Unless permitted by ENGINEER, do not cut reinforcing bars in the field.

END OF SECTION

SECTION 03300
CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. North Ditch

B. Concrete headwalls for culverts

C. Equipment pads, and thrust blocks.

1.2 REFERENCES

A. ACI 301 - Structural Concrete for Buildings.

B. ACI 302 - Guide for Concrete Floor and Slab Construction.

C. ACI 304 - Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete.

D. ACI 305R - Hot Weather Concreting.

E. ACI 306R - Cold Weather Concreting.

F. ACI 308 - Standard Practice for Curing Concrete.

G. ACI 318 - Building Code Requirements for Reinforced Concrete.

H. ASTM C-33 - Concrete Aggregates.

I. ASTM C-94 - Ready-Mixed Concrete.

J. ASTM C-150 - Portland Cement.

K. ASTM C-260 - Air Entraining Admixtures for Concrete.

L. ASTM C-494 - Chemicals Admixtures for Concrete.

1.3 SUBMITTALS

A. Submit under provisions of Section 01300.

B. At least 21 days prior to scheduled installation, provide Certification by the National Ready Mix Concrete Association for the Concrete Supplier.

C. At least 21 days prior to scheduled installation, submit concrete mix design.

D. At least 21 days prior to scheduled installation, submit concrete materials, accessories, water stop, and epoxy adhesive.

E. Submit concrete test results as follows:

1. Air, slump and concrete mix temperature – within three days after installation.
2. 7-day strength test – within three days after test.
3. 28-day strength test – within three days after test.

1.4 PROJECT RECORD DOCUMENTS

A. Submit under provisions of Section 01700.

B. Accurately record actual locations of embedded utilities and components which are concealed from view.

1.5 QUALITY CONTROL

A. Perform Work in accordance with ACI 301.

B. Acquire cement and aggregate from same source for all work.

C. Conform to ACI 305R when concreting during hot weather.

D. Conform to ACI 306R when concreting during cold weather.

PART 2 - PRODUCTS

2.1 CONCRETE MATERIALS

A. Cement: Meeting ASTM C-150 Type II Low Alkili Portland Cement and be on the current WSDOT Qualified Product List.

B. Fine and Coarse Aggregates: ASTM C-33.

C. Water: Clean and not detrimental to concrete.

2.2 ADMIXTURES

A. Air Entrainment: Meeting ASTM C-260 and be on the current WSDOT Qualified Products List

2.3 CONCRETE MIX

A. Concrete Supplier: Commercial ready-mix supplier having current certification by the National Ready Mix Concrete Association.

B. Provide proposed mix design a minimum of 21 days prior to first use is planned.

C. Provide concrete mix to the following criteria:

Unit	Measurement
Compressive Strength (7 day)	2200 psi
Compressive Strength (28 day)	4000 psi
Slump	less than 10 inches
Air Entrainment	6 % ± 1.5%
Water-Cement Ratio (by Weight)	0.45
Maximum Aggregate Size	3/4 inch

D. Use accelerating admixtures in cold weather only when approved by ENGINEER. Use of admixtures will not relax cold weather placement requirements.

E. Use of calcium chloride will not be permitted.

F. Use set retarding admixtures during hot weather only when approved by ENGINEER.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify site conditions under provisions of Section 01039.

B. Verify requirements for concrete cover over reinforcement.

C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not cause hardship in placing concrete.

3.2 PREPARATION

A. Prepare previously placed concrete by cleaning thoroughly with steel brush and applying bonding agent in accordance with manufacturer's instructions.

B. In locations where new concrete is dowelled to existing work, drill holes in existing concrete, fill with epoxy adhesive, and insert steel dowels.

3.3 PLACING CONCRETE

A. Place concrete in accordance with ACI 318.

B. Notify ENGINEER minimum 24 hours prior to commencement of operations.

C. Ensure reinforcement, inserts, embedded parts, formed expansion joints, and contraction joints, are not disturbed during concrete placement.

D. Repair vapor barrier damaged during placement of concrete reinforcing. Repair with vapor barrier material; lap over damaged areas minimum 6 inches and seal watertight.

E. Install joint fillers in accordance with manufacturer's instructions.

F. Extend joint filler from bottom of slab to within 1/4 inch of finished slab surface.

G. Install joint devices in accordance with manufacturer's instructions.

H. Install construction joint device in coordination with floor slab pattern placement sequence. Locate so placement will occur under walls or partitions wherever possible. Set top to required elevations. Secure to resist movement by wet concrete.

I. Install joint device anchors. Maintain correct position to allow joint cover flush with floor and wall finish.

J. Install joint covers in one piece length, when adjacent construction activity is complete.

K. Apply sealants in joint devices in accordance with manufacturer's recommendations.

L. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.

M. Place concrete continuously between predetermined expansion, control, and construction joints.

N. Do not interrupt successive placement; do not permit cold joints to occur where not specified.

O. Screed floors and slabs on grade to match design grades and elevations, maintaining surface flatness of maximum 1/4 inch in 10 ft. Conform to slope to drain requirements.

3.4 CONCRETE FINISHING

A. Provide formed concrete surfaces to be left exposed with smooth rubbed finish.

B. Finish concrete floor surfaces in accordance with ACI 301.

C. Steel trowel surfaces which are scheduled to be exposed.

D. In areas with floor drains, maintain floor elevation at walls; pitch surfaces uniformly to drains as indicated on Drawings.

3.5 CURING AND PROTECTION

A. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

C. Cure floor surfaces in accordance with ACI 308.

D. Ponding: Maintain 100 percent coverage of water over floor slab areas continuously for 4 days.

E. Spraying: Spray water over floor slab areas and maintain wet for 7 days.

3.6 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed in accordance with ACI 301 and under provisions of Section 01400.

B. Provide free access to Work and cooperate with testing firm(s).

C. Four concrete test cylinders for each individual pour requiring 30 cubic yards of concrete or less and one set of four concrete test cylinders for each additional 30 cubic yards of fraction thereof. Test cylinders shall be made, cured, stored and delivered to the laboratory in accordance with ASTM C-31 and tested in accordance with ASTM C-39. Test for compressive strength in seven days, and at 28 days.

D. One additional test cylinder will be taken during cold weather concreting, cured on job site under same conditions as the concrete it represents.

E. One slump test will be taken for each set of test cylinders taken.

F. Air Entrainment Test: Accurately measure the amount of entrained air using ASTM C-173 or ASTM C-231 testing method for all concrete pours. One test will be taken for every set of test cylinders taken.

3.7 PATCHING

A. Allow ENGINEER to inspect concrete surfaces immediately upon removal of forms.

B. Excessive honeycomb or embedded debris in concrete is not acceptable (as determined by the Engineer). Notify ENGINEER upon discovery.

C. Patch imperfections as directed by the Engineer in accordance with ACI 301.

3.8 DEFECTIVE CONCRETE

A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.

B. Repair or replacement of defective concrete will be determined by the ENGINEER.

C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of ENGINEER for each individual area.

END OF SECTION

SECTION 03400
PRECAST CONCRETE

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Precast concrete manhole sections, precast vaults, manhole frame, grates and covers.

1.2 SUBMITTALS

A. Submit under provisions of Section 01300, SUBMITTALS.

B. Submit manufacturer's product data, shop drawings, and installation data in compliance with Section 01300, SUBMITTALS for all precast concrete structures including, but not limited to: Catch Basins, Manholes, and Valve Vaults.

PART 2 - PRODUCTS

2.1 PRECAST MANHOLE SECTIONS

A. Conform to ASTM C478 with a minimum wall thickness of 4-1/4 inches.

2.2 MANHOLE GASKETS

A. Conform to ASTM C443, ASTM C428.

2.3 GROUT

A. Non-Shrink: Premixed compound of non-metallic aggregate, cement and water reducing and plasticizing agents. Minimum compressive strength: 2,400 psi in 48 hours, and 7,000 psi in 28 days.

2.4 FRAME AND COVER

A. 24-inch diameter standard traffic rated manhole frame and cover where required on the Drawings.

2.5 MANHOLE LID

A. Flat top lid with diameter as shown on the Drawings rated for H-20 traffic loading where required on the Drawings.

2.6 PRECAST MANHOLE BASE

A. Precast manhole base with diameter required on the plans sloped to drain (1/4 inch per foot) to the manhole outlet pipe per standard specifications. A full depth channel shall be grouted in.

2.7 PRECAST VAULTS/TANKS

A. Scope:

1. Construction shall include manufacture, transportation and installation, as required of precast structures as shown and specified.
2. Manufacturer shall demonstrate a recognized background in precast concrete production, and that firm has facilities and personnel required to produce required structures.

B. Shop Drawings:

1. The precast manufacturers shall prepare and submit shop drawings in accordance with Section 01300, SUBMITTALS.
2. Shop drawings shall be complete and shall show overall layout, unit locations, fabrication details, reinforcement, connection details, support items, dimensions, and relations to adjacent materials.
3. Manufacturer shall provide design calculations sealed by a Professional Structural ENGINEER licensed in the State of Washington.

C. Materials:

1. Precast/concrete members shall conform to ACI 318 (latest revision) Building Code Requirements for Reinforced Concrete.
2. Prestressing strand shall meet requirements of ASTM A416 (latest revision).
3. Reinforcing bars shall meet requirements of ASTM A615 (latest revision).
4. Welded wire mesh shall meet requirements of ASTM A185 (latest revision).
5. Aggregates shall meet requirements of ASTM C33 (latest revision).
6. Cement shall meet requirements of ASTM C150 (latest revision).
7. Concrete for precast members shall have a minimum ultimate compressive strength of 3,000 psi at 28 days. The concrete and the equipment producing the concrete for the precast/members shall meet the requirement so ASTM C94 (latest revision).

D. Casting and Handling:

1. Precast structures shall be built to the clear dimensions shown on the construction drawings. The structures shall be designed per AASHTO Specifications to carry an HS-20 loading with a maximum cover as shown on the Drawings. The lateral effective earth pressure shall be per the General Structural Notes in the Drawings.
2. Precast members shall be handled in positions consistent with their shape and design. Members shall be lifted and supported only from support points.
3. All precast structures shall have watertight joints as provided by the manufacturer, and shall be watertight.
4. Clean weld marks, dirt, or blemishes from surface of exposed members.
5. Manufacturer shall coordinate with sluice gate manufacturer and provide necessary hardware and forming requirements to accommodate sluice gate installation with minimal field modifications.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify all materials delivered to the site are in compliance with these Specifications.

B. Verify manhole is ready to receive piping.

3.2 INSTALLATION

A. Install in accordance with the manufacturer's recommendations.

B. Place and compact granular fill under the concrete base in accordance with Specifications and drawings prior to installation.

C. Grout pipe entrance and exit openings watertight.

D. Place and install so no damage is inflicted to the structure, pipe, or valves.

E. Install so the walls and ceiling are plumb and true to line and grade.

F. Grout all joints water tight.

END OF SECTION

SECTION 15060
PIPE AND PIPE FITTINGS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Furnishing and installing solid wall polyethylene pipe and fittings in locations indicated on the drawings to construct components of the gas collection and control system.

1.2 RELATED SECTIONS

A. Section 01669 – Pipe Pressure Testing

B. Section 02711 – Polyethylene Pipe

C. Section 15100 – Landfill Gas Extraction Wells

D. Section 15300 – Condensate Pumps and Controls

E. Section 02211 – Site Grading and Earthwork

F. Section 02225 – Trenching and Backfill

G. Section 02235 – Reclaimed Concrete Aggregate

1.3 REFERENCES

A. ASTM D638 - Standard Test Method for Tensile Properties of Plastics.

B. ASTM D696 - Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between minus 30 degrees C and 30 Degrees C with a Vitreous Silica Dilatometer.

C. ASTM - D748 - Standard Specification for Natural Block Mica and Mica Films Suitable for Use in Fixed Mica-Dielectric Capacitors.

D. ASTM D790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

E. ASTM D1238 - Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer.

F. ASTM D1248 - Standard Specification for Polyethylene Plastics Extrusion Materials For Wire and Cable.

G. ASTM D1505 - Standard Test Method for Density of Plastics by the Density-Gradient Technique.

H. ASTM D1525 - Standard Test Method for Vicat Softening Temperature of Plastics.

I. ASTM D1603 - Standard Test Method for Carbon Black In Olefin Plastics.

J. ASTM D1693 - Standard Test Method for Environmental Stress-Cracking of Ethylene Plastics.

K. ASTM D2240 - Standard Test Method for Rubber Property-Durometer Hardness.

L. ASTM D2657 - Standard Practice for Heat Fusion Joining of Polyolefin Pipe and Fittings.

M. ASTM D2837 - Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials.

N. ASTM F714-03: Standard Specification for Polyethylene Plastic Pipe (SDR-PR) Based on Outside Diameter.

O. ASTM F1055-98e1: Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled PE Pipe and Tubing.

P. ASTM D3261 - Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing.

Q. ASTM D3350 - Specification for Polyethylene Plastics Pipe and Fitting Materials.

1.4 DEFINITIONS

A. Standard Dimensional Ratio (SDR) is defined as the actual outside pipe diameter divided by the wall thickness.

1.5 SUBMITTALS FOR INFORMATION

A. Prior to execution, submit a list of those individuals certified for polyethylene pipe fusion welding with copies of their current certificates for the ENGINEER'S approval.

1.6 SUBMITTALS FOR REVIEW

A. Submit welding system proposed for this project. Submit 10 days prior to shipment.

PART 2 - PRODUCTS

2.1 PIPES AND FITTINGS

A. All pipe sizes indicated on the Drawings and specified in this Section reference nominal diameter unless otherwise indicated on the Drawings or in this Section.

B. Provide pipe conforming to the standards and specifications listed in Section 02711, after submitting manufacturer's quality control data to the ENGINEER and receiving written authorization to proceed with delivery. Provide:

1. 8-inch diameter pipe with an SDR of 17,
2. 4-inch diameter pipe with an SDR of 17,
3. 1.5-inch diameter pipe with an SDR of 11,
4. 1.5-inch diameter pipe with an SDR of 9,
5. 4-inch diameter Schedule 80 PVC,
6. 3-inch diameter Schedule 80 PVC.

C. Exercise care during loading, transit, and unloading to prevent damage by abrasion or puncturing, or both.

D. Store pipe with support to prevent developing a permanent set.

E. Stack the heaviest series of pipe on the bottom.

F. Stack pipe no more than eight layers high or consistent with the Manufacturer's recommendations.

G. Document pipe damaged during transportation, loading, unloading, delivery or storage. Provide documentation to the ENGINEER.

H. Repair or replace pipe damaged during delivery, storage or handling.

I. Pipe shall be supplied in standard laying lengths not exceeding 50 feet.

J. Pipe shall be homogeneous throughout and free of visible cracks, holes, foreign inclusions, or other injurious defects. Being uniform in color, capacity, density, and other physical properties.

2.2 PIPE COUPLINGS AND FITTINGS

A. Pipe couplings and fittings should conform to the standards and specifications listed for HDPE pipe in Section 02711. After submitting manufacturer's quality control data and shop drawings for pre-fabricated fittings to the ENGINEER and receiving written authorization to deliver, furnish and install HDPE flange adapters and other fittings in accordance with the drawings and manufacturer's recommendations.

B. CONTRACTOR shall use factory molded tee and reducers for pipe connections. Branch saddle connections are not to be used, unless otherwise approved by the ENGINEER.

C. Flanges shall be ASTM A 240, Type 304 stainless steel backing flanges with 125-pound, ANSI B16.1 standard drilling. Flanges shall be complete with one-piece, molded polyethylene stub ends. Flanged connections shall have the same pressure rating as the pipe or greater.

D. Gaskets shall be flat ring, 1/8-inch ethylene propylene rubber (EPR).

E. Bolting shall be type 304 stainless steel, ASTM A 193, Grade B8 hex head bolts, and ASTM A 194, Grade 8 hex head nuts, or as indicated on the drawings. Bolts shall be fabricated in accordance with ANSI B18.2 and provided with washers of the same material as the bolts.

2.3 ELECTROFUSION COUPLING

A. Electrofusion couplings shall be used where shown on the Drawings, in situations where welding machine access is difficult or impossible, or as determined by the Construction Manager.

B. Electrofusion couplings shall be a rigid straight coupler constructed from injection-molded PE with embedded heating coils. Electrofusion couplings shall be manufactured in accordance with ASTM F1055. Electrofusion couplers shall be Frialen Straight Couplers, as manufactured by Friatec, or approved alternate.

2.4 BUTTERFLY VALVES

A. Valves: Butterfly valves shall be Asahi/America or equal as approved by the ENGINEER. Butterfly valves shall be constructed of PVC body with polypropylene disc and either ethylene propylene diene terpolymer rubber (EPDM), or Viton^{R} fluorocarbon rubber (FKM) seats and seals. The liner shall be full seat design fully molded around the body whereas only the Disc and Seat are wetted parts and feature raised convex rings on the face and be utilized as the mating flange gaskets. Valves shall accept flat faced flanges in accordance with ANSI B16.5 bolt pattern for 150 lb flanges. Valve stem shall be either 316 SS (sizes 1-1/2" – 12"), or 403 SS (sizes 14" – 24"), be non-wetted, and have engagement over the full length of the disc. The valve lever handle (sizes 1-1/2" – 8") shall have a molded provision for a padlock. Valves sizes 1-1/2" – 16" shall feature a molded ISO bolt pattern for accessory mounting.

B. Operators: Gear type operators shall be furnished by the manufacturer of the valve.

C. Stem Extensions: Stem extensions, where required, should be furnished by the manufacturer of the valve. Two-piece extensions with outer housing and supported design should be used for 4-inch and 8-inch butterfly valves.

D. Actuation: Electric or pneumatic actuators are not included in this design package. Should the CONTRACTOR wish to substitute automated actuators, they must be designed, built, and provided by the valve manufacturer, and installed in accordance with manufacturer's requirements.

E. Installation: All valve joints shall be prepared using the preferred joining method for the valve material and installation type as shown on the Drawings and in accordance with all requirements put forth in manufacturer's requirements.

2.5 BALL CHECK VALVES

A. Ball Check Valves (BCVs): BCVs shall be installed at the condensation sump prior to connection with the condensate forcemain. BCVs shall be PVC body with EPDM or FKM seals. BCVs shall be of solid thermoplastic construction with an elastomeric uniseat/seal for tight shut-off under pressure. BCVs shall be true union.

B. Installation: All valve joints shall be prepared using the preferred joining method for the valve material and installation type in accordance with all requirements put forth in manufacturer's requirements.

2.6 FLEXIBLE HOSE

A. Provide flexible hose for wellhead connections to lateral headers.

B. Hose should be flexible PVC suction hose, as provided by Fernco, or other as provided by Landtec for application with the Accuflo prefabricated wellhead, or equal as approved by the ENGINEER. Diameter of the hose shall be as shown on the drawings and shall be constructed airtight to the HDPE piping system.

C. Ratings at 72°F:

1. Working Pressure: 30 psig
2. Vacuum Rating: 28.0 inches of mercury
3. Minimum bending radius: 6.5

D. Service conditions: - wellhead flexible coupling:

1. Product flow: Landfill gas (assume 55% methane, 40% carbon dioxide, 5% other), saturated, corrosive
2. Product temperature: 100 to 150°F
3. Product pressure: 1 to 5 inches water vacuum
4. Location: Exterior service

E. Connections to flanged stub ends or barbs shall be by stainless steel hose clamp or manufacturer's standard, as approved by the ENGINEER.

2.7 CONDENSATE SUMP

A. The CONTRACTOR shall furnish or field-fabricate condensate sump as shown in drawings. Prefabricated HDPE sump may be substituted as approved by the ENGINEER. Condensate sump should meet the following conditions:

1. Sump shall be constructed of 18" SDR-17 HDPE
2. Sump diameter shall be 18-inches.
3. Sump depth should be 6 feet below the centerline of the inputting header pipe and stick-up 18-inches above inside bottom of vault.
4. Internal PVC casing shall be constructed of 6-inch SCH80 PVC pipe with a 12-inch section of 5/8 perforations at the bottom of the sump to house the sump pump.
5. Sump pump shall be a pneumatically operated leachate pump as specified in Section 15300 Condensate Pumps / Controls, or equal as approved by the ENGINEER. Single stage air filter and pressure regulator, with cycle counter and weatherproof case shall be provided and installed by the CONTRACTOR according to manufacturer's requirements.
6. Sump top completion should be airtight and include flanged adaptors allowing the 6-inch casing to pass through.

7. The CONTRACTOR shall install adapter kit, as provided by QED, or approved equal to allow airtight passage of ½-inch airline, 5/8-inch pump exhaust, and 1-inch condensate discharge.
8. The CONTRACTOR shall install 1.5-inch PVC check valve and 1.5-inch ball valve on condensate outlet line to make suitable connections from 1-inch condensate discharge to 1.5-inch PVC and 1.5-inch SDR-11 HDPE condensate forcemain.
9. The CONTRACTOR shall connect 1.5-inch SDR-9 HDPE airline to ½-inch stainless steel ball valve threaded connection.
10. Sump shall be covered by pre-cast open-bottom vault with spring assisted lid as provided by Wilbert Precast Inc. Model No. 1960-Open bottom with Halliday SA-3030 lid or equal as approved by the ENGINEER.
11. Sump installation shall be pressure-tested along with HDPE pipe. Testing must be completed with internal casing, sump pump, and completion cap in place. Installation will not be accepted until the unit passes the pressure test.
12. The tracer tape shall be constructed of a metallic core bonded between layers of plastic. The tape shall be a minimum of 3 inches wide. The plastic shall be coated with the corrosion-resistant yellow color and the legend shall say “Gas Line Below”.

2.8 FLOW METERS

A. Flow meters shall be installed on the combined Area 5/Area 2 LFG Header and the Area 1 LFG Header prior to the connection to the Area 6 LFG Header. The Contractor shall furnish one extra flow meter as a backup. Flow meters shall be FCI ST100 with corresponding remote display panel, or approved equal. Remote display panel shall have a 50 watt strip heater installed inside for freeze protection.

B. Installation: All connections shall be prepared using the manufacturer’s preferred joining method and installation type in accordance with all requirements put forth in manufacturer’s requirements and as shown on the drawings.

C. The CONTRACTOR shall furnish flow meter, remote display panel, vendor supplied conductors as shown, panel support, vault and all fittings as shown in drawings. Flow meters should meet the following conditions:

1. Direct Mass Flow Measuring
2. Flow, Total Flow, and Temperature
3. Line size 8 inch and 4 inch schedule standard round
4. 0 to 30 inches of water column (g).
5. Process temperature 0 to 170 degrees Fahrenheit
6. Base accuracy: 1.00% rdg. +.50% of full scale
7. Flow range from 0 to 200 SCFM
8. Remote configuration flow element for hazardous locations
9. Remote NEMA 4x panel with display
10. Sun and wind enclosure shade to protect remote panel.

PART 3 - EXECUTION

3.1 QUALITY CONTROL

A. Use adequate numbers of skilled workman who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Prior to implementing any of the work described in this Section, the CONTRACTOR shall become familiar with all portions of the work falling within this Section.

3.2 TRENCHING AND BACKFILL

A. Trenching activities for the installation of HDPE pipe headers and laterals shall be performed in accordance with Section 02225.

B. Trenches should be excavated to allow the slope for HDPE pipe in the drawings. Pipes will be sloped toward condensate sumps to prevent condensate buildup in the extraction system. Trenches will be excavated as shown in the drawings for lateral and main header piping. Adjustments to the trench locations shown in the drawing may be necessary to achieve the slopes specified in the drawings. The CONTRACTOR is responsible for routing the trenches and pipe to achieve desired slope, and presenting the routing plan to the ENGINEER if deviation from drawings is greater than 5 feet at control points indicated in the drawings. Proper slope will be verified by licensed professional surveyor at the CONTRACTOR'S cost at 100 foot intervals, as discussed in Part 3.9 of this Section. The CONTRACTOR must provide a professionally stamped survey report verifying the pipe is sloped adequately to accommodate condensation flow and removal to the ENGINEER for approval. The installation will not be accepted until approved by the ENGINEER.

C. Installation will not be accepted if deviations between actual trench / pipe locations and those shown on drawings are greater than 5 feet, unless approved by the ENGINEER.

D. Pipe zone bedding used in the gas system header trenches must meet specifications in Section 02225.

3.3 PLACING AND LAYING PIPE

A. Follow the manufacturer's recommendations when hauling, unloading, and stringing the pipe.

B. Do not push or pull pipe and fittings over sharp projections, or drop, or have objects dropped on it.

C. Do not kink or twist the pipe.

D. Ropes, fabric, or rubber-protected slidings and straps shall be used when handling the pipe. These slings or straps should not be positioned at butt-fused joints.

E. HDPE pipe shall be stored on clean level ground. Stacking shall be limited to a height that will not cause excessive deformation of the bottom layers of pipes under anticipated temperature conditions. Pipes should be stored out of direct sunlight.

F. Inspect for defects before installation.

G. Remove any pipe showing kinks, buckles, cuts, gouges, or any other damage that in the opinion of the CQA Monitor will affect performance of the pipe.

H. The maximum allowable depth of cuts, gouges or scratches on the exterior surface of HDPE pipe or fittings is 10% of the wall thickness.

I. Replace material found to be defective before or after laying with sound material.

J. Carefully lower pipe and accessories into place by means of derrick, ropes, belt slings, or other equipment that will not cause any damage to the pipe.

K. Weld joints prior to placing the polyethylene pipe, except as noted.

L. Under no circumstances drop or dump material into the trench.

M. Rest the full length of each section of pipe solidly upon pipe bedding.

N. Take up or relay pipe that has had the grade disturbed while laying.

3.4 PIPE CUTTING

A. Field-cutting of pipe, where required, shall be made with a machine specifically designed for cutting pipe. Cuts shall be carefully made, without damage to the pipe or lining, so as to leave a smooth end at right angles to the axis of the pipe. Cutter ends shall be tapered and sharp edges filed off smooth. Flame cutting will not be allowed.

3.5 JOINTS AND CONNECTIONS

A. Polyethylene Fusion Qualification: All pipe fusion must be performed by a supplier, or a factory supplied and/or certified fusion operator.

B. Provide for the instruction, testing, and installation training sessions as required to obtain training for welding personnel, including quality control personnel polyethylene fusion machine operation instruction and familiarization with HDPE pipe and fitting fusion as applicable for the project. Only fully trained personnel will be allowed to perform the installation, supervision, or inspection of polyethylene-fusion joints.

C. Mechanical connections of the HDPE pipe to auxiliary equipment such as valves, pumps, tanks, etc., shall be through flanged connections, which shall consist of the following, unless otherwise noted:

1. A polyethylene “stub end” shall be thermall butt-fused to the ends of the pipe.
2. Provide ASTM A 240 Type 304 stainless steel backing flange, 125-pound ANSI B16.1 standard.
3. Bolts and nuts of sufficient length to show a minimum of three complete threads when the joint is made and tightened to manufacturer’s standard. Re-torque the nuts after 4 hours.

D. Join the polyethylene pipe by the method of thermal butt or side wall fusion, outlined in ASTM D2657, and as recommended by the manufacturer

E. Each joint shall be swabbed and visually inspected inside and out for damage, dirt, or moisture prior to fusing. All open pipe ends will be capped at the end of the work day to prevent foreign material from entering the pipe.

F. Pipe ends shall be wiped clean. Alignment shall be checked to see that the pipe ends meet squarely over the entire surface to be fused. The heater plate shall be applied so as to achieve a melt pattern to a depth of 3/16-inches. The pipe ends shall be carefully removed from the ends. The pipe shall be brought together under sufficient pressure to form a double roll-back bead of 3/16-inch minimum width. After the joint has cooled, the pressure shall be released and the pipe shall be removed from the clamps.

G. Polyethylene pipe connected to heavy fittings, manholes, and rigid structures shall be supported in such a manner that no subsequent relative movement between the polyethylene pipe at the flanged joint and the rigid structures is possible.

H. Do not perform pipe fusion in water or when trench conditions are unsuitable for the work. Keep water out of the trench until joining is completed.

I. Clear welding and grade sites, if necessary, to provide enough space for pipe storage and fusion. Keep the site free of rocks, stumps, and debris that could cut, scar, or gouge the pipe.

J. In order to allow the joining operation to continue in adverse weather conditions, a shelter may be required for the joining machine. Particular caution should be exercised to prevent water from entering the I.D. or O.D. of the pipe and from coming in contact with the heater plate.

K. Where used, electrofusion couplings shall be installed in accordance with the manufacturer’s recommendations.

3.6 AIR PRESSURE TESTING SOLID PIPE AND FITTINGS

A. Perform pressure testing in accordance with Section 01669 - Pipe Pressure Testing.

B. All costs associated with the pressure testing and repair of damaged pipe will be borne by the CONTRACTOR.

C. Perform tests in the presence of the CQA Organization.

3.7 FLOW METER INSTALLATION

A. Flow meters shall be installed with a minimum of 10 diameters upstream and 5 diameters downstream straight run pipe lengths without fittings.

B. Flow meters shall be factory calibrated for flow range, gas composition, for operating conditions.

C. Flow meters, power supply, and instrumentation wiring shall be rated for hazardous areas as noted on drawings.

D. Insertion length to be verified by CONTRACTOR for actual fittings installed on Header in accordance with Manufacturers requirements.

3.8 ROAD CROSSINGS

A. The CONTRACTOR shall install road crossings where shown on the Drawings. Road crossings will be accomplished by running the HDPE pipe through a protective casing material to prevent damage to HDPE pipes caused by heavy vehicular traffic.

B. The CONTRACTOR shall use the protective casing specified in the drawings, which are specific to each road crossing, based on anticipated traffic and load requirements.

C. Casing will be 16-inch diameter ductile iron pipe that will be supplied by the Owner. The CONTRACTOR shall be responsible for pipe joining and cutting as required for casing length. Where gasketed joint is to be placed, The CONTRACTOR shall supply the gasket.

D. Top of protective casing will be installed a minimum of 4 feet below the top of final road elevation.

E. Protective casing will extend a minimum of 5 feet beyond the outside edge of the top of final road corridor to protect HDPE from surcharge.

F. Protective casing will be underlain by 6-inches of sand backfill.

G. Compacted structural fill under road surface, and above protective casing will be constructed in accordance with Section 02231 – Access Road Aggregates.

H. Road surface will be restored to match surrounding, adjacent road conditions. CONTRACTOR shall coordinate HMA patching to occur at same time as paving for compost road. Temporarily patch with CSBC if required.

I. The CONTRACTOR will provide 4-inch x 4-inch timber post with 9-inch x 12-inch galvanized metal signs (2) at each crossing which state “Caution Landfill Gas Pipeline”. Signs will be oriented towards oncoming traffic.

J. The CONTRACTOR will provide the ENGINEER 24 hours’ notice before constructing a road crossing to allow witness.

K. Road crossing installation will not be accepted until the ENGINEER approves that materials and in-place compaction meet the minimum requirements in Section 02231.

3.9 LOCATION OF CONSTRUCTED SYSTEM

A. The CONTRACTOR shall furnish an As-Built Plan showing exact horizontal and vertical locations and descriptions of the constructed facilities. The As-Built Plan shall indicate the

location of all piping and equipment at 100 foot intervals and at elbows, tees, road crossings, and other pertinent locations.

3.10 SYSTEM STARTUP

A. Upon completion of the landfill gas control system installation, inspections and approvals, the Contractor shall coordinate with the flare/blower operation and maintenance technical representative and be present for on-site operation testing and training. The Owner/Engineer and Operator should be notified 15 days prior to the intended start-up of the equipment.

B. Contractor shall demonstrate to the CQA Engineer that the flow meters, remote flow meter displays, wellhead assemblies and valves operate as intended.

C. Contractor shall provide a brief training session for the Owner and its Operator.

D. Contractor will be required to be available for two weeks after the initial landfill gas control system startup to make any necessary adjustments, repairs, or maintenance for proper system operation at no cost to the Owner.

END OF SECTION

SECTION 15100
LANDFILL GAS WELLS

PART 1 - **GENERAL**

1.1 DESCRIPTION OF WORK

A. The CONTRACTOR shall furnish all labor, materials, tools, supervision, transportation, and installation equipment necessary for installation of landfill gas extraction wells (EW) as specified herein and shown on the drawings, and to properly decommission the one existing gas vent in Area 5.

1.2 RELATED SECTIONS

A. Section 02211 – Site Grading and Earthwork

B. Section 15060 – Pipe and Pipe Fittings

C. Section 01750 – Health and Safety

1.3 REFERENCES

A. Washington Administrative Code (WAC) Chapter 173-160 Minimum Standards for Construction and Maintenance of Wells.

B. Well decommissioning variance letter provided by Ecology.

1.4 CONTRACTOR QUALIFICATIONS

A. The CONTRACTOR or SUBCONTRACTOR shall have completed at least three operating landfill gas collection extraction wells of similar construction within the last six years.

B. Submit list of above described collection systems with bids.

C. The CONTRACTOR or SUBCONTRACTOR shall be a driller licensed by the State of Washington.

D. CONTRACTOR or SUBCONTRACTOR shall have current 40 hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training covered under OSHA standard 29 CFR Part 1910.120. CONTRACTOR or SUBCONTRACTOR shall be certified to perform HDPE fusion welds.

E. All extraction wells shall be installed under the direction of a qualified construction superintendent with direct experience drilling at landfills within refuse. All final well completion diagrams shall be signed by the CONTRACTOR'S construction superintendent.

1.5 SUBMITTALS

A. The CONTRACTOR is responsible for implementing a Health and Safety Plan for the protection of its employees working at the site. The plan shall be submitted and approved prior to construction start-up. Refer to Division One, Section 01750 – Health and Safety.

B. Prior to execution, the CONTRACTOR shall meet with the appropriate representatives of the Fire Department to discuss public safety, site access, and emergency response requirements.

C. Prior to construction, the CONTRACTOR shall submit testing results of pre-construction quality control tests conducted on representative samples of the CONTRACTOR's source of washed stone. Such test results must document compliance with these specifications.

D. Prior to construction, the CONTRACTOR shall submit copies of certification to perform HDPE fusion welds.

E. Prior to construction, the CONTRACTOR shall submit a brief installation plan demonstrating awareness of site topography, locations of borings, spoils generation plan, drilling equipment

proposed for boring, and plans for decommissioning the one gas vent in Area 5. Equipment shall not be mobilized to the site prior to the ENGINEER's approval of the installation plan.

F. Prior to construction, the CONTRACTOR shall submit notice of intent to install LFG extraction wells and to decommission one gas vent. Notice of intent shall be submitted to the State of Washington Department of Ecology along with notice that wells will be installed and decommissioned in accordance with the variances provided by the State.

G. Prior to construction, the CONTRACTOR shall submit copies of well drilling and decommissioning permits issued by the State of Washington to the OWNER.

H. Upon completion of drilling, the CONTRACTOR must submit the driller's daily reports and well installation logs to the OWNER and State of Washington Department of Ecology. These documents should contain the following, at a minimum:

I. Driller's Daily Report: Date, boring identification number, weather conditions, daily activities, equipment used, drilling crew, time (rig time, down time, stand-by, etc.), footage, materials used, well construction notes, other comments as relevant.

1. Well Installation Logs: Installer's name, dates of work, location, boring identification number, equipment used, installation crew, time (time to depth, down time, stand-by, etc.), footage (total depth, well depth), materials used, size and depth of pipe, length of perforated pipe and solid casing, depth of slip joint coupling, depth and type of backfill (gravel pack, structural soil, or bentonite seals), other comments as relevant.

2. Well installation log and vent decommissioning report must be submitted to Ecology's water resources program within thirty days after completion of construction or decommissioning. Submission of a well report to consulting firms does not meet this requirement. The report must be an accurate summation of data collected in the field taken from field notes written as the well was constructed or decommissioned. Field notes must be available at all times during construction or decommissioning for review by state and local inspectors and kept until the well report is submitted.

PART 2 - PRODUCTS

2.1 GAS EXTRACTION WELLS

A. Well construction shall be in accordance with the State of Washington well rules defined in Chapter 173-160 WAC.

B. Well casing will be constructed of perforated and non-perforated 4-inch SCH80 PVC and non-perforated 3-inch SCH80 PVC, as indicated in the drawings.

C. Perforated casing should include 1/4-inch by 2-inch slots on 6-inch centers, at 90° rotation, as indicated in the drawings. Factory slotted pipe providing equivalent perforations can be used as approved by the ENGINEER.

2.2 Subsoil Type S2 backfill and Drainage Aggregate shall conform to materials specifications as identified in Section 02205 – Soil Materials and Aggregates.

2.3 BENTONITE SEALS

A. BENTONITE

1. The bentonite shall consist of a commercially prepared sodium montmorillonite clay. Acceptable products shall have been used in similar applications.

2. Bentonite shall meet the requirements of API Specifications 13A, Section 9, with a minimum yield of 91 barrels.

3. The bentonite shall have a free swell of 15 ml per 2 gm or greater.

4. Bentonite colloid content shall exceed 75 percent.

5. Dry fineness of the bentonite shall be:
   a. 100 percent passing a No. 10 U.S. sieve.
   b. 20 percent maximum passing a No. 200 U.S. sieve
6. Bentonite shall be supplied by EMA Marketing, Inc. Corvallis, OR, 503-758-1555; Federal Ore and Chemicals Co., Belle Fourche, SD, 800-843-8880; International Mineral and Chemical Co.; WYO-BEN Inc., Billings, MT, 800-548-7055; American Colloid Co., Arlington Heights, IL, 708-392-4600; or approved equal.

PART 3 - EXECUTION

3.1 GAS EXTRACTION WELLS

A. The CONTRACTOR shall install landfill gas extraction wells in accordance with the details and at the locations noted on the drawings, or as approved by ENGINEER.

B. The CONTRACTOR shall drill the gas extraction bores using an appropriate truck mounted or Caisson (crane-mounted bucket auger) type drilling unit capable of boring to the depths indicated in the drawings.

C. The CONTRACTOR shall perform no boring unless the ENGINEER is present to approve the well location and witness operations.

D. Extraction well boring will be a minimum of 36-inch diameter hole bored to the depth listed on the gas extraction well schedule on the drawings.

E. The bottom of the casing shall be capped with a solvent welded end cap with ½-inch diameter drain hole drilled in cap.

F. The top of the well will be temporarily capped with a 3-inch SCH80 PVC slip cap pending wellhead installation. Stick-up should be 3 feet above proposed finished grade.

G. The length of perforated pipe in the well shall be approximately 1/3rd the depth between Rough Grade elevation and bottom of refuse. CONTRACTOR shall confirm length of perforated pipe with ENGINEER after bottom of refuse has been located.

H. Slip joint couplings will be installed within the zone of Subsoil Type S2 Backfill. Slip couplings allow for landfill settling, while providing a seal between changing pipe sizes, as shown in the drawings.
   1. Construct slip joint as shown in the drawings.
   2. Set 3-inch casing 12 inches into the 4-inch casing.
   3. Record the depth to both the bottom of the 3-inch casing and the top of the 4-inch casing.

I. No pressure check is necessary for the extraction wells.

J. Well casings shall be set and the annular space backfilled in accordance with drawings. Well casings shall be installed immediately after completion of the holes by lifting the casing with the drill rig cable hoist, in sections if required, then lowering the casing into the hole. Casing shall be suspended at the surface and centered in the boring at all times during backfilling. Suspension and centering equipment shall allow for safe manipulation of the well casing in and over the open boring and provide a stable working surface for personnel completing section couplings and / or final removal of well supporting equipment. A minimum 3-feet bentonite seal will be installed above the gravel pack and upper soil backfill as shown in the drawings.

K. No well boring shall remain unsecured at the end of the workday. Any well borings not complete by the end of the workday shall be secured in a safe manner that will not allow access to the

boring. At no time are open well borings to be left uncovered and / or unattended during the course of the workday.

L. The CONTRACTOR shall be responsible for any grading, leveling, towing, and / or restoration which may be necessary for movement of the drill rig on the landfill property. No extraction well drilling shall occur on slopes that cannot safely support drilling operations.

M. If drilling is met with refusal after advancing 75% or greater of the planned depth, refusal depth shall become the bottom of boring and the well will be installed in accordance with drawings and specifications.

N. If drilling is met with refusal before advancing 75% of the planned boring depth, ENGINEER must verify refusal condition with CONTRACTOR. CONTRACTOR must abandon the location by backfilling the boring with clean soil from the refusal depth to 10 feet below ground surface (bgs). From 10 feet bgs to 5 feet bgs, the abandoned borehole will be backfilled with a 50 / 50 mixture of clean soil and bentonite chips. From 5 feet bgs to 1 foot bgs at the time of drilling, the abandoned borehole will be backfilled with hydrated bentonite chips. From 1 foot bgs to ground surface, the abandoned borehole will be backfilled with Subsoil Type S2 Backfill. The CONTRACTOR will propose a replacement location, ideally within 10 feet of the abandoned location, based upon site conditions and subsurface obstruction. The new location proposed by CONTRACTOR must be approved by ENGINEER before drilling proceeds.

3.2 DECOMMISSION EXISTING GAS VENT

A. The CONTRACTOR shall decommission one existing gas vent in Area 5 in accordance with the Ecology approved variance decommissioning requirements. In addition, the CONTRACTOR will submit a completed well report to the ENGINEER and to Ecology providing details of the decommissioning procedure as required by WAC 173-160-401 and 420(10)(a).

B. Existing vent to be decommissioned is a 24-inch diameter steel pipe. Depth of vent is approximately 50 feet deep from existing grade. Contractor to verify depth of vent prior to initiating decommissioning activities.

C. Contractor shall fill the 24-inch diameter steel pipe with a bentonite-concrete grout from bottom of vent to elevation 827.5’ plus or minus 0.5’. Cement-bentonite slurries shall meet the requirements of WAC 173-160-216 and 173-160-221. After the grout has stiffened, and gas discharges have ceased, the pipe shall be cut at the finished grout elevation. Contractor shall survey the location and elevation of decommissioned well prior to construction of the Area 5 soil cover over the sealed vent.

END OF SECTION

SECTION 15300
CONDENSATE PUMPS / CONTROLS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Furnishing and installing sump pumps and associated controls to transfer condensation collected in the condensate sumps and moisture knock-out to the leachate collection and treatment system.

1.2 RELATED SECTIONS

A. Section 02711 – Polyethylene Pipe

B. Section 15060 – Pipe and Pipe Fittings

C. Section 16010 – Basic Electrical Requirements

D. Section 16050 – Basic Electrical Materials and Methods

1.3 REFERENCES

A. ASME – International Boiler and Pressure Vessel Code

1.4 SUBMITTALS

A. Submit an installation plan demonstrating the CONTRACTOR'S ability to install a complete and operational condensate handling system which meets the specifications contained herein.

1. Installation plan should include shop drawings and manufacturer's specifications for pumps, control valves, check valves, compressor, and desiccant air dryer.
2. No equipment shall ship to the site until the CONTRACTOR receives written approval for the proposed equipment from the ENGINEER.
3. Execution of work will not proceed until the ENGINEER approves the installation plan.

PART 2 - PRODUCTS

2.1 SUMP PUMPS

A. Pumps shall be a pneumatic displacement pump which alternately fills and discharges automatically. The on/off cycle is regulated by an internal float, which trips air valve actuators when it reaches the "full" and "empty" positions. When air pressure is shut off, the inlet check valve allows liquid to enter the pump under the hydrostatic pressure in the well. After the pump fills, air pressure is turned on, seating the inlet check valve and forcing the liquid out through the discharge check valve and tubing. Pumps will be provided by QED (part number -Long AP4 Bottom-Loading Autopump), or equal as approved by the ENGINEER.

B. Pump design and performance shall meet the following requirements and must be able to operate under the following conditions:

1. Temperature up to 150°F
2. Air pressure up to 180 pounds per square inch (psi)
3. Must be capable of handling free floating or dissolved common solvents or otherwise corrosive constituents in landfill gas condensate.
4. Must operate on compressed air – no electricity shall be required at the well head.

5. Pumps shall include internal on/off level control – no bubbler tubes or in-well sensors shall be required to provide on/off level control.
6. Pumps shall require no surface mounting controllers or in-line control devices to control pump cycling.
7. Pumps models shall be “bottom filling” and “low-draw down”.
8. Pumps body shall be fiberglass reinforced plastic to eliminate denting and to withstand temperatures and corrosive nature of landfill gas condensate or leachate.
9. Internal check valves shall exhibit self-cleaning action and be able to pass coarse solids and viscous fluids without clogging.
10. Pump head and frame shall be 304 stainless steel.
11. Pump tubing shall be constructed of material that will not swell in water, provides excellent resistance to hydrocarbons, fuels and alkalis, and is rated for temperatures up to 150°F.
12. The CONTRACTOR shall furnish pump cap, which secures the pump tubing and hose and supports the pump in the well.
    a. Caps will be provided by pump manufacturer to ensure compatibility.
    b. Caps will be 6-inch diameter, and allow airtight passage (vacuum seal configuration) of air supply, air discharge, and condensate discharge from the sump.
13. Pump accessories must include cycle counter and filter/regulator and be housed in a weatherproof casing supplied by the pump manufacturer.

C. The Contractor shall provide manufacturer’s published flow curves to validate pump flow rate specifications.

D. Pumps shall be capable of the following benchmark flow rates:
    1. Pumps shall deliver up to 5 gallons per minute at a depth of 20 feet with 10 feet of submergence, operating at 100 pounds per square inch (psi).

E. Pumps shall have a maximum lift of at least 425 feet.

F. Pumps shall function properly over an operating range of 5 to 180 psi.

G. Pumps shall automatically conserve air by only demanding air when the water level is high enough for pumping to occur.

H. Pump shall prevent air from entering discharge tubing hose.

I. Pump shall be capable of operating in wells under vacuum without requiring any pump modifications.

PART 3 - EXECUTION

3.1 QUALITY CONTROL

A. Use adequate numbers of skilled workman who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Prior to implementing any of the work described in this Section, the CONTRACTOR shall become familiar with all portions of the work falling within this Section.

3.2 SYSTEM INSTALLATION AND STARTUP

A. System components will be installed according to manufacturer’s requirements.

B. Pressure testing of HDPE piping, as specified in Section 01669 – Pipe Pressure Testing, shall be completed with the pumps installed in the condensate sumps. The CONTRACTOR shall coordinate installation sequence in order to allow this testing to be performed with pumps installed.

C. The condensate collection system will be field-adjusted for optimum operation by adding water to the collection sumps in order to observe flow and adjust the filter/regulator at the wellhead. The filter/regulator at the wellhead will be adjusted to provide the pumps with sufficient air pressure and flow to discharge to the leachate collection and treatment system.

D. After field adjustments are made, the CONTRACTOR shall demonstrate the performance of the condensate collection system by performing a field test in the presence of the ENGINEER. Field testing should demonstrate automated on/off switches are working correctly, and that the regulators are set to accommodate discharge to the leachate collection system. Installation will not be accepted until the ENGINEER approves operational condition of the system as demonstrated during the field test.

E. After initial startup of the landfill gas control system, the CONTRACTOR shall be available for two weeks to make any necessary adjustments, repairs, or maintenance for proper system operation at no cost to the Owner.

END OF SECTION

SECTION 15770
FROST PREVENTION – HEAT TAPE AND INSULATION

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Furnishing and installing heat trace tape on equipment per the drawings and the following specifications. Items will include:

1. Supply and installation of self-temperature regulating heat trace tape, with end connectors, insulation, insulation protective covering, aluminum tape and labeling
2. Supply and installation NEMA 4X connection boxes at point of use with on/off indicators as needed.
3. Heat tape on bottom 4’ of the condensate knock-out pot (KOP)
4. Heat tape to be sown into the insulation bags for one (1) 2” manual drain valve, two (2) manual 6” valves, two (2) manual 8” valves, one (1) 8” automatic valve and actuator.
5. Heat tape along main header from manual valves to auto valve
6. Automatic temperature detection for on/off control with temperature switch , contactor and heat trace fault light.
7. Ground fault Equipment Protection (GFEP) breaker at power panels.
8. All necessary electrical conduit, wiring and connections from the distribution panel at the control building to the field to operate the system .
9. Contractor is responsible for required all permits.

1.2 RELATED SECTIONS

A. Section 1300 - Submittals

B. Section 02711 – Polyethylene Pipe

C. Section 15200 – Blower, Flare, Controls

1.3 REFERENCES

A. ASTM C 547 - Standard Specification for Mineral Fiber Pipe Insulation

1.4 SUBMITTALS

A. The Contractor shall submit the following materials list, Manufacturer’s Specifications, installation procedures, and Shop Drawings to the Resident Engineer for review in accordance with Section 01300 – Submittals. The Contractor shall obtain the Resident Engineer’s acceptance of applicable submittals before material shipment.

1. Materials list of items proposed to be provided under this Section;
2. Manufacturer’s Specifications and other data needed to prove compliance with the specified requirements of this project;
3. Manufacturer’s recommended installation instructions which, when approved by the Engineer, will become part of the basis for accepting or rejecting actual installation procedures used on the work;
4. Shop Drawings in sufficient details showing the materials and equipment being installed, method of anchoring, and interfacing of the work of this Section with the work of other sections; and
5. Manufacturer’s Operations and Maintenance Manual.

PART 2 - PRODUCTS

2.1 Heat Trace Tape

A. Chromalox 120VAC - single phase self-regulating 3 watt/ft heat trace or equal. (I.E. SRL5-1-CR) size to be determined by installation methods and application.

B. Heat trace will be sufficient to provide enough energy to keep pipe and vessel internals at or above 40 deg F.

C. All heat trace to be provided with an ambient sensing thermostat to turn off the heat trace when the ambient temperature is above 50 deg F. The thermostat should turn the heat trace on if the ambient temperature is ever below 40 deg F.

2.2 Insulation

A. For insulation on piping 2” and larger use 1” thick fiberglass ASJ/SSL with Stucco Aluminum jacketing banded and sealed with silicone based caulking. PVC or Aluminum covers or other all-weather heavy duty insulation protection recommended by manufacturer and as approved by engineer are used as needed on 90’s, 45’s, and tees.

B. For insulation on drain lines 1” and smaller use 1” thick fiberglass ASJ/SSL with stucco aluminum jacketing banded and sealed with silicone based caulking to protect and seal insulation from weather exposure. PVC fitting covers over loose insulation inserts are used as fittings or other all-weather heavy duty insulation protection recommended by manufacturer and as approved by engineer

C. For insulation on KOP use 1” Thick FSK Kwick Flex pipe wrap banded on the sides and 1” thick FSK board pinned in place on bottom or other all-weather heavy duty insulation protection recommended by manufacturer and as approved by engineer. KOP is then jacketed and trimmed with Stucco aluminum jacket and sealed with silicone based caulking or other as recommended by manufacturer and as approved by engineer to protect and seal insulation from weather exposure..

D. For insulation on drain and air lines with in the condensate sump use 1” fiberglass ASJ/SSL wrapped with Polyken 438X extreme weather FSK tape 6 mil self-self adhesive tape or other all-weather heavy duty insulation protection as approved by engineer. Contractor to also provide (1) high density woven PE double sided coated 6’ x 25’ concrete curing blanket for each newly installed condensate vault.

2.3 Insulation Protection Equipment

A. All valve covers to be heavy duty outdoor weather rated removable bags that allow the operation of the valve while covered. The removable bags are to be installed around the pneumatic actuator and valve on the 8” header and around the (2) two manual 8” valves on the 8” header. Each blower has a hand valve that will require accommodations to allow the handle to be operable without removing the insulation. See the drawings identifying the approximate dimensions of this actuator. Insulation to be held in place by ‘snaps’, ‘velcro’, or ‘lacing’. Tools will not be required to remove or re-install the ‘bag’ when accessing the actuator for the purposes of servicing. The insulation must be designed to remain in place while operating the valve.

PART 3 - EXECUTION

3.1 QUALITY CONTROL

A. Use adequate numbers of skilled workman who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Prior to implementing any of the work described in this Section, the CONTRACTOR shall become familiar with all portions of the work falling within this Section.

C. Contractor to provide demonstration and testing of the winterization system for approval by the Engineer

3.2 INSTALLATION

A. All local, state and national electrical codes are to be followed for the installation of heating equipment.

B. Surface temperature of all metallic surfaces to not exceed 180 degrees F at any time.

C. Heat trace applied to plastic surfaces must be at an appropriate rate to not cause any damage to HDPE piping. If necessary appropriate heating pad with a reduced surface temperature may be used in these applications.

D. Heat trace is to be installed with appropriate power connection boxes with indicating lights, and suitable appropriately sized ground fault equipment protectors.

E. All manufacturers' instructions and recommendations are to be followed.

F. All heat trace to be applied to metallic surfaces shall use aluminized tape. Heat tape is to be installed so that it is fully in contact with a metallic surface that will act as a 'heat sink'.

G. The 24" diameter KOP is to be insulated with 1" of fiberglass insulation from the bottom of the KOP to the bottom of the lower 8" inlet pipe (approximately 4'). Openings in the insulation will be provided for all ports on the KOP. These ports include: two (2) 1/2" NPT connections (differential pressure gauge), two (2) 1-½" flanged connections (sight glass), and one (1) 2" NPT connection on the bottom of the KOP (drain).

H. A 2" HDPE drain line connected to the bottom of the KOP, approximately 10' long, is to be insulated with 1" of fiberglass insulation. Accommodations are to be made to allow the operation of the hand valve on the end of this drain to be operable without removing the insulation.

I. All exposed air and condensate piping in sump vaults shall be covered with insulation and heavy duty all-weather protection tape, bag or other similar insulation protection. All gauges and other equipment shall be covered with removable insulation so equipment can be serviced and maintained.

J. Contractor to supply all related electrical systems required for this work includes labor, materials, equipment, and services necessary to complete installation of electrical work shown on Drawings, specified herein or required for a complete operable frost prevention system and not specifically described in other Sections of these Specifications

K. The Contractor shall provide all conduit, conduit supports, conductors, and terminations required to power and control the heat trace tape system from electrical panel in the Gas Control System Out-Building power supply (including connection to panel) to the power panels near the flare and all above ground conduit, conduit supports, conductors and terminations to provide a complete and operational system. All electrical materials and equipment to be supplied and installed in accordance with code requirements.

L. The Contractor may use the existing conduit from the Out-Building Power Supply to the Panels near the flare. If the existing conduit raceways are not adequate the Contractor shall provide trenching and backfill for all underground electric wiring and for raceway from the equipment to the service connection points, as shown on the drawing.

END OF SECTION