Dull Olson Weekes - IBI Group Architects, Inc.
907 SW Stark Street
Portland OR 97205 USA
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PIVOT ARCHITECTURE

PROJECT MANUAL

Earthwork and Demolition Howard Site

Eugene School District 4j
700 Howard Ave
Eugene, OR 97404

Date: June 11, 2014

Owner: **Eugene School District 4j**

CIP#: **410.213.001**

Architect: PIVOT Architecture, PC
44 West Broadway Suite 300
Eugene, Oregon 97401
p.541.342.7291

Architect's Project: 1336

SECTION 00 0101

PROJECT TITLE PAGE

PROJECT INFORMATION

PROJECT NAME

4j Earthwork and Demolition, Howard Site - 2014

DATE OF ISSUE

June 11, 2014

PROJECT OWNER

Eugene School District 4j

CIP NUMBER

410.213.001

ARCHITECT'S PROJECT NUMBER

PIVOT #1336

PROJECT ADDRESS

700 Howard Ave, Eugene, OR 97404

OWNER

Eugene School District 4j
715 West Fourth Avenue, Eugene, Oregon 97402
Phone: (541) 790-7400; Fax: (541) 790-7404
Contact: Ben Brantley, Construction Program Manager

ARCHITECT

PIVOT Architecture
44 West Broadway, Suite 300, Eugene, OR 97401
Phone: (541) 342-7291
Contact: Curt N. Wilson, AIA - cwilson@pivotarchitecturecom

ASSOCIATE ARCHITECT

Dull Olson Weekes - IBI Group Architects, Inc. (DOWA - IBI Group)
907 SW Stark Street, Portland OR 97205
Phone: (503) 226-6950
Contact: John Weekes

STRUCTURAL ENGINEER

Hohbach-Lewin Inc. Structural & Civil Engineers
5th St Public Market Suite 302, 296 East Fifth Ave, Eugene, OR 97401
Phone: (541) 349-1701
Contact: Vikki Bourcier

MECHANICAL AND ELECTRICAL ENGINEERS

PAE Consulting Engineers, Inc.
522 SW 5th Avenue, Suite 1500, Portland, OR 97204
Phone: (503) 542-0500
Electrical Contact: Mike Ware, PE
Mechanical Contact: Jack Yousey, PE

CIVIL ENGINEER

Balzhiser & Hubbard Engineers, Inc.
100 West 13th Avenue, Eugene, OR 97401
Phone: (541) 686-8478
Contact: John Hornberger, PE

GEOTECHNICAL ENGINEER (RETAINED BY OWNER)

Foundation Engineering Inc.
820 NW Cornell Avenue, Corvallis, OR 97330
Phone: (541) 757-7645
Contact: James Maitland, PE

1.01 COST ESTIMATOR

Architectural Cost Consultants, LLC
8060 SW Pfaffle St, Suite 110, Tigard, OR 973223
Phone: (503) 718-0075
Contact: Stan Pszczolkowski

END OF SECTION

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INVITATION TO BID

Sealed bids will be received by Kathi Hernandez, Facilities Management Assistant, for the Earthwork and Demolition project at the Howard School site on Tuesday, July 8, 2014 until the Deadline for Bid Submission at 2:00 pm, at the Eugene School District 4J Facilities Management Office, 715 West Fourth Avenue, Eugene, Oregon 97402. The Bids will be opened publicly and read aloud immediately after the deadline for submission of bids. Late Bids will not be considered. Briefly, the work includes bulk excavation and fill at the future new school location on site, and selected demolition and repair to remove two classrooms from the existing building.

Beginning June 11, 2014, Prime Bidder, Sub-bidders, and Suppliers may obtain bidding documents at the following hyperlink: http://www.4j.lane.edu/bids/. Hard copies are not provided by the School District. It is the responsibility of all Prime Bidders, Sub-bidders, and Suppliers to obtain Bidding Documents and all Addenda from the hyperlink.

Bidders and Suppliers may also obtain bidding documents from Central Print and Reprographic Services, 45 West 5th Avenue, Eugene, OR by paying the cost of reproduction. It is the responsibility of those obtaining bidding Documents in this manner to obtain any and all addenda from the hyperlink or the Plan Centers.

Bidding Documents may be examined at the following locations:

Eugene Builder's Exchange, 2460 W. 11th, Eugene, OR 97402
Central Oregon Builders Exchange, 1902 NE 4th Street, Bend, OR 97701
McGraw Hill Construction, 3461 NW Yeon Ave. Portland, OR 97210
Daily Journal of Commerce Plan Center, 921 S.W. Washington St., Ste 210, Portland, OR 97205-2810
Douglas County Plan Center, 3076 NE Diamond Lake Blvd, Roseburg, OR 97470
Oregon Contractor Plan Center, 5468 SE International Way, Milwaukee, OR 97222
Reed Construction Data, 30 Technology Parkway South, Ste 500, Norcross, GA 90092
Salem Contractor's Exchange, 2256 Judson Street SE, Salem, OR 97309
Willamette Valley Bid Center, 33862 SE Eastgate Circle, Corvallis, OR 97333
Or, the office of PIVOT Architecture, 44 W Broadway, Suite 300, Eugene, OR, 97401

A non-mandatory pre-bid conference and walk-through has been scheduled for June 17, 2014, at 2:00 pm. The location of the conference will be at the Project Site – Howard Elementary School, 700 Howard Ave, Eugene, OR 97404. The meeting will begin in the existing school Cafeteria. Statements made by the District's representatives at the conference are not binding upon the District unless confirmed by Written Addendum. Pre-qualification of bidders is not required.

Each Bid must be submitted on the prescribed form and accompanied by a Surety Bond, Cashiers Check, or Certified Check, executed in favor of Eugene School District 4J, in the amount not less than ten percent (10%) of the total bid, based upon the total bid amount for those items bid upon.

Either with the Bid or within two working hours of the Deadline for Submission of Bids, bidders shall submit, on the form provided, information regarding first-tier subcontractors furnishing labor or labor and materials, as provided in ORS 279C.370. Bids for which disclosure forms are required, but not submitted, will be rejected.

No bid for a construction contract will be received or considered unless the Bidder is registered with the Construction Contractors Board or licensed by the State Landscape Contractors Board at the time the Bid is made, as required by OAR 137-049-0230. A license to work with asbestos-containing materials under ORS 468A.720 is not required for this project.

For every bid $100,000 or greater, all Contractors and Subcontractors shall have a public works bond, in the amount of $30,000, filed with the Construction Contractors' Board (CCB), before starting work on the project, unless exempt. A copy of the Contractor' BOLI Public Works Bond shall be provided with the executed contract documents.

Each Bid shall contain a statement indicating whether the Bidder is a "resident bidder", as defined in ORS 279A.120.

Each Bid shall contain a statement that the "Contractor agrees to be bound by and will comply with the provisions of ORS 279C.800 through 279C.870 regarding payment of Prevailing Wages".

Contractor shall certify nondiscrimination in obtaining required subcontractors, in accordance with ORS 279A.110(4).

School District 4J reserves the right to (1) reject any or all Bids not in compliance with all public bidding procedures and requirements, (2) postpone award of the Contract for a period not to exceed sixty (60) days from the date of bid opening, (3) waive informalities in the Bids, and (4) select the Bid which appears to be in the best interest of the District.

Date:	June 6, 2014
By:	Kathi Hernandez, Facilities Management Assistant
Published:	Register Guard, Daily Journal of Commerce, ORPIN (Oregon Procurement Information Network)
Posted:	School District 4J Administration Office 200 North Monroe Eugene, OR 97403

SECTION 00 2113

INSTRUCTIONS TO BIDDERS

PART 1 GENERAL

STANDARD FORM

Instructions to Bidders - AIA Document A701, 1997 Edition, immediately following are part of this Project Manual.

END OF DOCUMENT 00 21 13

AIA® Document A701™ – 1997

Instructions to Bidders

for the following PROJECT:
(Name and location or address)

THE OWNER:
(Name, legal status and address)

THE ARCHITECT:
(Name, legal status and address)

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

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

TABLE OF ARTICLES

ARTICLE 1 DEFINITIONS

§ 1.1 Bidding Documents include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements consist of the Advertisement or Invitation to Bid, Instructions to Bidders, Supplementary Instructions to Bidders, the bid form, and other sample bidding and contract forms. The proposed Contract Documents consist of the form of Agreement between the Owner and Contractor, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications and all Addenda issued prior to execution of the Contract.

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction, AIA Document A201, or in other Contract Documents are applicable to the Bidding Documents.

§ 1.3 Addenda are written or graphic instruments issued by the Architect prior to the execution of the Contract which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections.

§ 1.4 A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

§ 1.5 The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added or from which Work may be deleted for sums stated in Alternate Bids.

§ 1.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

§ 1.7 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment or services or a portion of the Work as described in the Bidding Documents.

§ 1.8 A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.

§ 1.9 A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment or labor for a portion of the Work.

ARTICLE 2 BIDDER'S REPRESENTATIONS

§ 2.1 The Bidder by making a Bid represents that:

§ 2.1.1 The Bidder has read and understands the Bidding Documents or Contract Documents, to the extent that such documentation relates to the Work for which the Bid is submitted, and for other portions of the Project, if any, being bid concurrently or presently under construction.

§ 2.1.2 The Bid is made in compliance with the Bidding Documents.

§ 2.1.3 The Bidder has visited the site, become familiar with local conditions under which the Work is to be performed and has correlated the Bidder's personal observations with the requirements of the proposed Contract Documents.

§ 2.1.4 The Bid is based upon the materials, equipment and systems required by the Bidding Documents without exception.

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 COPIES

§ 3.1.1 Bidders may obtain complete sets of the Bidding Documents from the issuing office designated in the Advertisement or Invitation to Bid in the number and for the deposit sum, if any, stated therein. The deposit will be refunded to Bidders who submit a bona fide Bid and return the Bidding Documents in good condition within ten days after receipt of Bids. The cost of replacement of missing or damaged documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the Bidding Documents and the Bidder's deposit will be refunded.

§ 3.1.2 Bidding Documents will not be issued directly to Sub-bidders unless specifically offered in the Advertisement or Invitation to Bid, or in supplementary instructions to bidders.

§ 3.1.3 Bidders shall use complete sets of Bidding Documents in preparing Bids; neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

§ 3.1.4 The Owner and Architect may make copies of the Bidding Documents available on the above terms for the purpose of obtaining Bids on the Work. No license or grant of use is conferred by issuance of copies of the Bidding Documents.

§ 3.2 INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS

§ 3.2.1 The Bidder shall carefully study and compare the Bidding Documents with each other, and with other work being bid concurrently or presently under construction to the extent that it relates to the Work for which the Bid is submitted, shall examine the site and local conditions, and shall at once report to the Architect errors, inconsistencies or ambiguities discovered.

§ 3.2.2 Bidders and Sub-bidders requiring clarification or interpretation of the Bidding Documents shall make a written request which shall reach the Architect at least seven days prior to the date for receipt of Bids.

§ 3.2.3 Interpretations, corrections and changes of the Bidding Documents will be made by Addendum. Interpretations, corrections and changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon them.

§ 3.3 SUBSTITUTIONS

§ 3.3.1 The materials, products and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution.

§ 3.3.2 No substitution will be considered prior to receipt of Bids unless written request for approval has been received by the Architect at least ten days prior to the date for receipt of Bids. Such requests shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for an evaluation. A statement setting forth changes in other materials, equipment or other portions of the Work, including changes in the work of other contracts that incorporation of the proposed substitution would require, shall be included. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

§ 3.3.3 If the Architect approves a proposed substitution prior to receipt of Bids, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner.

§ 3.3.4 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

§ 3.4 ADDENDA

§ 3.4.1 Addenda will be transmitted to all who are known by the issuing office to have received a complete set of Bidding Documents.

§ 3.4.2 Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

§ 3.4.3 Addenda will be issued no later than four days prior to the date for receipt of Bids except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

§ 3.4.4 Each Bidder shall ascertain prior to submitting a Bid that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 PREPARATION OF BIDS

§ 4.1.1 Bids shall be submitted on the forms included with the Bidding Documents.

§ 4.1.2 All blanks on the bid form shall be legibly executed in a non-erasable medium.

§ 4.1.3 Sums shall be expressed in both words and figures. In case of discrepancy, the amount written in words shall govern.

§ 4.1.4 Interlineations, alterations and erasures must be initialed by the signer of the Bid.

§ 4.1.5 All requested Alternates shall be bid. If no change in the Base Bid is required, enter "No Change."

§ 4.1.6 Where two or more Bids for designated portions of the Work have been requested, the Bidder may, without forfeiture of the bid security, state the Bidder's refusal to accept award of less than the combination of Bids stipulated by the Bidder. The Bidder shall make no additional stipulations on the bid form nor qualify the Bid in any other manner.

§ 4.1.7 Each copy of the Bid shall state the legal name of the Bidder and the nature of legal form of the Bidder. The Bidder shall provide evidence of legal authority to perform within the jurisdiction of the Work. Each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached certifying the agent's authority to bind the Bidder.

§ 4.2 BID SECURITY

§ 4.2.1 Each Bid shall be accompanied by a bid security in the form and amount required if so stipulated in the Instructions to Bidders. The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and will, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty. The amount of the bid security shall not be forfeited to the Owner in the event the Owner fails to comply with Section 6.2.

§ 4.2.2 If a surety bond is required, it shall be written on AIA Document A310, Bid Bond, unless otherwise provided in the Bidding Documents, and the attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of the power of attorney.

§ 4.2.3 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until either (a) the Contract has been executed and bonds, if required, have been furnished, or (b) the specified time has elapsed so that Bids may be withdrawn or (c) all Bids have been rejected.

§ 4.3 SUBMISSION OF BIDS

§ 4.3.1 All copies of the Bid, the bid security, if any, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

§ 4.3.2 Bids shall be deposited at the designated location prior to the time and date for receipt of Bids. Bids received after the time and date for receipt of Bids will be returned unopened.

§ 4.3.3 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

§ 4.3.4 Oral, telephonic, telegraphic, facsimile or other electronically transmitted bids will not be considered.

§ 4.4 MODIFICATION OR WITHDRAWAL OF BID

§ 4.4.1 A Bid may not be modified, withdrawn or canceled by the Bidder during the stipulated time period following the time and date designated for the receipt of Bids, and each Bidder so agrees in submitting a Bid.

§ 4.4.2 Prior to the time and date designated for receipt of Bids, a Bid submitted may be modified or withdrawn by notice to the party receiving Bids at the place designated for receipt of Bids. Such notice shall be in writing over the

signature of the Bidder. Written confirmation over the signature of the Bidder shall be received, and date- and time-stamped by the receiving party on or before the date and time set for receipt of Bids. A change shall be so worded as not to reveal the amount of the original Bid.

§ 4.4.3 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids provided that they are then fully in conformance with these Instructions to Bidders.

§ 4.4.4 Bid security, if required, shall be in an amount sufficient for the Bid as resubmitted.

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 OPENING OF BIDS

At the discretion of the Owner, if stipulated in the Advertisement or Invitation to Bid, the properly identified Bids received on time will be publicly opened and will be read aloud. An abstract of the Bids may be made available to Bidders.

§ 5.2 REJECTION OF BIDS

The Owner shall have the right to reject any or all Bids. A Bid not accompanied by a required bid security or by other data required by the Bidding Documents, or a Bid which is in any way incomplete or irregular is subject to rejection.

§ 5.3 ACCEPTANCE OF BID (AWARD)

§ 5.3.1 It is the intent of the Owner to award a Contract to the lowest qualified Bidder provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. The Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's own best interests.

§ 5.3.2 The Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the low Bidder on the basis of the sum of the Base Bid and Alternates accepted.

ARTICLE 6 POST-BID INFORMATION

§ 6.1 CONTRACTOR'S QUALIFICATION STATEMENT

Bidders to whom award of a Contract is under consideration shall submit to the Architect, upon request, a properly executed AIA Document A305, Contractor's Qualification Statement, unless such a Statement has been previously required and submitted as a prerequisite to the issuance of Bidding Documents.

§ 6.2 OWNER'S FINANCIAL CAPABILITY

The Owner shall, at the request of the Bidder to whom award of a Contract is under consideration and no later than seven days prior to the expiration of the time for withdrawal of Bids, furnish to the Bidder reasonable evidence that financial arrangements have been made to fulfill the Owner's obligations under the Contract. Unless such reasonable evidence is furnished, the Bidder will not be required to execute the Agreement between the Owner and Contractor.

§ 6.3 SUBMITTALS

§ 6.3.1 The Bidder shall, as soon as practicable or as stipulated in the Bidding Documents, after notification of selection for the award of a Contract, furnish to the Owner through the Architect in writing:

.1 a designation of the Work to be performed with the Bidder's own forces;

.2 names of the manufacturers, products, and the suppliers of principal items or systems of materials and equipment proposed for the Work; and

.3 names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.

§ 6.3.2 The Bidder will be required to establish to the satisfaction of the Architect and Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents.

§ 6.3.3 Prior to the execution of the Contract, the Architect will notify the Bidder in writing if either the Owner or Architect, after due investigation, has reasonable objection to a person or entity proposed by the Bidder. If the Owner or Architect has reasonable objection to a proposed person or entity, the Bidder may, at the Bidder's option, (1)

withdraw the Bid or (2) submit an acceptable substitute person or entity with an adjustment in the Base Bid or Alternate Bid to cover the difference in cost occasioned by such substitution. The Owner may accept the adjusted bid price or disqualify the Bidder. In the event of either withdrawal or disqualification, bid security will not be forfeited.

§ 6.3.4 Persons and entities proposed by the Bidder and to whom the Owner and Architect have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Architect.

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1 BOND REQUIREMENTS

§ 7.1.1 If stipulated in the Bidding Documents, the Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Bonds may be secured through the Bidder's usual sources.

§ 7.1.2 If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid. If the furnishing of such bonds is required after receipt of bids and before execution of the Contract, the cost of such bonds shall be added to the Bid in determining the Contract Sum.

§ 7.1.3 If the Owner requires that bonds be secured from other than the Bidder's usual sources, changes in cost will be adjusted as provided in the Contract Documents.

§ 7.2 TIME OF DELIVERY AND FORM OF BONDS

§ 7.2.1 The Bidder shall deliver the required bonds to the Owner not later than three days following the date of execution of the Contract. If the Work is to be commenced prior thereto in response to a letter of intent, the Bidder shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section 7.2.1.

§ 7.2.2 Unless otherwise provided, the bonds shall be written on AIA Document A312, Performance Bond and Payment Bond. Both bonds shall be written in the amount of the Contract Sum.

§ 7.2.3 The bonds shall be dated on or after the date of the Contract.

§ 7.2.4 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.

ARTICLE 8 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on AIA Document A101, Standard Form of Agreement Between Owner and Contractor Where the Basis of Payment Is a Stipulated Sum.

SECTION 00 2213
SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

PART 1 GENERAL

The following Supplementary Instructions to Bidders modify, change from or add to AIA Document A701 Instruction To Bidders, 1997 Edition. Where any Article of the Instructions to Bidders is modified or any paragraph, subparagraph, or clause thereof is modified or deleted by these Supplementary Instructions to Bidders, the unaltered provisions of that Article, paragraph, subparagraph, or clause shall remain in effect.

1.1 ARTICLE 2 BIDDER'S REPRESENTATIONS

A. Add the following subparagraphs to 2.1.3:

2.1.3.1 Not Used

2.1.3.2 Bidders are encouraged to visit the site(s) to become familiar with existing conditions. The Owner is not responsible and shall not bear financial burden for oversights made by the Bidder for failure to inspect sites prior to submitting a bid.

2.1.3.3 In all cases, persons wishing to examine the area of work must sign in at the school office prior to visiting the work area. Prior to leaving the school, sign-out at the office is required.

2.1.3.4 If access is required at times when the school office is not staffed, contact the Facilities Office, 541-790-7417, for assistance.

B. Add the following paragraph 2.1.5:

2.1.5 The Bidder certifies by signing the Bid that the Bidder has a drug-testing program in place for its employees that includes, at a minimum, the following:

.1 A written employee drug-testing program,

.2 Required drug testing for all new Subject Employees, or alternatively, requiring testing of Subject Employees every six months on a random selection basis,

.3 Required testing of a Subject Employee when the Contractor has reasonable cause to believe the Subject Employee is under the influence of drugs, and

.4 Required testing of a Subject Employee when the Subject Employee is involved in: (I) an incident causing an injury requiring treatment by a physician, or (ii) an incident resulting in damage to property or equipment.

A drug-testing program that meets the above requirements will be deemed a "Qualifying Employee Drug-testing Program". For purposes of this rule an employee is a "Subject Employee" only if that employee will be working on the Project job site; and

That if awarded the Public Improvement Contract, the Bidder will execute a contract in which the Contractor shall represent and warrant to the District that the Qualifying Employee Drug-testing Program is in place at the time of contract execution and will continue in full force and effect for the duration of the Public Improvement Contract; and that the Contract will condition the Agency's performance obligation upon the Contractor's compliance with this representation and warranty; and

That the Public Improvement Contract shall contain Contractor's covenant requiring each subcontractor providing labor for the Project to:

.1 Demonstrate to the Contractor that it has a Qualifying Employee Drug-testing Program for the subcontractor's Subject Employees, and represent and warrant to the Contractor that the Qualifying Employee Drug-testing Program is in place at the time of subcontract execution and will continue in full force and effect for the duration of the subcontract; or

.2 Require the subcontractor's Subject Employees to participate in the Contractor's Qualifying Employee Drug-testing Program for the duration of the subcontract.

1.2 ARTICLE 3 BIDDING DOCUMENTS

A. 3.3 SUBSTITUTIONS

1. Add the following:

3.3.2.1 All requests for approval must be submitted in duplicate on "Substitution Request Form". Include a self-addressed stamped envelope. Requests received by Architect less than ten (10) days prior to bid will not be considered.

B. 3.4 ADDENDA

1. Delete paragraph 3.4.1 and substitute the following:

3.4.1 Addenda will be issued to plan centers listed in the Advertisement for Bids and all firms listed on the Planholder List. Addenda will be posted on the 4j Web Site for the Project.

1.3 ARTICLE 4 BIDDING PROCEDURES

A. 4.1 PREPARATION OF BIDS

1. Add the following Paragraphs:

4.1.8 Bidders shall certify to non-collusion practices on the form included as part of the Bid Form, to be submitted with the Bid Form.

.1 A Non-Collusion Affidavit is required for any contract awarded pursuant to the bid. According to the Oregon Public Contracts and Purchasing Laws, a public contracting agency may reject any or all bids upon a finding of the agency that it is in the public interest to do so (ORS 279C.395). This agency finds that it is in the public interest to require the completion of this affidavit by potential contractors.

.2 The Non-Collusion Affidavit must be executed by the member, officer or employee of the bidder who makes the final decision on prices and the amount quoted in the bid.

.3 Bid rigging and other efforts to restrain competition, and the making of false sworn statements in connection with the submission of bids are unlawful and may be subject to criminal prosecution. The person who signs the Affidavit should examine it carefully before signing and assure himself or herself that each statement is true and accurate, making diligent inquiry, as necessary, of all other persons employed by or associated with the bidder with responsibilities for the preparation approval or submission of the bid.

.4 In the case of a bid submitted by a joint venture, each party to the venture must be identified in the bid documents, and an Affidavit must be submitted separately on behalf of each party.

.5 The term "complementary bid" as used in the Affidavit has the meaning commonly associated with the term in the bidding process, and includes the knowing submission of bids higher than the bid of another firm, any intentionally high or noncompetitive bid, and any other form of bid submitted for the purpose of giving a false appearance of competition.

.6 Failure to file an Affidavit in compliance with these instructions will result in disqualification of the bid.

4.1.9 Bidders shall certify to non-discrimination in employment practices on the form, included as part of the Bid Form, to be submitted with the Bid Form. By submitting its bid, the Bidder certifies conformance to the applicable federal acts, executive orders, and Oregon statutes and regulations concerning affirmative action toward equal employment opportunities. All information and reports required by the federal or Oregon state governments having responsibility for the enforcement of such laws shall be supplied to the Owner in compliance with such acts, regulation, and orders.

4.1.10 Bidder shall indicate, on the Bid Form where provided, the bidder's status as a "resident" or "non-resident" in accordance with ORS 279C.365 and ORS 279A.120.

4.1.11 First-Tier Subcontractor Disclosure:

.1 Within two working hours after the date and time of the deadline when the bids are due, a Bidder shall submit to the District a disclosure of the first-tier subcontractors that will be furnishing labor or will be furnishing labor and materials in connection with the public improvement; and will have a contract value that is equal to or greater than 5% of the project bid or $15,000, whichever is greater, or $350,000, regardless of the percentage of the total project bid.

.2 The disclosure of first–tier subcontractors shall include the name of each subcontractor, the category of work that the subcontractor would be performing, and the dollar value of each subcontract.

.3 The first-tier subcontractor disclosure applies only to public improvements with a contract value of more than $100,000.

.4 The District will consider the bid of any contractor that does not submit a required subcontractor disclosure to the District to be a non-responsive bid. A non-responsive Bid will not be considered for Award.

.5 Contractor shall certify that all subcontractors performing Work are registered with the Construction Contractors Board or licensed by the State Landscape Contractors Board in accordance with ORS 701.035 to 701.055 before the subcontractors commence work under the Contract.

B. 4.2 BID SECURITY

1. Delete paragraphs 4.2.2 and 4.2.3 and substitute the following:

4.2.2 Each Bid shall be accompanied by a surety bond, cashiers check, or certified check, executed in favor of Eugene School District 4J, in the amount not less than ten percent (10%) of the total bid, based upon the total bid amount for those items bid upon. Should the Bidder refuse to enter into such Contract or fail to furnish Performance and Labor and Materials Payment Bonds and Certificates of Insurance as required by the Supplementary Conditions within ten (10) working days after contract forms are provided to the Bidder, the amount of the Bid Security may be forfeited to the Owner as liquidated damages, not as a penalty.

.1 The Surety Bond shall be written by a Bonding Company authorized and licensed by the Oregon Insurance Commissioner. The bonding company must be listed on the most current US Government Treasury List, Department Circular 570, or approved PRIOR TO BID SUBMISSION by the Eugene School District 4J's Risk Manager. The Bond shall be on an AIA Document A310, most current edition. The Attorney-in-Fact who executes the Bond on behalf of the Surety shall affix to the Bond, a certified copy of a power of attorney.

.2 The Owner will have the right to retain the Bid Security of Bidders until either; a) the Contract has been executed and Bonds have been furnished, or b) the specified time has elapsed so that Bids may be withdrawn, or c) all Bids have been rejected.

C. 4.4 MODIFICATION OR WITHDRAWAL OF BID

1. Delete paragraph 4.4.1 and substitute the following:

4.4.1 A Bid may not be withdrawn or canceled by the Bidder following the time and date designated for the receipt of bids to the expiration of a 60 day period. The Bid for that sixty days is irrevocable and each Bidder so agrees in submitting a Bid.

1.4 ARTICLE 6 POST-BID INFORMATION

A. Delete Paragraph 6.1.

B. Modify paragraph 6.3.1 as follows:

In the first sentence delete the phase "as soon as practicable" and add "within 48 hours."

C. Add the following:

6.3.1.4 Not Used.

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

D. 7.1 BOND REQUIREMENTS

1. Delete paragraphs 7.1.1, 7.1.2 and 7.1.3 and add the following:

7.1.1 Unless otherwise stated in the solicitation document, prior to execution of the Agreement, the successful Bidder shall furnish a separate Performance Bond and a Labor Bond and Materials Payment Bond that in all respects conform to the requirements of ORS 279C.380 covering faithful performance of the Contract, and the payment of all obligations arising thereunder, each in an amount equal to one hundred percent (100%) of the Contract sum. The duration of the performance bond shall match the length of the project warranty.

7.1.2 Bonds shall be submitted on AIA Document A312, latest edition.

7.1.3 The surety issuing such bonds shall be duly authorized and licensed to issue bonds in the State of Oregon. The bonds shall be executed by an attorney-in-fact, principal or other authorized representative for the surety company, showing the Oregon agent for service, and bears the seal of the surety company. Where the bond is executed by a person outside the state of Oregon, his authority to execute bonds shall be shown. The Bonds shall be fully executed, payable to the Owner.

7.1.4 The cost of furnishing such bonds shall be included in the Bid.

E. BOLI Public Works Bond:

1. Add the following:

Pursuant to ORS 279C.836, for any contract awarded where the contract price is $100,000.00 or greater, the Contractor and every subcontractor shall have a Public Works bond filed with the Construction Contractors Board before starting work on the project. This bond is in addition to performance bond and payment bond requirements. A copy of the Contractor's BOLI Public Works Bond shall be provided with the executed contract.

1.2 TIME OF DELIVERY AND FORM OF CONTRACTS AND BONDS

A. Delete paragraph 7.2.1 and substitute the following:

7.2.1 The successful Bidder will be provided with contract forms through the Architect. These forms shall be executed and delivered to the Owner, along with Performance Bond and Labor and Material Payment Bond, within ten (10) days after receiving forms.

B. Add the following article:

ARTICLE 9 MISCELLANEOUS PROVISIONS

9.1 ADMINISTRATIVE RULES

All bidders are required to comply with the provisions of Oregon Revised Statutes and 4J Board Policy. Attention is directed to ORS 244, Government Ethics; ORS 279A and 279C, Pubic Contracting Code; Oregon Administrative Rules, Chapter 137, Divisions 46, 48 and 49; and 4J Board Policy DJC.

9.2 PROTEST OF BID

Protests of bid specifications or contract terms shall be presented to the Owner in writing five (5) calendar days prior to bid opening. Such protest or request for change shall include the reason for protest or request, and any proposed changes to specifications or terms. No protest against award because of the content of bid specifications or contract terms shall be considered after the deadline established for submitting such protest.

9.3 PROTEST OF AWARD

Any actual bidder or proposer who is adversely affected by the Owner's notice of award of the contract to another bidder or proposer on the same solicitation shall have seventy two (72) hours from the notice of award to submit to the Owner, a written protest of the notice of award. In order to be an adversely affected or aggrieved bidder or proposer with a right to submit a written protest, a bidder or proposer must itself claim to be eligible for award of the contract as the lowest responsible bidder or best proposer and must be next in line for award.

9.4 FINAL AWARD

The written notice of award of the contract shall constitute a final decision of the Owner to award the contract if no written protest of the notice of award is filed with the Owner within the designated time.

END OF DOCUMENT 00 22 13

SECTION 00 3100

AVAILABLE PROJECT INFORMATION

PART 1 GENERAL

1.01 EXISTING REPORTS AND SURVEYS

A. SUBSURFACE INVESTIGATION REPORT

1. A copy of a geotechnical report with respect to the building site is included with this document:
   a. Title: Geotechnical Investigation
   b. Date: December 31, 2013
   c. Prepared by:
      1) Foundation Engineering, Inc.
      2) 820 NW Cornell Avenue, Corvallis, OR 97330-4517
      3) Phone: (541) 757-7645, Fax: (541) 757-7650
2. A copy of a Supplemental Memorandum to the Geotechnical Investigation with respect to the building site is included with this document:
   a. Memorandum, Supplemental Geotechnical Analysis
   b. Date: June 9, 2014
   c. Prepared by:
      1) Foundation Engineering, Inc.
      2) 820 NW Cornell Avenue, Corvallis, OR 97330-4517
      3) Phone: (541) 757-7645, Fax: (541) 757-7650
3. These reports identify properties of below grade conditions and offers recommendations for the design of foundations, prepared primarily for the use of Architect.
4. The recommendations described shall not be construed as a requirement of this Contract, unless specifically referenced in the Contract Documents.
5. These reports, by their nature, cannot reveal all conditions that exist on the site. Should subsurface conditions be found to vary substantially from these reports, changes in the design and construction of foundations will be made, with resulting credits or expenditures to the Contract Price accruing to Owner.
6. These reports are included in the Appendix Section of this Project Manual.

B. TOPOGRAPHIC SURVEY

1. A copy of a topographic survey with respect to the project site is included with this document:
   a. Title: Sheet G021 - Survey West, and Sheet G022 - Survey East
   b. Date: 09.10.2013
   c. Prepared by:
      1) Balzhiser and Hubbard Engineering, Inc.
      2) P.O. Box 10347, Eugene, OR 97440
      3) Phone: 541/686-8478, Fax: 541/345-5303
2. The survey is a complete drawing showing grades, surface improvements, significant vegetation, known utilities, existing structures, and legal boundaries.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

Geotechnical Investigation

Howard Elementary School

Eugene, Oregon

Prepared for:

Lane County School District 4J
Eugene, Oregon

December 31, 2013

Professional Geotechnical Services

Foundation Engineering, Inc.

Foundation Engineering, Inc.
Professional Geotechnical Services

Ben Brantley, Manager
Capital Improvement Program
Eugene Public Schools
Lane County School District 4J
715 West 4th Avenue
Eugene, Oregon 97402

December 31, 2013

Howard Elementary School **Project 2131078**
Geotechnical Investigation and Seismic Hazard Study
Eugene, Oregon

Dear Mr. Brantley:

We have completed the requested geotechnical investigation for the replacement of Howard Elementary School in Eugene, Oregon. Our report includes a description of our work, a discussion of site and subsurface conditions, a summary of laboratory and field testing and a discussion of key geotechnical issues pertaining to the proposed project. Recommendations for site preparation, foundation design and construction, and pavements are also provided. Our report also includes a site-specific seismic hazard study that is intended to meet current Oregon Structural Specialty Code (OSSC) requirements.

It has been a pleasure assisting you with this phase of your project. Please do not hesitate to contact us if you have any questions or if you require further assistance.

Sincerely,

FOUNDATION ENGINEERING, INC.

Matthew D. Mason
Geotechnical staff

James K. Maitland, P.E., G.E.
Principal

REGISTERED PROFESSIONAL ENGINEER
10701
OREGON
July 18, 1980
JAMES K. MAITLAND
EXPIRES: 12/31/14

MDM/JKM/zc
enclosure

GEOTECHNICAL INVESTIGATION AND SEISMIC HAZARD STUDY
HOWARD ELEMENTARY SCHOOL
EUGENE, OREGON

BACKGROUND

Lane County School District 4J plans to replace Howard Elementary School located at 700 Howard Avenue in Eugene, Oregon. The location is shown on the Vicinity Map (Figure 1A, Appendix A). Conceptual site plans indicate the replacement facility will include a new, two-story classroom building and separate gym/cafeteria structure with an estimated total plan area of ±79,700 SF. The project will also include play fields and a synthetic turf field (to be built south of Kelly Middle School). The existing school building will be demolished and replaced by paved bus and parent drop-off lanes and a parking lot. A site layout with the existing and proposed facilities is shown on Figure 2A (Appendix A).

PIVOT Architecture (PIVOT) and DOWA-IBI Group Architects, Inc. are the project architects. Balzhiser & Hubbard Engineers (BHE) is the civil engineering consultant. Hohbach-Lewin, Inc. (HBI) is the structural consultant. Foundation Engineering, Inc. (FEI) was retained by the school district as the geotechnical consultant. Our scope of work was outlined in a proposal dated October 31, 2013, and authorized by a contract dated November 18, 2013.

LOCAL GEOLOGY

Detailed discussions of the regional geology, tectonic setting, local faulting and historical seismicity are presented in the Seismic Hazard Study (Appendix D). An abbreviated discussion of local geology is provided below.

Eugene is situated within the southern extent of the Willamette Valley, which is bordered by the Western Cascades to the east and the Coast Range to the west. The Willamette and McKenzie Rivers have deposited a mantle of alluvial material consisting of clayey fan-delta alluvial deposits that typically underlie the city (Madin and Murray, 2006).

Local geological mapping indicates the site is underlain at an unknown depth by fan-delta alluvial deposits (Madin and Murray, 2006; McClaughry et al., 2010). These deposits consist of silt to boulder-size material, with primarily sandy gravel covering most of the area. With depth, the alluvial deposits are underlain by marine, tuffaceous sandstone and siltstone of the Eugene Formation (Yeats et al., 1996; Madin and Murray, 2006).

Consistent with the mapped geology, our site investigation encountered primarily stiff clayey silt overlying dense sandy gravel. Two nearby borings were reviewed including ES-14, ±1/2 mile to the north, at North Eugene High School, and SB-1 at Kelly Middle School. Both borings encountered similar conditions relative to our explorations.

FIELD EXPLORATION

Exploratory Drilling

We drilled seven exploratory boreholes (BH-1 through BH-7) at the site between November 11 and 13, 2013. The borings were located in consultation with PIVOT to establish overall subsurface conditions for the classroom building and the gym/cafeteria. Some of the locations were established based on available access or conflicts with existing structures. The approximate borehole locations are shown on Figure 2A (Appendix A).

Borings BH-2, BH-4 and BH-5 were drilled using a small track rig with hollow stem auger drilling techniques. The small tracked rig had difficulty penetrating the gravels at some locations. Therefore, the remaining four borings were completed using a larger, CME-55, track-mounted drill rig using mud rotary drilling techniques. Maximum drilling depths ranged from ±7 to 36.5 feet.

Samples were obtained at 2.5-foot intervals to the surface of the gravels and at 5-foot intervals thereafter. Disturbed samples were obtained with a split-spoon sampler in conjunction with the Standard Penetration Test (SPT). The SPT provides an indication of the relative stiffness or density of the foundation soils. Relatively undisturbed samples were obtained at various depths using thin-walled Shelby tubes. At some locations, the borings were supplemented by hand sampling of the near-surface soils.

The borings were continuously logged during drilling. The final logs (Appendix B) were prepared based on a review of the field logs, laboratory test results, and an examination of the soil samples in our office. Ground surface elevations reported on the boring logs were estimated using a topographic site plan prepared by BHE and should be considered approximate only.

Exploratory Test Pits

We dug seven exploratory test pits (TP-1 through TP-7) on November 14, 2013, using a small tracked excavator. Their approximate locations are shown in Figure 2A (Appendix A). The locations were selected in consultation with PIVOT. Six of the test pits were located south of Kelly Middle School and were intended to establish overall subsurface conditions within the planned play fields and the new synthetic turf field. TP-7 was dug between BH-1 and BH-3 to determine if any site fill was present near the west edge of the proposed new gym/cafeteria building.

The test pits typically extended to maximum depths ranging from ±3 to 4 feet, with the exception of TP-4, which extended to ±9½ feet. Disturbed soil samples were obtained for possible laboratory testing and undrained shear strength measurements were made on the test pit side walls using a Torvane shear device. The soil profile, sampling depths and strength measurements are summarized on the appended test pit logs. The final logs (Appendix B) were prepared based on a review of the field logs, an examination of the soil samples in our laboratory and

the results of laboratory testing. Ground surface elevations reported on the test pit logs were estimated using a topographic site plan prepared by BHE and should be considered approximate only.

DISCUSSION OF SITE CONDITIONS

Site Topography and Vegetation

The new school buildings are to be built in the open area south of the existing school. The site for the classroom building is presently a baseball field. A topographic site plan prepared by BHE indicates the ground surface within this portion of the site ranges from ±El. 394 (along the eastern and western edges of the field) to ±El. 395 (near the center). The planned gym/cafeteria building will extend partially over an existing soccer field and track. The ground surface within the soccer field to the west ranges from ±El. 397.5 to ±El. 398.5. The topographic site plan was used to estimate the ground surface at the test pits and borings. The elevations shown on the logs are approximate only.

The site is presently covered with grass, but contains a gravel track, baseball backstop and other miscellaneous structures.

Subsurface Conditions at Proposed School Buildings

The exploratory boreholes suggest the soil profile beneath the planned building site generally consists of the following soil units:

- Site Fill
- Clayey silt and silty sand
- Sandy gravel

Site Fill. Site fill was encountered only in BH-5. At this location, the fill is limited to the upper ±12 inches and consists of medium stiff silt with scattered organics. We anticipate the fill was placed to create the existing baseball infield.

Clayey silt and silty sand (alluvium). The surficial soil predominantly consists of brown, damp, stiff, medium to high plasticity, clayey silt (alluvium). An Atterberg limits test run on a sample obtained from BH-1 from a depth of ±2.5 to 4.0 feet indicated a plasticity index (PI) of 23 and a Unified Soil Classification System (USCS) designation of MH. This soil unit grades to low plasticity silt with depth. At BH-1, the soil had a PI of 12 at a depth of ±7 to 8.5 feet, and a USCS designation of ML. At BH-7, a sample from 3.5 to 5.5 feet had ±65% fines (i.e., fraction of material passing the No. 200 sieve).

The clayey silt is typically thicker in the western portion of the proposed building footprint. Some of the variation may be due to previous grading activities. We observed the sod and fine roots were typically limited to a depth of ±4 inches.

Field vane tests run in the Shelby tube samples indicate undrained shear strengths ranging from ±0.18 tons/ft^2 (tsf) to >1.0 tsf. The strength tests and field observations indicate the silt is typically stiff to very stiff near the ground surface, becoming softer, sandier and moister with depth.

The surficial silt typically grades with depth to sandy silt or silty sand. The soil has essentially the same appearance as the silt (described above), but has an increased fraction of fine sand. Fines content determination tests on samples SS-4-3 and SH-7-1 indicated 47.8% and 64.8% fines, respectively. Although the logs show distinct layers for the silt and sand, in the field the two materials may be difficult to distinguish.

Sandy Gravel (alluvium). Sandy gravel (alluvium) was encountered below the silt in all the borings, but at significantly different depths. The depth to the surface of the gravel ranges from ±2.5 (at BH-5) to ±10 feet (at BH-1) and ±15.5 feet (BH-3). The gravels extend to at least 35 feet (the limits of our exploration). Nearby water wells indicate the alluvial gravel extends to at least ±80 feet and may be interbedded with clayey gravel.

The gravel encountered in the borings is typically sandy, contains trace to some silt and is well graded. A gradation test on sample SS-4-4 from ±7.5 to 9 feet (BH-4) indicated the soil consists of ±56.4% gravel, 36.4% sand, and 7.2% fines (i.e., silt). SPT (N) values of between 24 and 67 were recorded in the gravels, suggesting they are predominantly medium dense, grading to dense or very dense within the limits of our exploration.

Subsurface Conditions at Play Fields

Six exploratory test pits were completed within the footprint of the planned play fields and the synthetic turf fields. The explorations indicate the subsurface profile typically consists of topsoil followed by alluvial clayey silt.

The topsoil is typically ±1 to 1.5 feet thick and consists of brown, damp, low plasticity silt with a trace of sand and gravel. This soil had a PI of 13 and a USCS designation of ML. We assume this material was imported to create the existing play fields. At the time of our exploration, the topsoil was relatively stiff. However, it is a moisture-sensitive soil and is expected to soften significantly when exposed to rainfall.

The topsoil is underlain by brown, moist, medium plasticity, clayey silt. The silt is typically stiff and softens with depth. Laboratory tests on a sample of this soil indicated a PI of 20 and a USCS designation of MH (similar to the soil beneath the planned school site.

Medium dense, silty gravel with some sand was encountered in TP-1 at ±3.6 feet and in TP-2 at 2.8 feet. The gravels are typically dirty (i.e., silty) near the contact with the silt, becoming cleaner and sandier with depth. No gravel was encountered in the other test pits, suggesting the gravel surface is relatively deep beneath the middle and eastern portion of the planned play fields. The gravels are similar to those encountered in the borings.

Ground Water

The borings were advanced using hollow stem augers. During drilling, ground water was encountered at ±14.5 feet (BH-4) and ±14 feet (BH-6). These depths correspond to ±El. 380.2 and ±El. 380.6, respectively. Given the approximate nature of the estimated ground surface elevations, it should be assumed that the water table currently lies at an average ±El. 380.4. No ground water seepage was observed in the exploratory test pits.

There are several dozen water well logs, as well as a few geotechnical and Geoprobe holes within a ±3,000-foot radius of the school site. In general, relatively shallow gravels were reported in all water wells. The reported depth of the static water level in most water wells ranged from ±10 to 12 feet for wells completed during the summer or fall months. These levels are within 2 to 4 feet of those encountered in the recent FEI borings. Wells completed during the winter or spring typically reported water levels at ±7 to 10 feet. A well drilled at the adjacent Kelly Middle School in March 1995 reported a static water level at 7 feet. This level is probably the best indication of a seasonally high water table.

LABORATORY AND FIELD TESTING

Laboratory Tests

The laboratory work included natural water content and Atterberg limits tests to classify the foundation soils, determine their homogeneity and estimate their overall engineering properties. Additional laboratory tests were run as a part of supplemental infiltration tests. Results of all index tests are summarized in Table 1C (Appendix C).

A one-dimensional consolidation test was run on sample SH-7-1 to estimate the compressibility of the fine-grained foundation soils. The results are summarized on Figure 1C (Appendix C). The results indicate modified compression and recompression indices (c_{c_ε} and c_{r_ε}) of 0.13 and 0.005, respectively, and a preconsolidation pressure (p_c) of 1.1 ksf.

Laboratory pH tests were also run on selected soil samples (ASTM G51). Those test results are summarized in Table 2C and indicate pH values of 6.2 to 6.3 (i.e., slightly acidic).

Resistivity Testing

In-situ resistivity tests were completed near the middle of the site, within the panned play courts adjacent to the proposed classroom building. The tests were using a Nilsson 400, 4-pin, soil resistance meter (ASTM G57). The approximate location of the resistivity tests are shown on Figures 2A (Appendix A).

The 4-pin resistance meter provides an estimate of the average resistivity of a soil profile extending to a depth equal to the spacing between the pins. The tests were performed with the pins spaced at ±2 to 8 feet. The resistivity values, summarized in Table 3C (Appendix C), ranged from ±3,064 to 6,128 ohm-cm.

These average values are relatively low, possibly due to the influence of the silt, and may not reflect the resistivity of the underlying gravels.

DCP Testing

Dynamic Cone Penetration (DCP) Tests were run at selected locations to estimate the strength of the existing subgrade for pavement analysis and design. Figure 2A shows the approximate locations of the DCP tests. The DCP test consists of driving the cone of the DCP apparatus into the soil and recording the penetration versus blow count (mm/blow) as the DCP value. The Oregon Department of Transportation (ODOT) Pavement Design Guide (2011) provides a correlation for estimating the in-situ resilient modulus from results of the DCP testing. A summary of the DCP test results and the correlated in-situ subgrade modulus values are summarized in Table 4C (Appendix C).

DISCUSSION OF KEY GEOTECHNICAL ISSUES

Construction Timing

The site is underlain by fine-grained surficial fill and fine-grained alluvium, which are moisture-sensitive and will soften considerably during wet weather (i.e., during the winter and spring). Thickened building pads, base rock sections and access roads are typically required to support construction traffic during wet weather and mitigate severe rutting and subgrade pumping. Wet weather construction substantially increases the earthwork costs and construction difficulty.

Compaction of the surficial soils will only be practical in dry summer months when moisture-conditioning is possible. We understand the construction schedule is not set. Therefore, recommendations for site grading and foundation construction are provided for both dry and wet weather construction schedules. However, dry weather construction is strongly recommended.

Soft Ground Conditions

During the field exploration, isolated seams of soft soil were observed beneath the stiff, dry surficial material. The soil in these soft zones was atypically moist and/or sandy. It is possible that more soft soils may be present at the time of construction due to exposure to wet weather. Depending on the weather at the time of the site grading or the contractor's schedule, the soft soils will have to be moisture conditioned (dried) and re-compacted or replaced with granular material (e.g. Select Fill or Granular Site Fill, as defined below). The extent of soft soils and the required mitigation, if any, should be established by FEI at the time of construction. Our settlement analysis (discussed below) assumes that all soft ground conditions are mitigated prior to foundation construction.

Play Fields and Synthetic Turf Field Construction

The subgrade beneath the proposed new play fields and the synthetic turf field south of Kelly Middle School was relatively stiff at the time of the field exploration. However, the subgrade soils are moisture-sensitive and will tend to soften significantly when exposed to rainfall (as indicated above). If moist, the subgrade will tend to pump or rut under truck or construction equipment traffic. In addition, an excessively moist subgrade cannot be compacted.

We have assumed herein that the construction of these fields will be delayed until the soils are sufficiently dry and stiff to permit moisture-conditioning and compaction, and to support the required construction activities without damage to the subgrade. If soft soils are present, subgrade stabilization in the form of a separation geotextile and additional granular subbase will be required. Subgrade treatment in the form of lime or cement is possible to mitigate soft, wet soils, but could significantly add to earthwork costs. Development of construction guidelines for this option of subgrade stabilization was beyond the current scope of work.

On-Site Storm Retention

The site is underlain by a relatively thin mantle of silt followed by gravel. Local water wells suggest the local ground water level typically lies at ±10 to 12 feet below the ground surface in the summer and fall, rising to ±7 to 10 feet in the winter. At the time of exploration (November 2013), ground water was encountered in some of the borings at ±14 to 14.5 feet. However, no long-term ground water data is available. A log for a well drilled on the Kelly Middle School property reported a static water level at ±7 feet. That is the closest available information and we have assumed this depth to be representative of a seasonally high ground water levels.

Supplemental infiltration tests are planned. Results of those tests will be provided in a supplemental memorandum.

ENGINEERING ANALYSIS

Foundations for Structures

We have assumed the new buildings will have a finished floor elevation (FFE) of ±El. 397. Assuming ±1 foot for the floor slab and crushed rock leveling course, we estimate the subgrade elevation will be ±El. 396. As a result, very little site grading (i.e., new site fill or excavation) will be required.

For our foundation analysis, we assumed new footings would bear on a nominal 1 foot of compacted crushed rock followed by medium stiff silt. At most locations, the gravels are deep enough that they lie below the influence depth of the footings. At BH-2 and BH-5, the gravels are relatively shallow and provide a positive influence on the foundations by reducing overall settlement.

Bearing Capacity. Footing dimensions and loads were not available for the building unit foundations at the time this report was prepared. Vikki Bourcier, S.E. (HLI) provided an estimate of the loads based on their previous experience with similar schools. They indicated a maximum column load of 50 kips (22 kips dead plus 28 kips live) and a maximum wall load of 2.5 kips per lineal foot (klf) (1.1 klf dead plus 1.4 klf live). The live load is estimated to comprise ±56% of the total load, which should represent the worst case condition.

We have assumed that column spread footings will have maximum dimensions of 4x4 to 5x5 feet. Continuous wall footings are expected to be 2 to 3 feet wide.

We estimated a bearing capacity of the foundation soils assuming a nominal footing depth of ±2 feet (below FFE), bearing on 12 inches of Select Fill followed by silt with a minimum undrained shear strength of 1,000 psf for the native silt. Our analysis suggests an allowable bearing pressure of 2,300 psf for column footings and 2,100 psf for strip footings. This assumes a typical factor of safety of 3.

Our bearing capacity analysis assumes that FEI will be present during foundation construction to confirm the presence and extent of any soft soils beneath new footings. If present, soft soils will be mitigated by recompaction or replacement with granular fill.

Settlement. Potential foundation settlements were estimated using the assumed range of footing dimensions and preliminary foundation loads provided by HLI. For settlement analysis we included the dead load and half of the estimated live load, resulting in a maximum column load of ±36 kips and maximum wall load of ±1.8 klf. The subsurface profile encountered in the exploratory borings was used to model foundation conditions. Results of the consolidation test (Appendix C) were used to estimate the compressibility of the fine-grained soil that underlies the site. The gravels were assumed to be relatively incompressible.

Our analysis indicates total settlement under the largest column loads should less than ± ¾ inch. Total settlement of a 2 to 3-foot wide continuous wall footing is estimated to be less than ± ¼ inch for the maximum wall load. For design, we recommend assuming a maximum differential settlement of ± ½ inch between the columns or between the columns and perimeter walls. Because the bearing pressure used in our analysis is close to the estimated preconsolidation pressure, it is important that we review the final design loads to confirm the calculated settlements.

Our settlement analysis assumes that FEI will be present during foundation construction to confirm the presence and extent of any soft soils beneath new footings and slabs. If present, soft soils will be mitigated by recompaction or replacement with granular fill.

Pavement Analysis and Design

A bus loop and a parking lot are planned for the new school. Additional paved access to the back of the new school is also planned but its location had not been determined at the time this report was prepared.

For the bus loop an estimate of average daily traffic (ADT) of 37 was provided to us by the design team. The traffic consists of 16 full-sized buses, 8 smaller special needs buses and 5 delivery trucks (2 to 3-axle). An ADT of 300 was estimated for the parking lot. We have assumed 1% of the total traffic for the parking area would consist of 2 to 3-axle delivery trucks.

Equivalent (18-kip) Single-Axle Loads (ESALs) for design were calculated using ESAL-conversion factors from the 2011 ODOT Pavement Design Guide. Car and pickup truck factors were obtained from the 1993 AASHTO Pavement Design Guide and bus values were obtained from the 2003 Asphalt Pavement Design Guide prepared by the Asphalt Pavement Association of Oregon (APAO). A 20-year and 30-year design life was assumed for flexible and rigid pavements, respectively.

The pavement subgrade is expected to consist of predominantly medium stiff to stiff, medium plasticity, clayey silt. The DCP test results suggest the subgrade resilient modulus (M_r) value ranges from $\pm$3,100 to 4,600 lb/in^2 (psi). For design, a M_r value of 3,100 psi was selected to account for variability within the subgrade.

Pavement analysis was completed using the AASHTO (1993) procedure and input parameters recommended in the ODOT Pavement Design Guide (ODOT, 2011). Using the design traffic and M_r value, we calculated a flexible pavement section consisting of 2.5 inches of asphaltic concrete (AC) over 13 inches of base rock for the parking lot, and a flexible pavement section of 4 inches of AC over 14 inches of base rock for the bus loop and for other areas subject to increase truck traffic (e.g., in driveways and near trash/recycle bins). These sections are similar to the sections currently used by the school district.

It is anticipated that most pavements will consist of flexible sections. However, areas at cross walks or for emergency vehicle access may be designed with PCC concrete. We calculated a minimum rigid section would consist of 6 inches of PCC over a 6-inch thick leveling course of base rock. However, ODOT typically recommends a minimum PCC section of 8 inches, with consideration to a thicker panel at bus stops. Therefore, we recommend using a rigid pavement section consisting of a minimum 8 inches of PCC over 6 inches of base rock.

Native gravel or gravel fill from past site grading may be present north of, or in the vicinity of, the existing school buildings. Where gravel is present, the thickness of the base rock section may be reduced. The presence of shallow gravel and a subsequent reduction in base rock thickness should be confirmed by an FEI representative at the time of construction.

Seismic Analysis

A spectral acceleration response spectrum for the site was established based on Section 1613 of the Oregon Structural Specialty Code (OSSC) 2010. Based on our explorations, we recommend using a Site Class D. The seismic design parameters and OSSC response spectrum are shown on Figure 3A (Appendix A).

DISCUSSION OF SEISMIC HAZARDS

A site-specific hazard study was completed by Brooke Running, C.E.G. for the school site and provided in Appendix D. That study concluded there are not seismic hazards that would preclude the construction of the planned school project.

To expedite review by the City, we have summarized the soil and seismic issues based on the requirements of OSSC Sections 1803.2 through 1803.6, and the headings from the code.

1803.2 Investigations Required

The field exploration and sampling program and the associated geotechnical investigation performed by FEI for this site meet the requirements of this section and address the appropriate items listed.

1803.5.1 Classification

Soils present at the site are described in this report and on the test pits logs (Appendix B). Laboratory tests used to classify the soils are described above and are summarized in Appendix C.

1803.5.2 Questionable Soils

There are no questionable soils on the site. However, soft subgrade conditions were noted in isolated conditions. Furthermore, the surficial soils are moisture sensitive and are expected to soften significantly when exposed to rainfall. It is anticipated the site grading will remove and replaced or reprocess any soft surficial soil beneath the planned structures. We have recommended herein that an FEI representative be present to confirm foundation conditions in new footing excavations.

1803.5.3 Expansive Soils

No high plasticity clays were encountered during the field exploration. Therefore, no significant impact to foundations is anticipated from expansive soils.

1803.5.4 Ground Water Table

No below-grade construction is planned. Ground water levels at the site should lie below footings and slab levels and should not adversely impact foundations. Perimeter foundation drains are recommended to deal with potential perched ground water during the winter.

1803.5.5 Deep Foundations

No piles or piers are planned.

1803.5.6 Rock Strata

Alluvial gravel is estimated to extend to a relatively great depth below the site. Therefore, no bedrock is anticipated within the excavation limits.

1803.5.7 Excavation near Foundations

No excavations near foundations are planned.

1803.5.8 Compacted Fill Material

Specifications for fill materials and compaction are described below in the Recommendation section.

1803.5.9 Controlled low-strength material (CLSM)

All foundations will bear on compacted Select Fill underlain by native soil.

1803.5.10 Alternate setback and clearance

The site is relatively flat; therefore, no natural or man-made slopes are present and no minimum setback or clearance is required.

1803.5.11 Seismic Design Category C through F

Individual seismic-related items addressed within this category of the code are discussed below.

Slope Instability. The site is relatively flat. Therefore, there is no risk of slope instability or earthquake-induced landslides. The Relative Earthquake Hazard Map of the Eugene-Springfield Metropolitan Area, Lane, County (Black et al., 2000) indicates the school site lies within Zone D - the lowest hazard designation.

Liquefaction. The new school buildings will be supported by spread footings, bearing on a layer of structural fill followed by medium stiff silt underlain by medium dense to very dense gravel. Based on the stiffness and plasticity of the foundation soil and the relative density of the underlying gravel, there is no significant risk of liquefaction. Consequently, there is no significant risk of loss of strength of the foundations soils or settlement due to a seismic event. As a result, no mitigation measures are required for the foundations.

Differential Settlement. There is no risk of significant differential settlement due to the conditions described under liquefaction.

Surface displacement due to faulting or lateral spreading. The site is underlain by a relatively thick layer of alluvial deposits. There is no known displacement of the alluvial deposits and there are no potentially active, nearby faults that would cause a surface rupture at the site.

There are no natural slopes near the planned school buildings or liquefiable soils that would allow lateral spreading to occur.

1803.6 Reporting

FEI dug exploratory test pits, drilled exploratory borings, completed laboratory tests, conducted engineering analyses and summarized our findings in this report, which was prepared to meet the requirements of OSSC 2010, Section 1803.

RECOMMENDATIONS

We recommend the earthwork be completed during dry weather when aeration is more practical and the subgrade is less prone to pumping and disturbance. However, we understand the construction schedule is not currently known. Therefore, recommendations are provided for both wet and dry weather construction. The contractor may still experience pumping problems in the summer if the surficial soils have not adequately dried. Therefore, we recommend an on-site conference with the contractor prior to the grading work to review site conditions.

A site grading plan was not available at the time this report was prepared. For purposes of our analysis, we assumed individual building pads will extend at least 1 foot (possibly more) above existing grades.

Foundation Design and Construction

Design the foundations and slabs for the classroom and gym/cafeteria buildings as follows:

1. Design all continuous wall footings and isolated column footings using allowable bearing pressures of 2,100 and 2,300 psf, respectively.

2. Use of coefficient of friction of 0.35 at the base of the footing for analysis of sliding resistance, assuming all footings bear on compacted Select Fill. A lateral bearing of 200 psf can be assumed for footings backfilled with Select Fill.

3. Provided all new footings are designed and built as specified herein, assume settlement under the maximum anticipated column load to be less than ± ¾ inch, settlement under the maximum anticipated wall load to be less than ± ¼ inch. Assume a potential differential settlement between columns and walls of up to ± ½ inch.

4. Provide a minimum footing width of 2 feet for all continuous wall footings. This minimum does not apply to grade beams or thickened slab sections that support non-load bearing walls.

5. Use a modulus of subgrade reaction, k_s, of 250 kcf for floor slab design. Reinforce all floor slabs to reduce cracking, warping and the risk of ground water infiltration. Rebar, instead of wire mesh, is recommended. The use of fiber as the sole method of reinforcement is

not recommended. Provide a suitable vapor barrier under the slab that is compatible with the proposed floor covering and the method of slab curing.

6. Design the building assuming a Site Class D and the seismic parameters provided in Figure 3A (Appendix A). These values are based on OSSC 2010 (Section 1613). The corresponding response spectrum for the OSSC 2010 General Procedure is also shown in Figure 3A. The liquefaction potential of the foundation soils is negligible due to the plasticity of the surficial soils and the density of the underlying gravel.

Perimeter Foundation Drainage System for Buildings

7. Install foundation drains along the perimeter of the building. The drains should consist of 3 or 4-inch diameter, perforated or slotted, PVC pipe wrapped in a Filter Fabric (specified below). The flowline of the pipe should be set as deep as possible (i.e., on top of the perimeter footings or near the base of the building pad fill). The pipe should be bedded in at least 6 inches of 2-inch minus, clean drain rock and backfilled to the full depth with drain rock. The entire mass of drain rock should be wrapped in a similar filter fabric that laps at least 12 inches at the top.

8. Provide clean-outs at appropriate locations for future maintenance of the drainage system.

Materials and General Earthwork Specifications

9. Select Fill as defined herein should consist of 1 or ¾-inch minus, clean (i.e., less than 5% passing (by weight) the #200 U.S. Sieve), well-graded, durable, crushed rock that is free of plastic clay, organic matter and construction debris. We should be provided a sample of the intended fill for approval, prior to delivery to the site.

10. Granular Site Fill should consist of 3-inch minus, clean, well-graded, crushed (quarry) rock or approved bar-run gravel. The latter is appropriate only if placed during dry weather or when the gravel is adequately dry for compaction.

11. Compact all Select Fill, Granular Site Fill or native material in loose lifts not exceeding 12 inches, unless specified otherwise below. Thinner lifts will be required if light or hand-operated equipment is used. Compact the fill to a minimum of 95% relative compaction. The maximum dry density of ASTM D698 should be used as the standard for estimating relative compaction. Field density tests should be run frequently to confirm adequate compaction.

12. The Separation Geotextile should have Mean Average Roll Value (MARV) strength properties meeting the requirements of an AASHTO M 288-06 Class 2 woven geotextile.

    The geotextile should have MARV hydraulic properties meeting the requirements of AASHTO M 288-2006 (geotextile for separation) with a permitivity greater than 0.05 $sec.^{-1}$ and an AOS less than 0.6 mm. We should be provided a specification sheet on the selected geotextile for approval prior to delivery to the site. This geotextile is not suitable for construction during wet weather.

13. Filter Fabric should consist of a non-woven geotextile with a grab tensile strength greater than 200 lb., an apparent opening size (AOS) of between #70 and 100 (US Sieve) and a permitivity greater than 0.1 sec^{-1}.

14. Inform contractors that utility construction will require dewatering for any deep excavations completed during the winter. Shoring will be needed in all trenches to protect workers from sloughing or caving soils. Assume an OR-OSHA Type C soils for planning utility trenching and/or shoring.

Site Preparation for the Building Pad and Staging Areas (Dry Weather)

Prepare the pads for the new classroom and gym/cafeteria buildings, and any staging areas in dry weather as follows:

15. Strip the existing ground ±4 inches, or as required to remove roots, sod or unsuitable soil. The actual depth of stripping should be confirmed by FEI during construction. Dispose of all strippings outside of construction areas. The strippings should be hauled from the site or reused only in landscape areas. No strippings should be placed beneath foundations, slabs, sidewalks or pavements.

16. Compact the subgrade as specified in Item 11.

17. Proof-roll the completed subgrade with an approved vehicle. Where soft soil is present, moisture condition the soil (i.e., dry it) and re-compact as specified in Item 11. This option requires dry weather and sufficient time for aeration. If the zone of soft soil is more than 12 inches thick, excavation, stockpiling, aeration and recompaction in lifts may be required.

    Alternatively, over-excavate the soft soil and replace with Select Fill or a combination of Granular Site Fill and Select Fill. The actual depth of overexcavation should be confirmed by FEI during construction. The final excavation for areas requiring removal of soft soil should be done with a hoe equipped with a smooth bucket. The surface of the subgrade should be left clean, free of loose or disturbed soils or large clods.

We recommend the bid documents include a unit cost for the option of on-site aeration and recompaction of soft, wet soil in lifts and for the option of over-excavation and replacement with compacted, granular fill.

18. Overexcavate any test pits that extend beneath the footprint of the building and replace with compacted Select Fill or Granular Site Fill.

19. Place a Separation Geotextile on the prepared subgrade that meets the requirements specified above. The geotextile should be laid smooth, without wrinkles or folds in the direction of construction traffic. Overlap adjacent rolls a minimum of 2 feet. Pin fabric overlaps or place the building pad fill in a manner that will not separate the overlap during construction. Seams that have separated will require removal of the building pad fill to establish the required overlap. The geotextile may be eliminated if the building pad fill will not be subjected to wet weather and heavy construction traffic.

20. Place at least 12 inches of Select Fill to create the individual building pads, provided the subgrade is stiff and stable. If more than 12 inches of granular fill is required for grading purposes or to stabilize the subgrade under building pads, Granular Site Fill capped with a minimum of 12 inches of Select Fill can be used. Compact the building pad fill as specified in Item 11.

21. Provide at least 12 inches of Select Fill beneath all footings. Depending on the grading plan, trenching through the building pad may be required to place the structural fill beneath the footings. At most locations, we expect the footing excavations will terminate in silt. The bottom of the excavations should be left free of clods and disturbed soil. The subgrade at the bottom of the footing excavations should have a minimum undrained shear strength of 1,000 psf (to be confirmed by FEI during construction). Any soft soil present at the bottom of the excavation should be removed and replaced with additional Select Fill. In the event any footings extend to native gravel, the Select Fill may be reduced to a leveling course over the undisturbed gravels.

22. Prepared the subgrade for staging areas as described above for the building pad. We recommend that any staging areas subject to heavy truck or construction equipment or to wet weather should consist of at least 24 inches of granular fill (Select Fill or a combination of Granular Site Fill and Select Fill) over a Separation Geotextile. Do not allow continuous construction traffic on the rock section until a minimum of 24 inches of rock is placed.

Site Preparation for the Building Pad and Staging Areas (Wet Weather)

If site grading and construction of building pads for the new classroom and gym/cafeteria buildings and any staging areas extend into wet weather, the following recommendations are applicable:

23. Strip the existing ground ±4 inches, or as required to remove roots, sod or unsuitable soil. The actual depth of stripping should be confirmed by FEI during construction. Dispose of all strippings outside of construction areas. The strippings should be hauled from the site or reused only in landscape areas. No strippings should be placed beneath foundations, slabs, sidewalks or pavements.

    Overexcavate the surficial soils at least 24 inches. The overexcavation should extend at least 5 feet beyond the limits of the new foundations. The actual depth of overexcavation should be confirmed by FEI during construction and may vary depending on soil conditions at the time of construction. The excavation should be done with a hoe equipped with a smooth bucket. The surface of the subgrade should be left clean, free of loose or disturbed soils or large clods.

    We recommend the bid documents include a unit cost for the option of overexcavation and replacement with compacted, granular fill (beyond the recommended minimum depth of 24 inches, if required).

24. Do not compact the subgrade. Attempts to compact the subgrade when the soil is wet of optimum are likely to lead to rutting or subgrade disturbance.

25. Overexcavate any test pits that extend beneath the footprint of the building and replace with compacted Select Fill or Granular Site Fill.

26. Place a Separation Geotextile on the subgrade that meets the requirements specified above. The geotextile should be laid smooth, without wrinkles or folds in the direction of construction traffic. Overlap adjacent rolls a minimum of 3 feet. Pin fabric overlaps or place the building pad fill in a manner that will not separate the overlap during construction. Seams that have separated will require removal of the building pad fill to establish the required overlap. The geotextile may be eliminated if the building pad fill will not be subjected to wet weather and heavy construction traffic.

27. Place at least 24 inches of Select Fill to create the individual building pads, provided the subgrade is stiff and stable. Alternatively, Granular Site Fill capped with a minimum of 12 inches of Select Fill can be used. The initial lift should be ±18 inches thick and compacted with a vibratory roller. Do not allow construction traffic on the rock section until a minimum of 24 inches of Select Fill and/or Granular Site fill is placed.

28. Provide at least 12 inches of Select Fill beneath all footings. Depending on the grading plan, trenching through the building pad may be required to place the structural fill beneath the footings. At most locations, we expect the footing excavations will terminate in silt. The bottom of the excavations should be left free of clods and disturbed soil. The subgrade at the bottom of the footing excavations should have a minimum undrained shear strength of 1,000 psf (to be confirmed by FEI during construction). Any soft soil present at the bottom of the excavation should be removed and replaced with additional Select Fill. In the event any footings extend to native gravel, the Select Fill may be reduced to a leveling course over the undisturbed gravels.

29. Prepare the subgrade for staging areas as described above for the building pad. Do not allow continuous construction traffic on the rock section until a minimum of 24 inches of rock is placed.

Subgrade Preparation and Pavement Construction

The required site grading for the proposed paved parking lots is not currently known. Subgrade preparation should be done in dry weather to avoid the need for subgrade stabilization and/or overexcavation of any remaining surficial fill.

30. Strip the existing ground ±2 to 4 inches, or as required to remove roots and sod, or any existing demolition debris. Haul all strippings and demolition debris from the site.

31. Grade the subgrade as required. Do not reuse soils generated by site grading under any sidewalks, parking lots or foundation areas.

32. Strip any remaining unsuitable fill or other deleterious material. The extent or depth of additional site stripping should be established by an FEI representative during construction. We recommend that a unit cost for overexcavation and replacement of unsuitable soil or fill be included in the construction bid documents.

33. Compact the subgrade under pavements to a depth of at least 12 inches. Compaction may not be practical if the soils are too wet of optimum. Therefore, the site work should not be attempted during wet weather and should be delayed until the subgrade soils are sufficiently dry or until weather permits efficient aeration.

    If wet weather construction cannot be avoided, do not compact the subgrade. Instead, overexcavate the subgrade to provide a minimum 24-inch thick base rock section.

    Place a Separation Geotextile under any areas to be used as a staging area, haul roads or subject to heavy traffic (e.g., at entrances). A Separation Geotextile is also recommended if overexcavation and

additional subbase is planned in lieu of subgrade compaction. We recommend a Separation Geotextile be placed at least under all bus lanes and driveways. A geotextile should be considered under parking lots if they are built during wet weather. Where dense gravels are shallow, the base rock thickness may be reduced. We recommend such an adjustment be made during construction based on actual conditions exposed during site grading.

34. Backfill the prepared subgrade with base rock (Select Fill) immediately to reduce exposure to weather and compact to 95% relative compaction, as specified in Item 11.

35. Proof-roll the prepared base rock. Overexcavate and replace any areas of base rock and/or subgrade pumping with additional compacted Select Fill.

36. Provide a minimum flexible pavement section of 2.5 inches of AC over 13 inches of base rock for all parking lots, parking stalls, and driveways not subject to buses or truck traffic. Do not allow loaded trucks or heavy construction equipment on the finished base rock prior to paving.

    Increase the pavement section to 4 inches of AC over 14 inches of base rock for bus lanes and driveways or any paved areas that will be subject to truck traffic. Where rigid pavements are planned, we recommend a minimum PCC thickness of 8 inches over 6 inches of base rock. Increase the base rock thickness for the individual pavement sections to 24 inches (as indicated in Item 33 for wet weather construction).

Subgrade Preparation Under Playfield and Synthetic Turf Field

We have assumed all site grading for the new play fields and the new synthetic turf field will be completed during dry weather (i.e., late summer or early fall). Otherwise, moisture conditioning and subgrade compaction will not be practical.

At the time this report was prepared, a site grading plan was not available for the new fields. Therefore, we do not know to what extent the subgrade for the new fields will include the existing topsoil within the track/soccer field or the underlying native silt.

The subgrade beneath the fields should be prepared as specified above for the building pads (or as specified by the turf manufacturer, if different). If soft subgrade conditions are present or develop this winter, additional mitigation measures will be required. Mitigation of a relatively thin (i.e., 12 inches or less) layer of soft, wet soil can be accomplished by aeration and re-compaction. If the soft layer is relatively deep, over-excavation and replacement with granular fill will be required. Other mitigation options include lime or cement stabilization.

Development of measures for subgrade stabilization is beyond the present scope of work. We recommend the subgrade be examined prior to bidding (and after a site grading plan is known) to confirm the moisture levels in the soil. Options for mitigation, if needed, should be established at that time.

DESIGN REVIEW/CONSTRUCTION OBSERVATION/TESTING

We should be provided the opportunity to review all drawings and specifications that pertain to site preparation, foundation construction and pavements. Preparation of the building pads and subgrade preparation for new fields will require field confirmation of the soil condition. Mitigation of any unsuitable fill or soil, ground water infiltration, or subgrade pumping will also require engineering review and judgment. That judgment should be provided by one of our representatives. Frequent field density tests should be run on all engineered fill, subgrade and base rock. We recommend that we be retained to provide the necessary construction observation.

VARIATION OF SUBSURFACE CONDITIONS, USE OF THIS REPORT AND WARRANTY

The analysis, conclusions and recommendations contained herein are based on the assumption that the soil profiles and ground water levels encountered in the borings and test pits are representative of overall site conditions. No changes in the enclosed recommendations should be made without our approval. We will assume no responsibility or liability for any engineering judgment, inspection or testing performed by others.

This report was prepared for the exclusive use of Lane County School District 4J and their design consultants for the Howard Elementary School in Eugene, Oregon. Information contained herein should not be used for other building sites or for unanticipated construction without our written consent. This report is intended for planning and design purposes. Contractors using this information to estimate construction quantities or costs do so at their own risk. Our services do not include any survey or assessment of potential surface contamination or contamination of the soil or ground water by hazardous or toxic materials. We assume that those services, if needed, have been completed by others.

Climate conditions in western Oregon typically consist of wet weather for almost half of the year (typically between mid-October and late May). The recommendations for foundation design and drainage are not intended to represent any warranty (expressed or implied) against the growth of mold, mildew or other organism that grows in a humid or moist environment.

Our work was done in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made.

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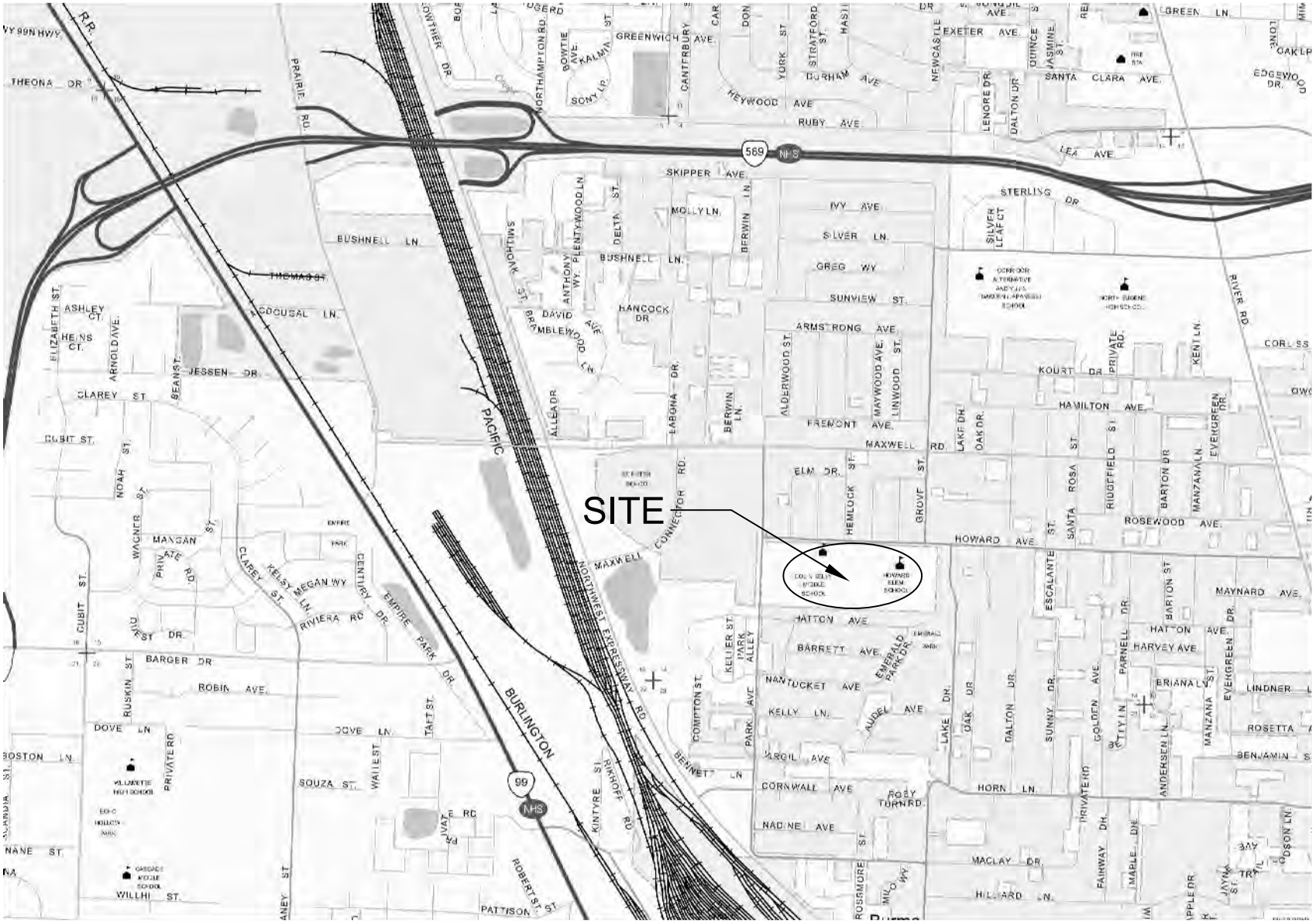
Appendix A

Figures

Professional
Geotechnical
Services

Foundation Engineering, Inc.



Not to Scale

FOUNDATION ENGINEERING INC.
PROFESSIONAL GEOTECHNICAL SERVICES
820 NW CORNELL AVENUE
CORVALLIS, OR 97330-4517
BUS. (541) 757-7645 FAX (541) 757-7650

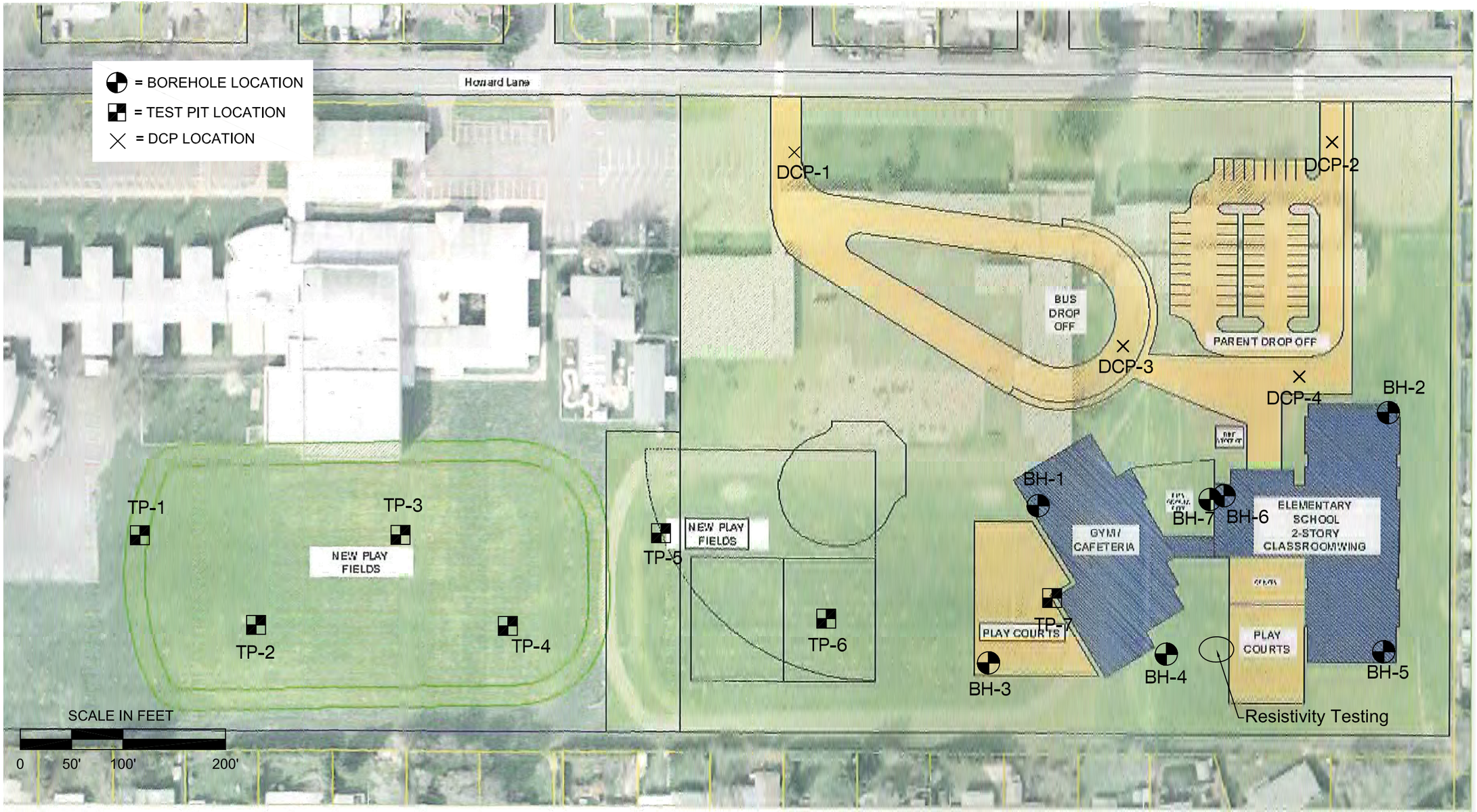
DATE NOV. 2013
DWN. mdm
APPR.
REVIS.
PROJECT NO. 2131078

VICINITY MAP

HOWARD ELEMENTARY SCHOOL
EUGENE, OREGON

FIGURE NO.
1A

FILE NAME:FIG1A



NOTES:
1. EXPLORATION LOCATIONS ARE APPROXIMATE ONLY.
2. SEE REPORT FOR A DISCUSSION OF SUBSURFACE CONDITIONS.
3. BASE MAP PROVIDED BY PIVOT ARCHITECTURE.

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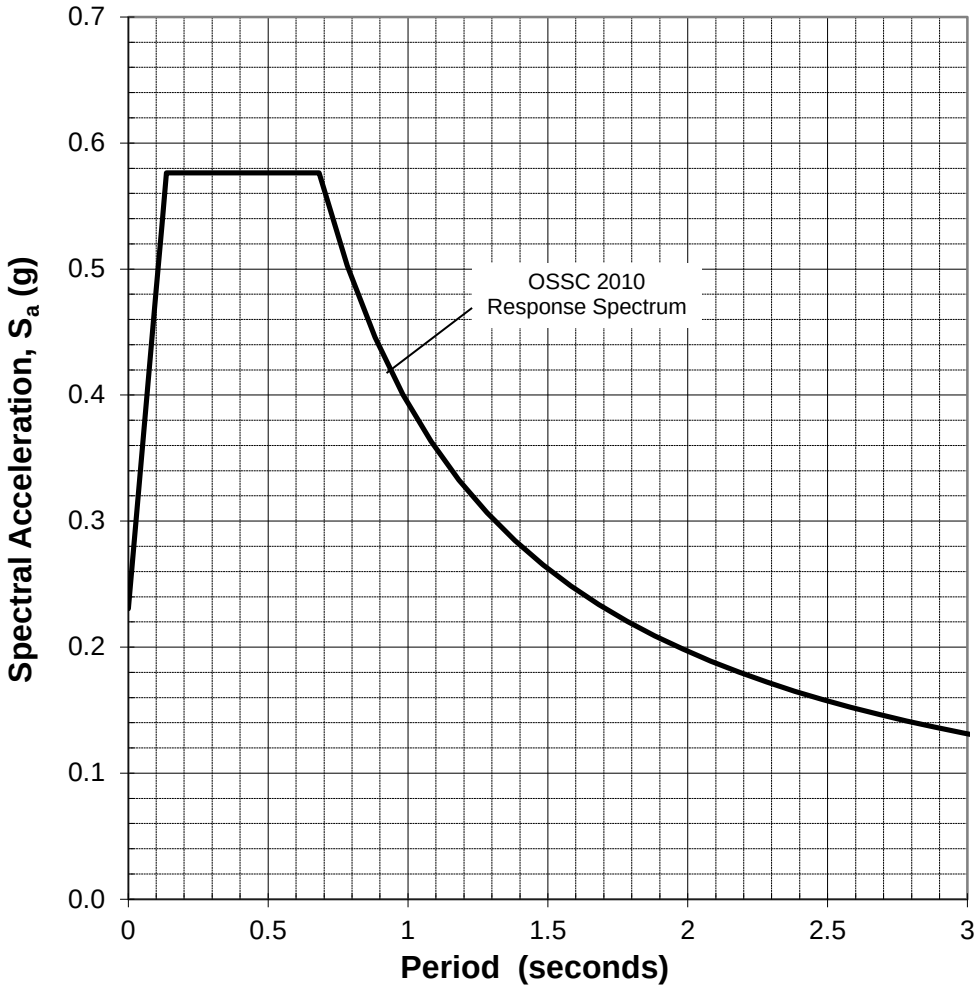
PROJECT NO. 2131078

SITE LAYOUT AND EXPLORATIONS

HOWARD ELEMENTARY SCHOOL
EUGENE, OREGON

FIGURE NO. **2A**

FILE NAME:FIG 2A



Notes:

1. The Design Response Spectrum is based on OSSC 2010 Section 1613 using the following parameters:

   Site Class= D Damping = 5%

S_S =	0.70	F_a =	1.24	S_{MS} =	0.86	S_{DS} =	0.58
S_1 =	0.35	F_v =	1.71	S_{M1} =	0.59	S_{D1} =	0.39

2. S_S and S_1 values for 5% damping are based on the USGS 2002 mapped maximum considered earthquake spectral acclerations for 2% probability of exceedence in 50 years. The corresponding peak ground acceleration on rock is 0.29g.

3. F_a and F_v were established based on OSSC 2010, Tables 1613.5.3(1) and 1613.5.3(2) using the selected S_S and S_1 values. S_{DS} and S_{D1} values include a 2/3 reduction on S_{MS} and S_{M1} as discussed in OSSC 2010 Section 1613.5.4.

4. Site location is: Latitude 44.0876, Longitude -123.1392.

FIGURE 3A
OSSC 2010 SITE RESPONSE SPECTRUM
Howard Elementary School
Corvallis, Oregon
FEI Project 2131078

Appendix B

Boring and Test Pit Logs

Professional
Geotechnical
Services

Foundation Engineering, Inc.

DISTINCTION BETWEEN FIELD LOGS AND FINAL LOGS

A field log is prepared for each boring or test pit by our field representative. The log contains information concerning sampling depths and the presence of various materials such as gravel, cobbles, and fill, and observations of ground water. It also contains our interpretation of the soil conditions between samples. The final logs presented in this report represent our interpretation of the contents of the field logs and the results of the laboratory examinations and tests. Our recommendations are based on the contents of the final logs and the information contained therein and not on the field logs.

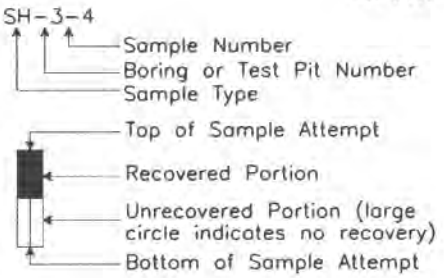
VARIATION IN SOILS BETWEEN TEST PITS AND BORINGS

The final log and related information depict subsurface conditions only at the specific location and on the date indicated. Those using the information contained herein should be aware that soil conditions at other locations or on other dates may differ. Actual foundation or subgrade conditions should be confirmed by us during construction.

TRANSITION BETWEEN SOIL OR ROCK TYPES

The lines designating the interface between soil, fill or rock on the final logs and on subsurface profiles presented in the report are determined by interpolation and are therefore approximate. The transition between the materials may be abrupt or gradual. Only at boring or test pit locations should profiles be considered as reasonably accurate and then only to the degree implied by the notes thereon.

SAMPLE OR TEST SYMBOLS



S – Grab Samples
SS – Standard Penetration Test Sample (split-spoon)
SH – Thin-walled Shelby Tube Sample
C – Core Sample
CS – Continuous Sample

▲ Standard Penetration Test Resistance equals the number of blows a 140 lb. weight falling 30 in. is required to drive a standard split-spoon sampler 1 ft. Practical refusal is equal to 50 or more blows per 6 in. of sampler penetration.

● Water Content (%).

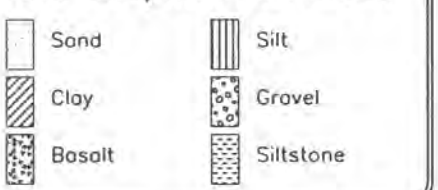
UNIFIED SOIL CLASSIFICATION SYMBOLS

G – Gravel	W – Well Graded
S – Sand	P – Poorly Graded
M – Silt	L – Low Plasticity
C – Clay	H – High Plasticity
Pt – Peat	O – Organic

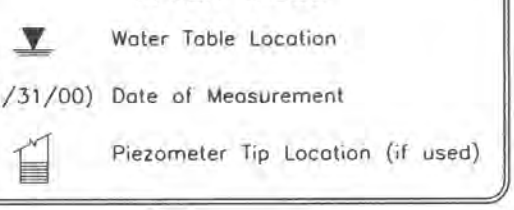
FIELD SHEAR STRENGTH TEST

Shear strength measurements on test pit side walls, blocks of soil or Shelby tube samples are typically made with Torvane or pocket penetrometer devices.

TYPICAL SOIL/ROCK SYMBOLS



WATER TABLE



FOUNDATION ENGINEERING INC.
PROFESSIONAL GEOTECHNICAL SERVICES
820 NW CORNELL AVE.
CORVALLIS, OR 97330-4517
BUS. (541) 757-7645 FAX (541) 757-7650

SYMBOL KEY
BORING AND TEST PIT LOGS

Explanation of Common Terms Used in Soil Descriptions

Field Identification	Cohesive Soils			Granular Soils	
	SPT	S_u^* (tsf)	Term	SPT	Term
Easily penetrated several inches by fist.	0 – 1	< 0.125	Very Soft	0 – 4	Very Loose
Easily penetrated several inches by thumb.	2 – 4	0.125–0.25	Soft	5 – 10	Loose
Can be penetrated several inches by thumb with moderate effort.	5 – 8	0.25 – 0.50	Medium Stiff (Firm)	11 – 30	Medium Dense
Readily indented by thumb but penetrated only with great effort.	9 – 15	0.50 – 1.0	Stiff	31 – 50	Dense
Readily indented by thumbnail.	16 – 30	1.0 – 2.0	Very Stiff	> 50	Very Dense
Indented with difficulty by thumbnail.	31 – 60	> 2.0	Hard		

* Undrained shear strength

Term	Soil Moisture Field Description
Dry	Absence of moisture. Dusty. Dry to the touch.
Damp	Soil has moisture. Cohesive soils are below plastic limit and usually moldable.
Moist	Grains appear darkened, but no visible water. Silt/clay will clump. Sand will bulk. Soils are often at or near plastic limit.
Wet	Visible water on larger grain surfaces. Sand and cohesionless silt exhibit dilatancy. Cohesive silt/clay can be readily remolded. Soil leaves wetness on the hand when squeezed. "Wet" indicates that the soil is wetter than the optimum moisture content and above the plastic limit.

Term	PI	Plasticity Field Test
Nonplastic	0 – 3	Cannot be rolled into a thread.
Low Plasticity	3 – 15	Can be rolled into a thread with some difficulty.
Medium Plasticity	15 – 30	Easily rolled into thread.
High Plasticity	> 30	Easily rolled and rerolled into thread.

Term	Soil Structure Criteria
Stratified	Alternating layers at least 1 inch thick – describe variation.
Laminated	Alternating layers at less than 1 inch thick – describe variation.
Fissured	Contains shears and partings along planes of weakness.
Slickensides	Partings appear glossy or striated.
Blocky	Breaks into lumps – crumbly.
Lensed	Contains pockets of different soils – describe variation.

Term	Soil Cementation Criteria
Weak	Breaks under light finger pressure.
Moderate	Breaks under hard finger pressure.
Strong	Will not break with finger pressure.

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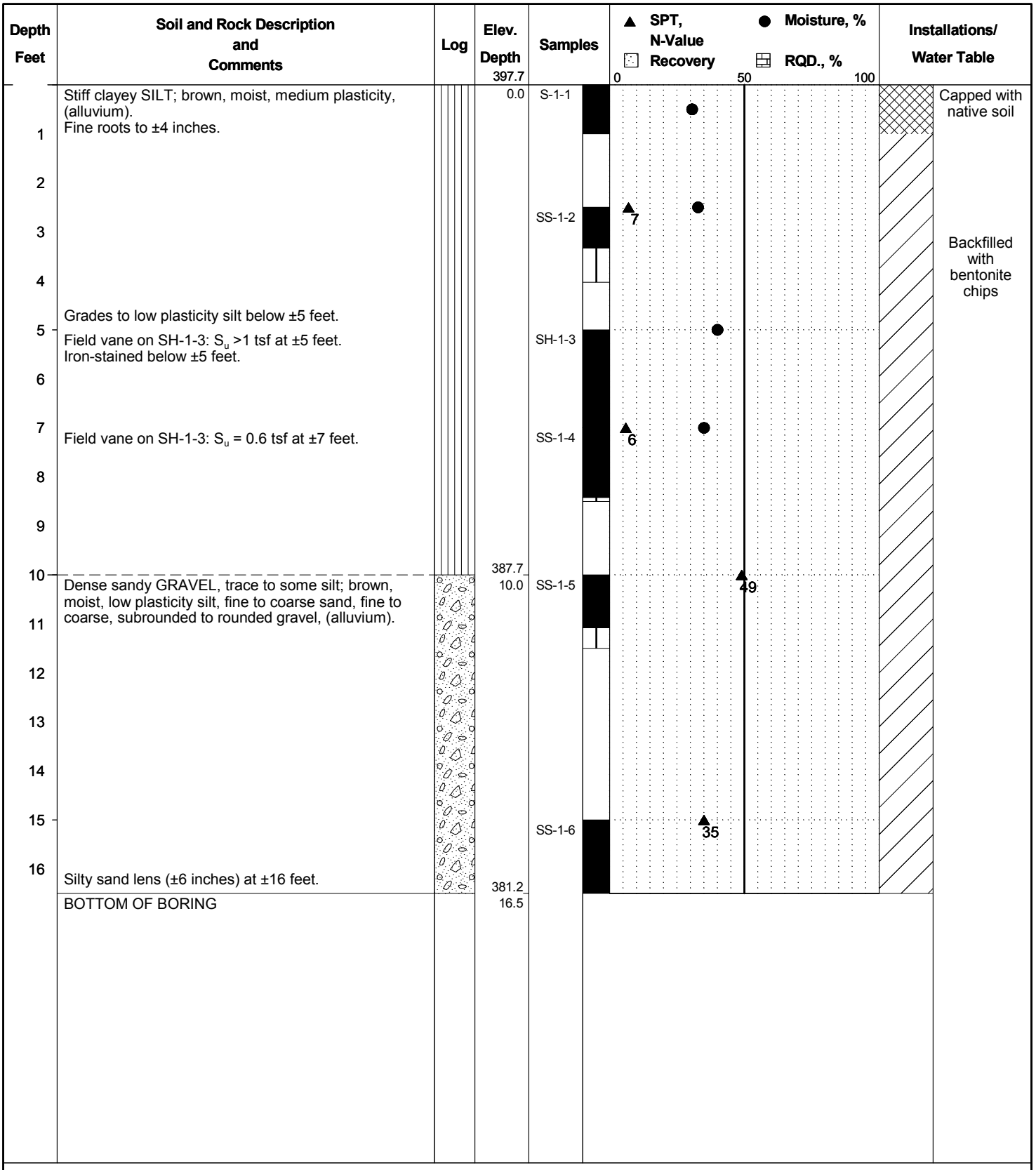
COMMON TERMS
SOIL DESCRIPTIONS



Project No.: 2131078

Surface Elevation: 397.7 feet (Approx.)

Date of Boring: November 13, 2013

Boring Log: BH-1

Howard Elementary School

Eugene, Oregon

Foundation Engineering, Inc.

Depth Feet	Soil and Rock Description and Comments	Log	Elev. Depth	Samples	SPT, N-Value / Moisture, % / Recovery / RQD., %	Installations/ Water Table
1	Medium stiff clayey SILT; brown, damp, medium plasticity, (alluvium). Fine roots to ±4 inches.		0.0	S-2-1		Capped with native soil
2						
3	Grey, wet, low plasticity and soft below ±2.5 feet. Field vane on SH-2-2: S_u = 0.18 tsf at ±2.5 feet.		0.0	SH-2-2		
	Medium stiff sandy SILT; brown, wet, low plasticity silt, fine sand, (alluvium).		3.0			Backfilled with bentonite chips
4	Field vane on SH-2-2: S_u = 0.4 tsf at ±4 feet.		0.0			
5	Medium dense sandy GRAVEL, trace to some silt; grey, damp, low plasticity silt, fine to coarse sand, fine to coarse, subrounded to rounded gravel, (alluvium).		4.0	SS-2-3	24	
6						
7						
8	Dense and moist below ±7.5 feet.			SS-2-4	47	
9						
10	Very dense below ±9.5 feet.			SS-2-5	55	
11	BOTTOM OF BORING		0.0 11.0			

Project No.: 2131078

Surface Elevation: N/A (Approx.)

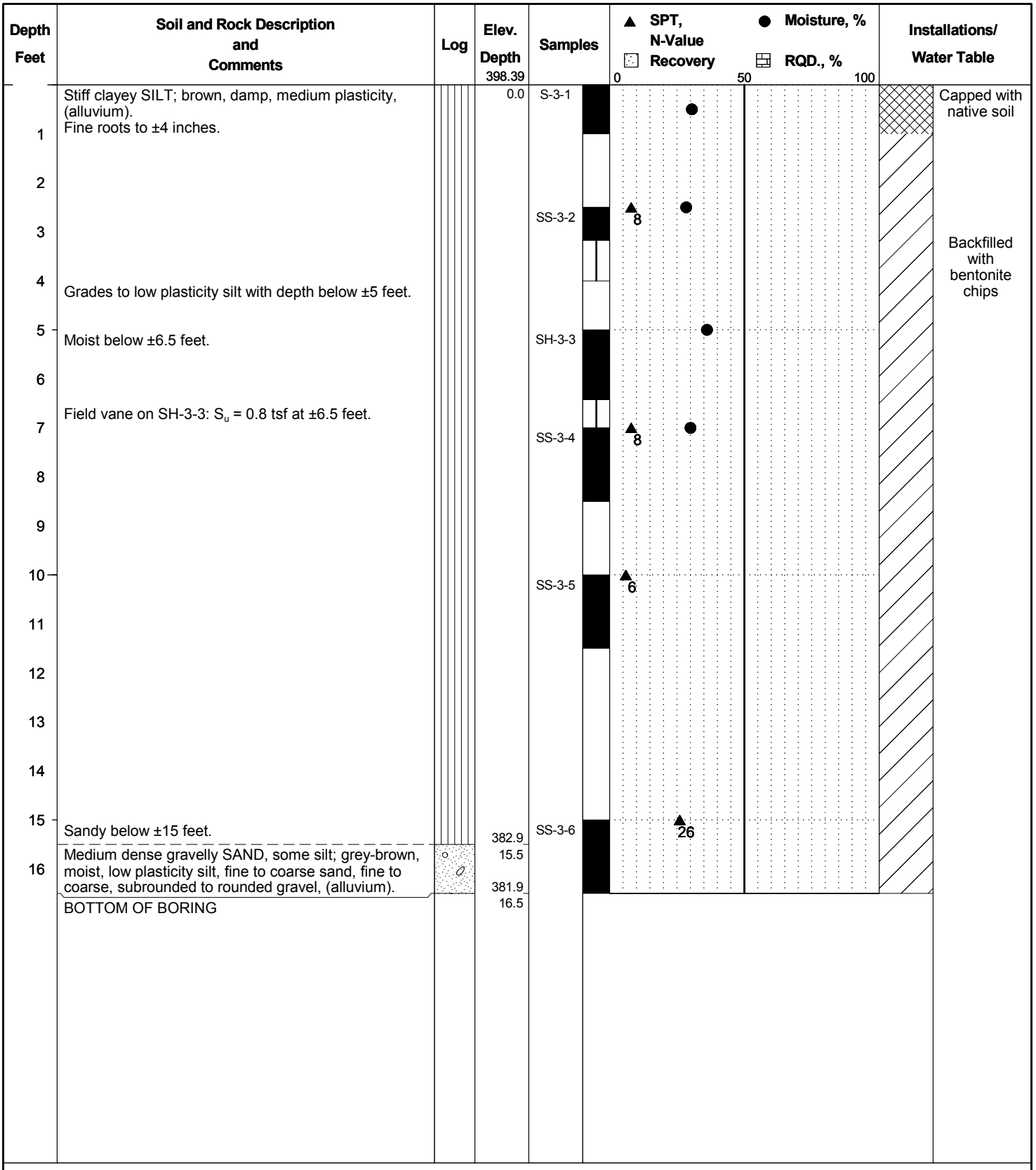
Date of Boring: November 11, 2013

Boring Log: BH-2

Howard Elementary School

Eugene, Oregon

Foundation Engineering, Inc.



Project No.: 2131078

Surface Elevation: 398.4 feet (Approx.)

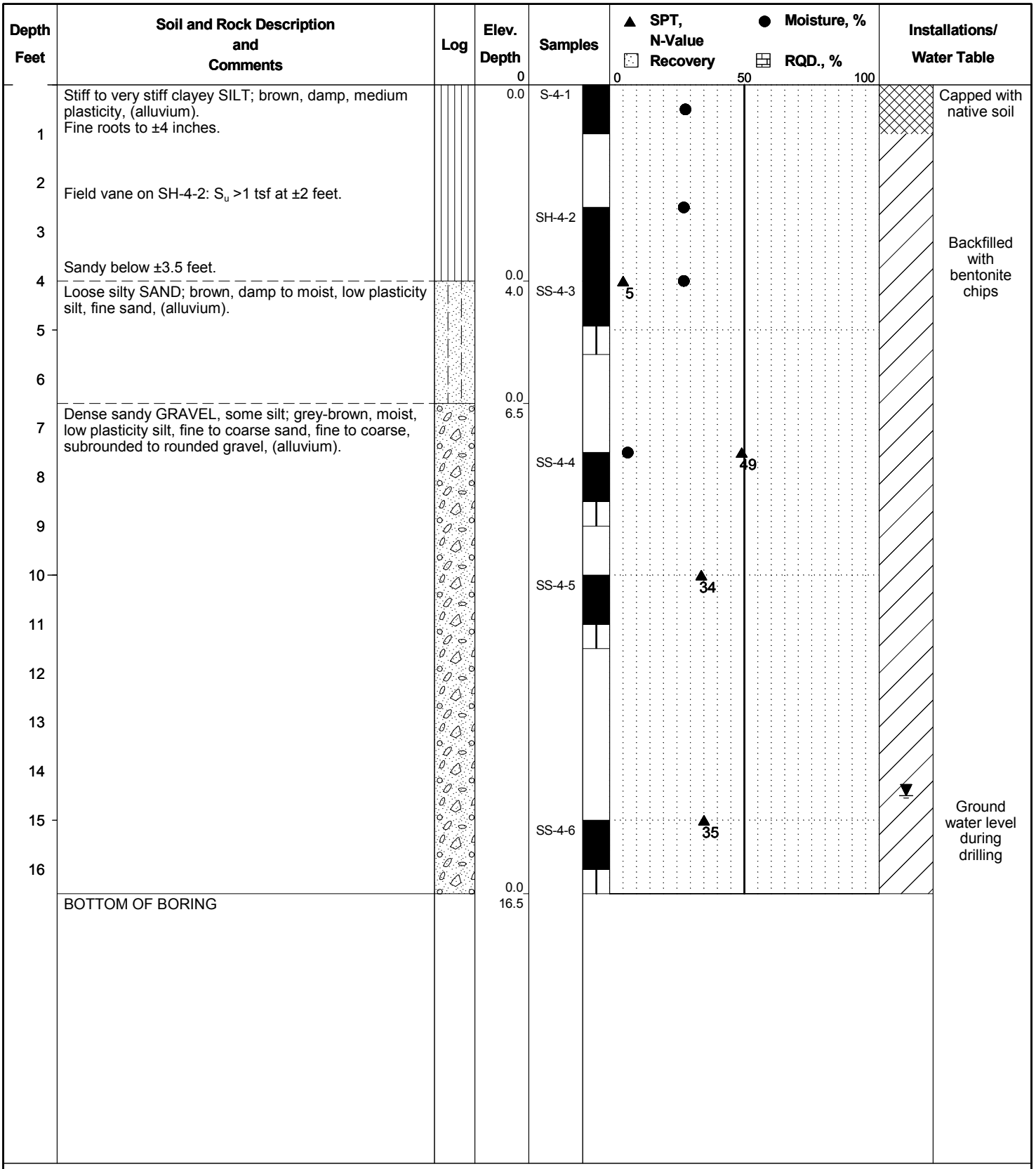
Date of Boring: November 13, 2013

Boring Log: BH-3

Howard Elementary School

Eugene, Oregon

Foundation Engineering, Inc.



Project No.: 2131078

Surface Elevation: N/A (Approx.)

Date of Boring: November 13, 2013

Boring Log: BH-4

Howard Elementary School

Eugene, Oregon

Foundation Engineering, Inc.

Depth Feet	Soil and Rock Description and Comments	Log	Elev. Depth	Samples	SPT, N-Value / Moisture, % / Recovery / RQD., %	Installations/ Water Table
1	Medium stiff SILT, trace sand, scattered organics; brown, moist, low plasticity, fine to coarse sand, organics consist of fine roots, (fill).		0.0	S-5-1		Capped with native soil
			0.0			
2	Medium stiff SILT, some sand; brown, moist, low plasticity, fine sand, (alluvium).		1.0	S-5-2		
3	Medium dense sandy GRAVEL, trace to some silt; grey-brown, moist, low plasticity silt, fine to coarse sand, fine to coarse, subrounded to rounded gravel, (alluvium).		0.0 2.5	SS-5-3	23	Backfilled with bentonite chips
4						
5	Dense below ±5 feet.			SS-5-4	48	
6						
7						
8						
9						
10				SS-5-5	50	
11						
12						
13	Medium dense at ±12.5 feet.			SS-5-6	26	
14	BOTTOM OF BORING		0.0 14.0			

Project No.: 2131078

Surface Elevation: N/A (Approx.)

Date of Boring: November 11, 2013

Boring Log: BH-5

Howard Elementary School

Eugene, Oregon

Foundation Engineering, Inc.

Depth Feet	Soil and Rock Description and Comments	Log	Elev. Depth 394.6	Samples	SPT, N-Value / Moisture, % / Recovery / RQD., % (0 – 50 – 100)	Installations/ Water Table
1	Stiff clayey SILT; brown, damp, medium plasticity, (alluvium). Fine roots to ±4 inches. Field vane at 0.8 feet: S_u > 1 tsf.		0.0	S-6-1		Capped with native soil
2						
3	Medium stiff, low plasticity and moist with trace to some sand below ±2.5 feet. Field vane on SH-6-2 S_u = 0.3 tsf at ±2¾ feet.			SH-6-2		Backfilled with bentonite chips
4	Soft to medium stiff sandy SILT; brown, wet, low plasticity, fine sand, (alluvium). Field vane on SH-6-2: S_u = 0.35 tsf at ±4 feet.		390.9 3.8			
5				SS-6-3	7	
6	Medium dense sandy GRAVEL, trace to some silt; brown, low plasticity silt, fine to coarse sand, fine to coarse, subrounded to rounded gravel, (alluvium).		388.6 6.0			
7						
8				SS-6-4	24	
9						
10	Dense at ±10 feet.			SS-6-5	38	
11						
12						
13						
14						Ground water level during drilling
15				SS-6-6	19	
16						
17						
18						
19						
20				SS-6-7	27	
21						

Project No.: 2131078

Surface Elevation: 394.6 feet (Approx.)

Date of Boring: November 13, 2013

Boring Log: BH-6

Howard Elementary School

Eugene, Oregon

Foundation Engineering, Inc.

Depth Feet	Soil and Rock Description and Comments	Log	Elev. Depth 372.6	Samples	SPT, N-Value / Recovery; Moisture, % / RQD., % (0 — 50 — 100)	Installations/ Water Table
23						
24						
25	Dense sandy GRAVEL, trace to some silt; brown, wet, low plasticity silt, fine to coarse sand, fine to coarse, subrounded to rounded gravel, (alluvium).		369.6 25.0	SS-6-8	40	
26						
27	Scattered cobbles below ±27 feet.					
28						
29						
30				SS-6-9	38	
31						
32						
33						
34						
35	Very dense and grey-brown below ±35 feet.			SS-6-10	67	
36						
	BOTTOM OF BORING		358.1 36.5			

Project No.: 2131078

Surface Elevation: 394.6 feet (Approx.)

Date of Boring: November 13, 2013

Boring Log: BH-6

Howard Elementary School

Eugene, Oregon

Foundation Engineering, Inc.

Depth Feet	Soil and Rock Description and Comments	Log	Elev. Depth	Samples	SPT, N-Value / Recovery / Moisture, % / RQD., % (0 – 50 – 100)	Installations/ Water Table
1	Stiff clayey SILT; brown, damp, medium plasticity, (alluvium). Fine roots to ±4 inches.		0.0			Capped with native soil
2						
3	Grades to low plasticity silt with trace to some sand below ±3.5 feet.					
4	Field vane on SH-7-1: S_u 0.5 tsf at ±3.5 feet.			SH-7-1		Backfilled with bentonite chips
			0.0			
5	Soft sandy SILT; brown, wet, low plasticity, fine sand, (alluvium).		4.8			
6	Field vane on SH-7-1: S_u = 0.25 tsf at ±5 feet.			SS-7-2	▲ 5	
			0.0			
7	Medium dense sandy GRAVEL, trace to some silt; brown, wet, low plasticity, fine to coarse sand, fine to coarse, subrounded to rounded gravel, (alluvium).		6.5			
			0.0			
	BOTTOM OF BORING		7.0			

Project No.: 2131078

Surface Elevation: N/A (Approx.)

Date of Boring: November 13, 2013

Boring Log: BH-7

Howard Elementary School

Eugene, Oregon

Foundation Engineering, Inc.

Comments	Depth, Feet	Sample #	Location	Class Symbol	Water Table	C, TSF	Symbol	Soil and Rock Description
Surface: grass. Fine roots to ±2 inches.	1	S-1-1				0.8 tsf		Stiff SILT, trace sand; brown, damp, low plasticity, fine to coarse sand, (topsoil/fill).
	2							Medium stiff clayey SILT; brown, moist, medium plasticity, (alluvium).
	3	S-1-2				0.5 tsf		
						0.5 tsf		
	4	S-1-3						Medium dense silty GRAVEL, some sand, scattered cobbles; brown, moist, low plasticity silt, fine to coarse sand, fine to coarse, subrounded to rounded gravel, cobbles up to ±4 inches in diameter, (alluvium).
No seepage or groundwater encountered to the limit of excavation.	5							BOTTOM OF TEST PIT
	6							
	7							
	8							
	9							
	10							
	11							

Project No.: 2131078

Surface Elevation: 397.4 feet (Approx.)

Date of Test Pit: November 14, 2013

Test Pit Log: TP-1

Howard Elementary School

Eugene, Oregon

Comments	Depth, Feet	Sample #	Location	Class Symbol	Water Table	C, TSF	Symbol	Soil and Rock Description
Surface: grass. Fine roots to ±4 inches.		S-2-1						Stiff SILT, trace sand and gravel; brown, damp, low plasticity, fine to coarse sand, fine, subrounded gravel, (topsoil/fill).
	1					0.7 tsf		Stiff clayey SILT; brown, moist, medium plasticity, (alluvium).
		S-2-2				1 tsf		
	2							
	3							Medium dense silty GRAVEL, some sand; brown, moist, low plasticity silt, fine to coarse sand, fine to coarse, subrounded to rounded gravel, (alluvium).
No seepage or groundwater encountered to the limit of excavation.	4							BOTTOM OF TEST PIT
	5							
	6							
	7							
	8							
	9							
	10							
	11							

Project No.: 2131078

Surface Elevation: 397.1 feet (Approx.)

Date of Test Pit: November 14, 2013

Test Pit Log: TP-2

Howard Elementary School

Eugene, Oregon

Comments	Depth, Feet	Sample #	Location	Class Symbol	Water Table	C, TSF	Symbol	Soil and Rock Description
Surface: grass. Fine roots to ±7 inches.	1	S-3-1 S-3-2				0.5 tsf 0.9 tsf		Stiff SILT, trace sand; brown, moist, low plasticity, fine to coarse sand, (topsoil/fill). Stiff clayey SILT; brown, moist, medium plasticity, (alluvium).
No seepage or groundwater encountered to the limit of excavation.	2 3 4 5 6 7 8 9 10 11							BOTTOM OF TEST PIT

Project No.: 2131078 **Test Pit Log: TP-3**

Surface Elevation: 397.5 feet (Approx.) **Howard Elementary School**

Date of Test Pit: November 14, 2013 **Eugene, Oregon**

Comments	Depth, Feet	Sample #	Location	Class Symbol	Water Table	C, TSF	Symbol	Soil and Rock Description
Surface: grass. Fine roots to ±4 inches.	1	S-4-1 S-4-2				0.9 tsf		Stiff SILT, trace sand and gravel; brown, damp, low plasticity, fine to coarse sand, fine, subrounded gravel, (topsoil/fill). Stiff clayey SILT; brown, moist, medium plasticity, (alluvium).
	2 3	S-4-3				0.6 tsf 0.7 tsf		
	4 5 6							Grades to low plasticity silt below ±5 feet.
	7	S-4-4						
	8 9							Iron-stained below ±8 feet.
No seepage or groundwater encountered to the limit of excavation.	10 11							BOTTOM OF TEST PIT

Project No.: 2131078 **Test Pit Log: TP-4**

Surface Elevation: 397.5 feet (Approx.) **Howard Elementary School**

Date of Test Pit: November 14, 2013 **Eugene, Oregon**

Comments	Depth, Feet	Sample #	Location	Class Symbol	Water Table	C, TSF	Symbol	Soil and Rock Description
Surface: grass. Fine roots to ±4 inches.	1	S-5-1						Medium stiff SILT, trace sand and gravel; brown, moist, low plasticity, fine to coarse sand, fine, subrounded gravel, (topsoil/fill).
	2	S-5-2				0.35 tsf		
	3	S-5-3				0.75 tsf		Stiff clayey SILT; brown, moist, medium plasticity, (alluvium).
No seepage or groundwater encountered to the limit of excavation.	4							BOTTOM OF TEST PIT
	5							
	6							
	7							
	8							
	9							
	10							
	11							

Project No.: 2131078 **Test Pit Log: TP-5**

Surface Elevation: 398.0 feet (Approx.) **Howard Elementary School**

Date of Test Pit: November 14, 2013 **Eugene, Oregon**

Comments	Depth, Feet	Sample #	Location	Class Symbol	Water Table	C, TSF	Symbol	Soil and Rock Description
Surface: grass. Fine roots to ±4 inches.	1	S-6-1				0.6 tsf		Stiff SILT, trace sand; brown, damp, low plasticity, fine to coarse sand, (topsoil/fill).
	2	S-6-2				0.75 tsf		Stiff clayey SILT; brown, moist, medium plasticity, (alluvium).
No seepage or groundwater encountered to the limit of excavation.	3							BOTTOM OF TEST PIT
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							

Project No.: 2131078 **Test Pit Log: TP-6**

Surface Elevation: 398.6 feet (Approx.) **Howard Elementary School**

Date of Test Pit: November 14, 2013 **Eugene, Oregon**

Comments	Depth, Feet	Sample #	Location	Class Symbol	Water Table	C, TSF	Symbol	Soil and Rock Description
Surface: grass. Fine roots to ±4 inches.	1 2 3	S-7-1 S-7-2						Stiff clayey SILT; brown, damp, medium plasticity, (alluvium).
No seepage or groundwater encountered to the limit of excavation.	4 5 6 7 8 9 10 11							BOTTOM OF TEST PIT

Project No.: 2131078

Surface Elevation: 398.4 feet (Approx.)

Date of Test Pit: November 14, 2013

Test Pit Log: TP-7

Howard Elementary School

Eugene, Oregon

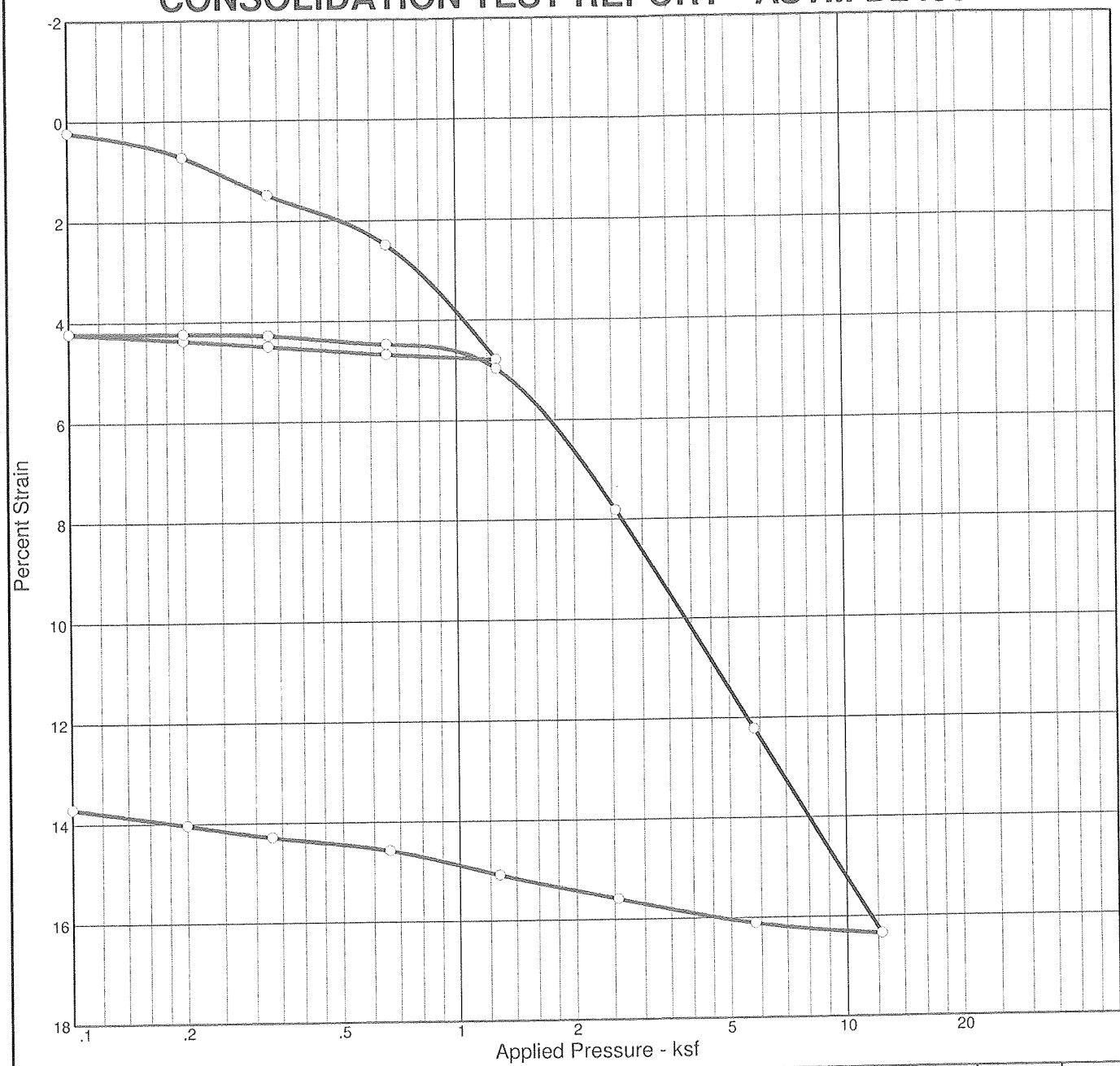
Appendix C

Field and Laboratory Test Results

Professional Geotechnical Services

Foundation Engineering, Inc.

CONSOLIDATION TEST REPORT - ASTM D2435



Natural Sat.	Natural Moist.	Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (ksf)	P_c (ksf)	C_c	C_r	Swell Press. (ksf)	Swell %	e_o
84.2 %	33.9 %	80.1			2.65		1.10	0.26	0.02			1.066

MATERIAL DESCRIPTION	USCS	AASHTO
Brown, stiff, medium plasticity, clayey SILT		

Project No. 2136001-527 **Client:** Foundation Engineering, Inc.; Project #2131078

Project: Howard Elementary School

Source: 5329 **Sample No.:** SH-7-1 **Elev./Depth:** 3.5-5.5'

CONSOLIDATION TEST REPORT - ASTM D2435

FEI Testing & Inspection, Inc.
Corvallis, OR

Remarks:

Figure 1C

Table 1C. Atterberg Limits, Natural Water Contents, and Percent Fines (Borehole Samples)

Sample Number	Sample Depth (feet)	Moisture Content (percent)	LL	PL	PI	USCS Classification	Percent Fines
S-1-1	0-1.0	30.6					
SS-1-2	2.5-4.0	32.8	56	33	23	MH	
SH-1-3	5.0-7.0	40.0					
SS-1-4	7.0-8.5	35.0	43	31	12	ML	
S-2-1	0-1.0	30.6					
SH-2-2	2.5-4.0	27.4					
S-3-1	0-1.0	30.5					
SS-3-2	2.5-4.0	28.4					
SH-3-3	5.0-7.0	36.1					
SS-3-4	7.0-8.5	30.0					
S-4-1	0-1.0	28.1					
SH-4-2	2.5-4.0	27.5					
SS-4-3	4.0-5.5	27.5					47.8
SS-4-4	7.5-9.0	6.7					7.2
S-5-1	0-1.0	27.2					
SS-5-2	1.0-1.5	29.3					
S-6-1	0-0.8	25.1					
SH-6-2	2.5-4.5	35.6					
SS-6-3	4.5-6.0	38.5					
SH-7-1	3.5-5.5	32.8					64.8
SS-7-2	5.5-7.0	36.8					

Table 1C. Atterberg Limits, Natural Water Contents, and Percent Fines (Test Pit Samples)

Sample Number	Sample Depth (feet)	Moisture Content (percent)	LL	PL	PI	USCS Classification	Percent Fines
S-1-1	0.5-1.5	27.2					
S-1-2	2.5-3.5	32.7					
S-2-1	0-1.0	25.3	42	29	13	ML	
S-3-1	0-0.8	28.8					
S-3-2	1.0-2.	36.4					
S-4-2	1.0-2.0	40.3	59	39	20	MH	
S-5-1	0-0.5	25.5					
S-5-2	1.0-2.0	25.0					
S-6-1	0.5-1.5	21.7					
S-6-2	2.0-3.0	37.2					

Table 2C. pH Test Results (ASTM G51)

Sample Number	Sample Depth (ft)	Sample Description	pH
SS-4-3	4.0 – 5.5	Silty SAND	6.2
SS-5-1	0.0 – 1.0	SILT, trace sand, scattered organics	6.3

Table 3C. Summary of Resistivity Testing

Location	Pin Spacing (ft.)	Resistivity (Ω-cm)
Near BH-4 (See Figure 2A)	2	3,064
	4	3,983
	6	5,171
	8	6,128

Foundation Engineering, Inc.
Howard Elementary School
FEI Project 2131078

Table 4C. Summary of DCP Test Results

Test Hole	Initial Test Depth (inches)	Soil Description	[1]Average DCP (mm/blow)	[2]Average M_r (psi)	[3]Corrected M_r (psi)
DCP-1	1	Medium stiff, clayey SILT (alluvium)	67.7	9,474	3,126
DCP-2	1	Medium stiff, clayey SILT (alluvium)	69.7	9,368	3,091
DCP-3	1	Stiff, clayey SILT (alluvium)	34.4	12,331	4,069
DCP-4	1	Stiff, clayey SILT (alluvium)	25.2	13,931	4,597

Notes:
1. DCP (mm/blow) based on the average of several readings from the initial test depth.
2. M_r value based on average DCP value at the test depth and the ODOT recommended correlation: $M_r = 49023(DCP)^{-0.39}$. Values may vary slightly due to rounding.
3. Corrected M_r values are based on the ODOT recommended correction factors of 0.33 for fine-grained soil.

Appendix D

Seismic Hazard Study

Professional
Geotechnical
Services

Foundation Engineering, Inc.

HOWARD ELEMENTARY SCHOOL
SEISMIC HAZARD STUDY
EUGENE, OREGON

INTRODUCTION

A seismic hazard study was completed to identify potential geologic and seismic hazards and evaluate the effect those hazards may have on the proposed project. The study fulfills the requirements presented in the 2010 Oregon Structural Specialty Code, Section 1803.7, for site-specific seismic hazard reports for essential and hazardous facilities, and major and special-occupancy structures (OSSC, 2010).

LITERATURE REVIEW

Available geologic and seismic publications and maps were reviewed to characterize the local and regional geology and evaluate relative seismic hazards at the site. The literature review included geologic and seismic hazard studies completed in western Lane County and the Eugene/Springfield metropolitan area. Information from several geotechnical and seismic hazard investigations completed by Foundation Engineering, Inc. (FEI) and local water well logs, available from the Oregon Department of Water Resources (ODWR) website were also reviewed to help establish the subsurface conditions.

SEISMIC CONSIDERATIONS

Regional Geologic and Tectonic Setting

The site is located at the southern end of the Willamette Valley, which is a broad north-south-trending basin separating the Coast Range to the west from the Cascade Range to the east. In the early Eocene (±50 to 58 million years ago), the Willamette Valley was part of a broad continental shelf extending west from the Western Cascades beyond the present coastline (Orr and Orr, 1999). Basement rock underlying most of the Valley includes Siletz River Volcanics, which erupted as part of a submarine oceanic island-arc. The thickness of the volcanic basement rock is unknown, but is estimated to be ±3 to 4 miles (Yeats et al., 1996). The island-arc collided with and was accreted to the western margin of the converging North American plate near the end of the early Eocene. Volcanism subsided and a fore arc basin was created. The basin was then infilled (primarily to the south) with marine sediments of the Flournoy, Yamhill, Spencer and Eugene Formations throughout the late Eocene and Oligocene, and terrestrial sedimentary and volcanic deposits of the late Eocene Fisher Formation, Miocene-Oligocene Little Butte Volcanics and other basaltic flow and volcaniclastic sedimentary rocks (Orr and Orr, 1999; Madin and Murray, 2006; McClaughry et al., 2010).

After emerging from a gradually shallowing ocean, the marine and volcanic formations were covered by terrestrial Columbia River Basalt (middle Miocene; ±17 to 10 million years ago). The basalt poured through the Columbia Gorge from northeastern Oregon and southwestern Washington, spreading as far south as Salem with some flows reaching west to the Pacific Ocean. Uplift and tilting of the

Coast Range and the Western Cascades during the late Miocene formed the trough-like configuration of the Willamette Valley. Thick layers of Pleistocene and Holocene fluvial and floodplain deposits blanket the Columbia River Basalt (northern Willamette Valley) and older Tertiary deposits (Orr and Orr, 1999).

The Southern Willamette Valley is located ±130 miles inland from the surface expression of the Cascadia Subduction Zone (CSZ) (Peterson et al., 1986; Goldfinger et al., 1992; Geomatrix Consultants, 1995). The CSZ is a converging, oblique plate boundary where the Juan de Fuca plate is being subducted beneath the western edge of the North American continent (Geomatrix Consultants, 1995). The CSZ extends from central Vancouver Island in British Columbia, Canada, through Washington and Oregon to Northern California. The CSZ is capable of generating earthquakes within the descending Juan de Fuca plate (intraplate), along the inclined interface between the two plates (interface), or within the overriding North American Plate (crustal) (Weaver and Shedlock, 1996). Western Oregon is located in an area of potentially high seismic activity due to its proximity to the CSZ.

Local Faulting

A review of nearby faults was completed to establish the seismic setting and the seismic sources. Numerous concealed and inferred crustal faults are located within ±20 miles of Eugene (Yeats et al., 1996; Madin and Murray, 2006). However, none of these faults show any evidence of movement in the last ±1.6 million years (Geomatrix Consultants, 1995; USGS, 2006). Four potentially active Quaternary (<1.6 million years or less) crustal fault zones have been mapped within ±40 miles of the site (Geomatrix Consultants, 1995; Personius et al., 2003; USGS, 2006; USGS, 2013) and are listed in Table 1D. The approximate locations of these faults in the central Willamette Valley are shown on Figure 1D (attached) (Personius et al., 2003).

Table 1D. Potentially Active Quaternary Crustal Faults within ± 40 miles of Howard Elementary School, Eugene

Fault Name	Length (miles)	Last Known Activity	Distance from Site (miles)	Slip Rate (mm/yr)
Upper Willamette River (#863)	±27	<1.6 million years	±25 SE	<0.20
Owl Creek (#870)	±9	<750,000 years	±30 N	<0.20
Unnamed faults near Sutherlin (#862)	±17	<750,000 years	±33 SW	<0.20
Corvallis (#869)	±25	<1.6 million years	±35 NW	<0.20

Note: Fault data based on USGS, 2006 and USGS, 2013.

The Owl Creek fault is the only fault considered a USGS Class A fault (geologic evidence supporting tectonic movement in the Quaternary with movement known or presumed to be associated with large-magnitude earthquakes). The remaining three are Class B faults.

The source of the coseismic displacement on faults located within the Cascadia forearc (along the coast) is not fully known. The displacement might be caused by subduction zone megathrust earthquakes or other smaller earthquakes within the North American plate (USGS, 2006). The USGS (2002) interactive deaggregation indicates that the primary seismic sources affecting the site are the CSZ faults. Additional fault information can be found in the literature (Personius et al., 2003; USGS, 2006).

Historic Earthquakes

No significant interface (subduction zone) earthquakes have occurred on the CSZ in historic times; however, several large-magnitude (>M ~8.0, M = unspecified magnitude scale) subduction zone earthquakes are thought to have occurred in the past few thousand years. This is evidenced by the discovery of tsunami inundation deposits, combined with geologic evidence for episodic subsidence along the Oregon and Washington coasts (Peterson et al., 1993; Atwater et al., 1995). The Oregon Department of Geology and Mineral Industries (DOGAMI) and USGS estimates the maximum magnitude of an interface subduction zone earthquake ranges from moment magnitude (M_w) 8.5 to M_w 9.0 (Wang and Leonard, 1996; Wang et al., 1998; Wang et al., 2001; Petersen et al., 2008), and the rupture may potentially occur along the entire length of the CSZ (Weaver and Shedlock, 1996). Interface earthquakes are believed to have an average return period of 400 to 700 years (Nelson and Personius, 1996), with the last event occurring ±313 years ago (January 26, 1700) (Nelson et al., 1995; Satake et al., 1996). Turbidite deposits in the Cascadia Basin has been investigated recently as a paleoseismic record for the CSZ (Goldfinger et al., 2012). Turbidite findings (based on the last 10,000 years) suggest an average recurrence interval of ±240 years for a large interface earthquake on the southern portion of the CSZ. The estimated recurrence interval for a large interface earthquake on the northern portion of the CSZ is ±500 to 530 years (Goldfinger et al., 2012).

Intraplate (Benioff Zone) earthquakes occur within the Juan de Fuca Plate at depths of ±28 to 37 miles (Weaver and Shedlock, 1996). The maximum estimated magnitude of an intraplate earthquake is about M_w 7.5 (Wang et al., 2001). No intraplate earthquakes have been recorded in Oregon in historic times; however, the Puget Sound region of Washington State has experienced three intraplate events in the last ±64 years including a surface wave magnitude (M_s) 7.1 event in 1949 (Olympia), a M_s 6.5 event in 1965 (Seattle/Tacoma) (Wong and Silva, 1998), and a M_w 6.8 event in 2001 (Nisqually) (USGS, 2001).

Crustal earthquakes dominate Oregon's seismic history. Crustal earthquakes occur within the North American Plate, typically at depths of ±6 to 12 miles. The estimated maximum magnitude of the relatively shallow crustal earthquake in the Willamette Valley and adjacent physiographic regions is about M_w 6.5 (Wang and

Leonard, 1996; Wang et al., 1998; Wang et al., 2001). Only two major crustal events in Oregon have reached Richter local magnitude (M_L) 6 (the 1936 Milton-Freewater M_L 6.1 earthquake and the 1993 Klamath Falls M_L 6.0 earthquake) (Wong and Bott, 1995). The majority of Oregon's larger crustal earthquakes are in the M_L 4 to 5 range (Wong and Bott, 1995).

Table 2D summarizes earthquakes with a M of 3.5 or greater that have occurred within a ±40-mile radius of Eugene in the last 180 years (Johnson et al., 1994; ANSS, 2013). Although not listed, several sources make reference to a M_L = 4+ earthquake (MM=V) with an epicenter near Corvallis. The coordinates of this earthquake (44.6 N, 123.2 W) suggest the 1946 or 1947 event was most likely located on the Corvallis fault (Bela, 1979; Yeats et al., 1996). Yeats et al. (1996) and Geomatrix Consultants (1995) also indicate that two other earthquakes have been felt near the Corvallis fault. One occurred in 1957 (MM= III) and the other in 1961 (MM= III-IV).

Table 2D. Historic Earthquakes within ± 40-mile Radius of Eugene

Year	Month	Day	Hour	Minute	Latitude	Longitude	Depth (miles)	Magnitude
1961	08	19	04	56	44.7	122.5	unknown	M = 4.5
1962	09	05	05	37	44.5	122.9	unknown	M = 3.5

Note: M = unspecified magnitude, M_b = compressional body wave magnitude, M_c = primary coda magnitude, and M_L = local Richter magnitude

It should be noted that earthquakes in Oregon were not comprehensively documented until the 1840's (Wong and Bott, 1995). According to Wong and Bott (1995), seismograph stations sensitive to smaller earthquakes ($M_L \leq 4$ to 5) were not implemented in Northwestern Oregon until 1979 when the University of Washington expanded their seismograph network to Oregon. Prior to 1979, few seismograph stations were installed in Oregon. Oregon State University (Corvallis) likely had the first station installed in 1946 (Wong and Bott, 1995). The local Richter magnitude (M_L) of events occurring prior to the establishment of seismograph stations have been estimated based on correlations between magnitude and Modified Mercalli (MM) intensities. Some discrepancy exists in the correlations.

Distant strong earthquakes felt in the Eugene area are summarized in Table 3D (Noson et al., 1988; Bott and Wong, 1993; Stover and Coffman, 1993; Wiley et al., 1993; Wong and Bott, 1995; Black, 1996; USGS, 2001). None of these events caused significant reportable damage in the Eugene metropolitan area.

Table 3D. Distant Earthquakes Felt in the Eugene Area

Earthquake	Modified Mercalli Intensities (MM)
2001 Nisqually, Washington	II-III
1993 Klamath Falls, Oregon	IV
1993 Scotts Mills, Oregon	IV
1965 Seattle-Tacoma, Washington	I-IV
1962 Portland, Oregon	I-IV
1961 Lebanon/Albany, Oregon	IV
1949 Olympia, Washington	IV
1873 Crescent City, California	V

SEISMIC HAZARDS

The OSSC (2010) Section 1803.7 requires the evaluation of risks from a range of seismic hazards. A seismic hazard study by DOGAMI has been completed for the Eugene-Springfield area and part of this study included obtaining shear-wave velocity data (Wang et al., 1998; Black et al., 2000). More recent investigations have been completed by DOGAMI to identify geologic and seismic hazards (Burns et al., 2008). We have also developed conclusions regarding seismic hazards based on previous geotechnical and seismic studies performed within the project vicinity, our knowledge of the site geology, and the soil profile encountered in the explorations.

The relative earthquake hazard is based on the combined effects of ground shaking amplification and earthquake-induced landslides with a range in hazard from Zone A (highest hazard) to Zone D (lowest hazard). Based on the DOGAMI mapping, the site is within Zone D (lowest hazard) for the overall, relative earthquake hazard (Black et al., 2000).

Ground Motion Amplification. The influence of a soil deposit on the earthquake motion is routinely evaluated in terms of Site Effects, in which an estimate of the amplification or de-amplification of the underlying bedrock/firm soil seismic motions is made. As seismic energy propagates up through the soil strata, the energy is typically increased (i.e., amplified) or decreased (i.e., attenuated) to some extent. The site is underlain by fan-delta alluvial deposits consisting of a thin mantle of stiff clayey silt followed by medium dense to dense sandy gravel. Therefore, it is our opinion that the amplification hazard at the site is low. This conclusion is consistent with DOGAMI's amplification hazard map, Hazard Zone 1 (low hazard, amplification ≤1) (Black et al., 2000). The relative ground-shaking amplification

susceptibility map for Lane County also indicates that there is a low susceptibility to amplification (NEHRP Site Class B) (Burns et al., 2008).

Ground Rupture. We anticipate the risk of ground rupture is low due to lack of known faulting beneath the site. However, hidden and/or deep-seated active faults could remain undetected. Additionally, recent crustal seismic activity cannot always be tied to observable faults. In the event of a catastrophic earthquake with a large seismic moment, inactive faults could potentially be reactivated.

Landslides and Earthquake-Induced Landslides. The site is located on a relatively flat ground. DOGAMI's hazard map indicates there is no hazard for instability in the immediate vicinity of the school site (Black et al., 2000). Burns et al. (2008) mapped the site as being within an area of primarily low landslide susceptibility, with no identified landslides.

Based on our site and subsurface observations, we believe the risk of slope instability (earthquake-induced or otherwise) that could affect the school structures is low. Such conditions typically have little or no landslide risk.

Liquefaction and Lateral Spread. Liquefiable soils typically consist of loose, fine-grained sand and non-plastic or low plasticity silt below the ground water table. The explorations indicate the school site is underlain by predominantly stiff, medium plasticity clayey silt, followed by medium dense to dense sandy gravel. Therefore, it is our opinion that the risk of cyclically-induced liquefaction, ground subsidence or a bearing capacity failure beneath the tank foundations due to liquefaction is very low to negligible. The risk of seismically-induced lateral spread is also considered low because of the low liquefaction risk and the low risk of slope instability (discussed above).

The relative liquefaction hazard susceptibility map indicates the site is within a low to moderate liquefaction susceptibility zone (Burns et al., 2008). According to Black et al., (2000), gravel will only liquefy under exceptional circumstances and the best indicator of gravel liquefaction is determining the shear-wave velocity. Typically, very strong shaking in addition to shear-wave velocities less than 705 feet/second can liquefy clean sand and gravel deposits. Shear-wave velocities of Pleistocene gravels are consistently greater than 984 ft/sec; therefore, not liquefying (Black et al., 2000).

Tsunami/Seiche. Tsunami inundation is not applicable to this site since Eugene is not on the Oregon Coast. Seiche (the back and forth oscillations of a water body during a seismic event) is also not a concern due to the absence of large bodies of water near the site.

SITE CLASS, DESIGN EARTHQUAKES AND SITE RESPONSE SPECTRUM

The site is underlain by a thin mantle of fine-grained soil followed by a deep deposit of medium dense to dense gravels and gravels interbedded with clay or silt. Based on the available information, we recommend an OSSC/IBC Site Class D for analysis and design.

The OSSC (2010), Section 1803.3.2.1, requires the design of structures classified as essential or hazardous facilities, and major and special-occupancy structures address, at a minimum, the following earthquakes:

Crustal: A shallow crustal earthquake on a real or assumed fault near the site with a minimum moment magnitude (M_W) of 6.0 or the design earthquake ground motion acceleration determined in accordance with the 2010 OSSC Section 1613.

Intraplate: A deep subduction earthquake (Benioff Zone earthquake) with a moment magnitude (M_W) of 7.0 or greater on the seismogenic part of the subducting plate (Juan de Fuca) of the CSZ.

Interface: A subduction earthquake with a minimum moment magnitude (M_W) of 8.5 on the seismogenic part of the interface between the Juan de Fuca and the North American Plates on the CSZ.

The design maximum considered earthquake ground motion maps provided in OSSC 2010 are based on the 2002 maps prepared by USGS for an earthquake with a 2% probability of exceedence in 50 years (i.e., a ±2,475-year return period). USGS released updated maps in 2008. These maps are used in the 2012 IBC and will presumably be adopted into the next edition of the OSSC.

The 2002 and 2008 USGS maps were established based on probabilistic studies and include aggregate hazards from a variety of seismic sources. Information obtained from the USGS National Earthquake Hazard Mapping website indicates the following earthquake magnitudes and source-to-site distances were included in the 2002 USGS maps (USGS, 2002):

Crustal: M_W 6.4 to 6.95 earthquake located ±4 to 16 miles from the site.

Subduction: M_W 8.3 earthquake located ±35 to 70 miles from the site.

Subduction: M_W 9.0 earthquake located ±35 to 69 miles from the site.

The following earthquake magnitudes and source-to-site distances were included in the 2008 USGS maps (USGS, 2008):

Crustal: M_W 6.2 to 6.8 earthquake located ±4 to 61 miles from the site.

Subduction: M_W 8.0 to 8.7 earthquake located ±35 to 82 miles from the site.

Subduction: M_W 9.0 to 9.2 earthquake located ±35 to 81 miles from the site.

The earthquake magnitudes and source-to-site distances used to generate the 2002 and 2008 USGS maps satisfy the requirements of OSSC 2010. Refer to the Seismic Design section of the main report for a discussion of the peak bedrock acceleration and parameters for constructing the site response spectrum (Figure 3A, Appendix A).

CONCLUSION

Based on the findings presented herein, it is our opinion there are no geologic or seismic hazards that require mitigation as part of the seismic upgrades to the school. The site response spectrum (Figure 3A, Appendix A) should be used to establish potential seismic acceleration forces on the structures.

This site-specific seismic hazard investigation for the Howard Elementary School in Eugene, Oregon, was prepared by Brooke Running, R.G., C.E.G.

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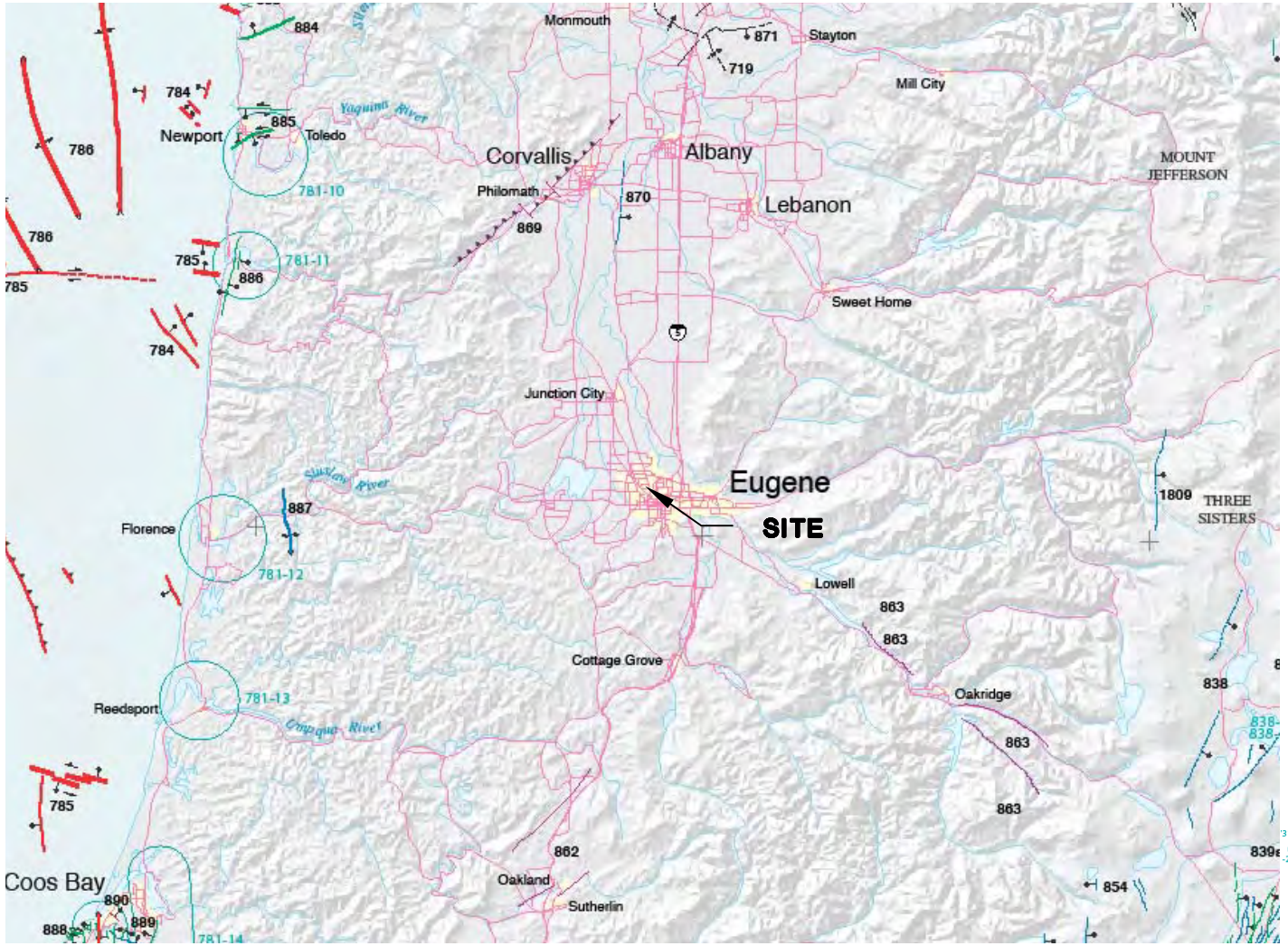

NOTES:

1. PORTION OF MAP BASED ON MAP OF QUATERNARY FAULTS AND FOLDS IN OREGON (PERSONIUS ET AL., 2003).
2. SEE SITE SPECIFIC HAZARD STUDY FOR A DISCUSSION OF LOCAL FAULTING.
3. FAULTS: #862= UNNAMED FAULTS NEAR SUTHERLIN; #863= UPPER WILLAMETTE RIVER; #869= CORVALLIS; AND #870= OWL CREEK.

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DATE NOV. 2013
DWN. BKR
APPR.
REVIS.
PROJECT NO. 2131078

QUATERNARY CRUSTAL FAULT MAP

SOUTHERN WILLAMETTE VALLEY

HOWARD ELEMENTARY SCHOOL
EUGENE, OREGON

FIGURE NO.
1D

FILE NAME:FIGURE 1D

Foundation Engineering, Inc.
Professional Geotechnical Services

Memorandum

Date: June 9, 2014

To: Ben Brantley, Project Manager
Lane County School District 4J

From: James K. Maitland, P.E., G.E.

Subject: Supplemental Geotechnical Analysis

Project: Howard Elementary School
FEI Project 2131078

We have completed the requested supplemental work associated with the above-referenced project. Details of our work and the result of our geotechnical analysis are provided below.

BACKGROUND

Foundation Engineering, Inc. (FEI) completed a geotechnical investigation for replacement of Howard Elementary School in Eugene, Oregon. Our findings are summarized in a report dated December 31, 2013. This memorandum represents an addendum to that report and reflects updated bearing capacity and settlement analyses for the currently estimated foundation loads.

FOUNDATION LOADS

At the time our original report was being prepared, the building design was still at the conceptual level. Hohbach-Lewin, Inc. (HLI) provided a preliminary estimate of maximum column and wall loads based on other recent school projects. Therefore, FEI completed the bearing capacity and settlement analyses using estimated footing sizes and the preliminary foundation loads.

HLI recently provided updated foundation loads to reflect the current design of the new school building. Updated loads are provided below for the referenced building areas:

- Gymnasium/cafeteria wing - Maximum interior wall load of 8.24 kips per lineal foot (klf), a maximum exterior wall load of 6.24 klf, and 90 kips for a 4-foot wide pilaster footing.

- Media center - A maximum wall load of 1.3 klf and a maximum interior column load of 104 kips.

- Classrooms - A maximum wall load of 1.3 klf, a maximum interior column load of 175 kips and a maximum exterior column load of 84 kips. At the corners, a maximum column load of 70 kips.

Total foundation loads include the dead load (DL), live load (LL) and snow load.

FOUNDATION ANALYSIS

Bearing Capacity and Footing Dimensions

We estimated the allowable bearing capacity for the foundations assuming a footing depth of 2 feet below final grades (based on foundation details provided by PIVOT Architecture). The footings are assumed to bear on a minimum of 12 inches of Select Fill followed by native silt having a minimum undrained shear strength of 1,000 psf.

Our analysis suggests allowable bearing pressures of 2,300 psf and 2,100 psf are appropriate for the design of column footings and continuous wall footings, respectively. These values are based solely on the shear strength of the soil and include a factor of safety of 3. The option of reducing the bearing pressure to control settlement is discussed below.

Footing dimensions were estimated using the above allowable bearing pressures and the maximum foundation loads provided by HLI.

- Gymnasium/cafeteria wing - Minimum footing widths of 3 and 4 feet for the exterior and interior walls.
- Media center - Minimum footing dimension of 7x7 feet and a continuous wall footing width of 2 feet.
- Classrooms – 6.5x6.5 feet for exterior column footings and 9x9 feet for interior column footings, and a continuous wall footing width of 2 feet.

HLI indicated the braced frame footings in the corners of the classroom buildings will be 6 feet wide and will support three different load cases, including ±30 to 40 kips of seismic loading. A one-third increase in the allowable bearing capacity is permitted for analysis of the seismic load case. We checked the bearing capacity for the footing against a one-third increase in the allowable bearing pressure.

Settlement Analysis

Potential foundation settlements were calculated using footing dimensions estimated from the maximum foundation loads provided by HLI. For settlement analysis, we included the dead load, one-half of the live load, and the snow load. The subsurface profile encountered in the borings within or closest to each wing of the building was used to develop a model of the soil conditions. Results of the consolidation test were used to estimate the compressibility of the fine-grained soil. We assumed compacted Select Fill will be present under the footings and assumed the deeper native gravels to be relatively incompressible.

We divided the school building into five sections for analysis: gym/cafeteria, media center, SW classroom, NE classroom, and SE Classroom. Our analysis indicates total foundation settlement under the maximum column loads and interior wall loads was typically greater than 1 inch (the assumed upper bound for total settlement) for the gym/cafeteria, media center and SW classroom wing. The larger settlements are due to the presence of a thicker deposit of fine-grained soil at

the western portion of the site and the increased contact pressures on the footings which exceed the preconsolidation pressure of the foundation soils. At the NE and SE classroom, total foundation settlements are less than 1-inch.

The total foundation settlement for the respective load cases and footing locations are summarized in Table 1 (attached). It should be understood that the tabulated settlements reflect the largest loads in each building segment. Smaller column and wall loads will have proportionally smaller settlements.

MITIGATION OF EXCESSIVE SETTLEMENT

Two mitigation options are available to reduce the settlement under the maximum column and interior wall loads in the western portion of the building:

- Option 1 - Increase the thickness of structural fill beneath the footing.
- Option 2 - Reduce the allowable bearing pressure.

Option 1 consists of overexcavating an additional ±1 to 3 feet of material beneath the footings and replacement with compacted Select Fill. Table 2 (attached) summarizes the total foundation settlements and recommended overexcavation thicknesses for the relevant footings.

Option 2 consists of decreasing the allowable bearing pressure to 1,500 psf which will increase the footing sizes. Table 3 (attached) summarizes the total foundation settlement resulting from a lower contact pressure and increased footing sizes. A nominal ±½-inch of differential settlement can be assumed between individual column footings or between column footings and walls based on a maximum total settlement of 1-inch.

Our bearing capacity and settlement analysis assumes that FEI will be present during foundation construction to confirm the presence and extent of any soft soils beneath new footings and slabs. If present, soft soils will be mitigated by recompaction or replacement with granular fill. Mitigation options for the maximum column and interior wall footings in the western portion of the building are predicated on the presence of a thick deposit of fine-grained soil. If during construction, the native gravels are found to be relatively shallow beneath these footings, mitigation options may not be necessary.

It has been a pleasure assisting you with this matter. Please do not hesitate to call if you have any additional questions.

Table 1. Settlement Analysis Summary

Footing Location	Footing Type	Estimated Footing Size (feet)	Estimated Bearing Pressure from Footings DL + 0.5LL + Snow (ksf)	Estimated Settlement (inches)	Select Fill Thickness Beneath Footing (feet)
Gym/Cafeteria	4-foot Pilaster Footing	4.0 x 12.0	2.0	1.0	1.0
Gym/Cafeteria	Interior Wall Footing	4.0 (continuous)	1.95	1.2	1.0
Gym/Cafeteria	Exterior Wall Footing	3.0 (continuous)	1.95	0.75	1.0
Media Center	Interior Column	7.0 x 7.0	1.9	1.4	1.0
Media Center	Exterior Wall Footing	2.0 (continuous)	0.65	<0.25	1.0
SW Classroom	Interior Column	9.0 x 9.0	1.85	1.75	1.0
SW Classroom	Exterior Column	6.5 x 6.5	1.75	1.1	1.0
SW Classroom	Exterior Wall Footing	2.0 (continuous)	0.65	<0.25	1.0
NE Classroom	Interior Column	9.0 x 9.0	1.85	0.8	1.0
NE Classroom	Exterior Column	6.5 x 6.5	1.75	0.7	1.0
NE Classroom	Exterior Wall Footing	2.0 (continuous)	0.65	<0.25	1.0
SE Classroom	Interior Column	9.0 x 9.0	1.85	0.6	1.0
SE Classroom	Exterior Column	6.5 x 6.5	1.8	0.5	1.0
SE Classroom	Exterior Wall Footing	2.0 (continuous)	0.65	<0.25	1.0

Notes:
1. Analysis assumed the base of the footings were placed at El. 394.5, 2 feet below the finished floor elevation of El. 396.5.
2. Subsurface profile encountered in the borings at each wing of the building was used to model foundation conditions.
3. Analysis assumes allowable bearing pressures of 2,300 psf and 2,100 psf for column and continuous wall footings, respectively.

Table 2. Settlement Analysis Summary (Option 1)

Footing Location	Footing Type	Estimated Footing Size (feet)	Estimated Bearing Pressure from Footings DL + 0.5LL + Snow (ksf)	Estimated Settlement (inches)	Select Fill Thickness Beneath Footing (feet)
Gym/Cafeteria	Interior Wall Footing	4.0 (continuous)	2.0	0.9	2.0
Media Center	Interior Column	7.0 x 7.0	1.9	1.0	2.0
SW Classroom	Interior Column	9.0 x 9.0	1.85	0.75	4.0
SW Classroom	Exterior Column	6.5 x 6.5	1.75	0.8	2.0

Notes:
1. Analysis assumed the base of the footings were placed at El. 394.5, 2 feet below the finished floor elevation of El. 396.5.
2. Subsurface profile encountered in the borings at each wing of the building was used to model foundation conditions.
3. Analysis assumes allowable bearing pressures of 2,300 psf and 2,100 psf for column and continuous wall footings, respectively.

Table 3. Settlement Analysis Summary (Option 2)

Footing Location	Footing Type	Estimated Footing Size (feet)	Estimated Bearing Pressure from Footings DL + 0.5LL + Snow (ksf)	Estimated Settlement (inches)	Select Fill Thickness Beneath Footing (feet)
Gym/Cafeteria	Interior Wall Footing	5.5 (continuous)	1.4	0.8	1.0
Media Center	Interior Column	8.5 x 8.5	1.3	0.7	1.0
SW Classroom	Interior Column	11.0 x 11.0	1.25	0.9	1.0
SW Classroom	Exterior Column	7.5 x 7.5	1.3	0.55	1.0

Notes:
1. Analysis assumed the base of the footings were placed at El. 394.5, 2 feet below the finished floor elevation of El. 396.5.
2. Subsurface profile encountered in the borings at each wing of the building was used to model foundation conditions.
3. Analysis assumes an allowable bearing pressure of 1,500 psf for column and continuous wall footings.

SECTION 00 4113
BID FORM

BID FOR: Earthwork and Demo Howard Site CIP Number 410.213.001

Submitted to: Facilities Management
Eugene School District 4J
715 West Fourth Avenue
Eugene, Oregon 97402

Bid Deadline: 2:00 pm
Tuesday, July 8, 2014

Submitted by: _____
(Company Name)

BASE BID
The undersigned proposes to furnish all material, equipment, and labor required for the complete project, and to perform all work in strict accordance with the Contract Documents for the lump sum prices indicated below with completion occurring on or prior to the dates indicated:

BASE BID: Earthwork and partial demolition in preparation for a new elementary school. Base bid includes Allowances.

Bid: _____ $ _____
(Words) (Figures)

The undersigned agrees, if awarded the Contract, to substantially complete all Base Bid Package work on or before the dates specified in Section 01 1100.

ALLOWANCES
The Undersigned proposes to include in the Base Bid indicated above the items of work relating to the following Allowances as described in the Project Manual, Section 01 2100. The Allowances may be authorized by the Owner for additional excavation and structural fills and shall be computed by multiplying the Contactor's price per cubic yard as entered below by the quantity of 500 cubic yards.

Additional work includes the scope of Allowances will be subject to Owner approval. Unused portions of each Allowance will be deducted from the contract by changed order at the completion of the project. In the event that additional work is required in excess of the Allowances, the contract may be modified by considering these Allowances as the basis of unit costs.

ALLOWANCE NO. 1:
Over-excavation of unsuitable native soils as defined in Section 01 21 00 - Allowances

$ _____ per Cubic Yard times the quantity of 500 Cubic Yards equals $ _____

ALLOWANCE NO. 2:
Placement of Select Fill as defined in Section 01 21 00 - Allowances

$ _____ per Cubic Yard times the quantity of 500 Cubic Yards equals $ _____

ALLOWANCE NO. 3:
Placement of Granular Fill as defined in Section 01 21 00 - Allowances

$ _____ per Cubic Yard times the quantity of 500 Cubic Yards equals $ _____

BID SECURITY
Accompanying herewith is Bid Security, which is not less than ten percent (10%) of the total amount of the Base Bid plus additive alternates.

STIPULATIONS
The undersigned acknowledges the liquidated damages provision included in the Supplementary Conditions.

The undersigned agrees, if awarded the contract, to comply with the provisions of Oregon Revised Statutes 279C.800 through 279C.870 pertaining to the payment of prevailing rates of wage.

The undersigned agrees, if awarded the Contract, to execute and deliver to the Owner within ten (10) working days after receiving contract forms, a signed Agreement and a satisfactory Performance Bond and Payment Bond each in an amount equal to 100 percent (100%) of the Contract Sum.

For every Agreement of $100,000 or greater in value, all Contractors and Subcontractors shall have a public works bond in the amount of $30,000, filed with the Construction Contractors' Board (CCB), in compliance with ORS 279C.836, before starting work on the project unless exempt. Contractor agrees to provide a copy of the Contractor's BOLI Public Works bond with the signed Agreement as Specified in the Supplementary Conditions.

The undersigned agrees that the Bid Security accompanying this proposal is the measure of liquidated damages which the Owner will sustain by the failure of the undersigned to execute and deliver the above named agreement and bonds; and that if the undersigned defaults in executing that agreement within ten (10) days after forms are provided or providing the bonds, then the Bid Security shall become the property of the Owner; but if this proposal is not accepted within sixty (60) days of the time set for the opening of bids, or if the undersigned executes and delivers said agreement and bonds, the Bid Security shall be returned.

By submitting this Bid, the Bidder certifies that the Bidder:
a) has available the appropriate financial, material, equipment, facility and personnel resources and expertise, or the ability to obtain the resources and expertise, necessary to meet all contractual responsibilities;
b) has a satisfactory record of past performance;
c) has a satisfactory record of integrity, and is not disqualified under ORS 279C.440;
d) is qualified legally to contract with the Owner; and
e) will promptly supply all necessary information in connection with any inquiry the Owner may make concerning the responsibility of the Bidder.
Prior to award of a Contract, the Bidder shall submit appropriate documentation to allow the Owner to determine whether or not the Bidder is "responsible" according to the above criteria.

The contractor agrees with the provisions of Oregon Revised Statutes 279C.505, which requires that the contractor shall demonstrate it has established a drug-testing program for employees and will require each subcontractor providing labor for the Project to do the same.

The undersigned has received addenda numbers _____ to _____ inclusive and has included their provisions in the above Bid amounts.

The undersigned has visited the site to become familiar with conditions under which the Work is to be performed and has correlated the Bidder's personal observations with the requirements of the proposed Contract Documents.

The undersigned certifies that the Bidder is a _____ Bidder under ORS. ("Resident" or "Non-resident", to be filled in by Bidder)

Names of Firm: _____

Street Address: _____
(City) (State) (Zip)

Telephone Number: _____ FAX Number: _____

Email Address: _____

Signed By: _____ Printed Name: _____
(Signature of Authorized Official. If bid is from a partnership, one of the partners must sign bid).

Date Signed: _____

Official Capacity: _____

If corporation, attest: _____ Date: _____
(Secretary of Corporation)

SEAL (If Corporate)

_____ Corporation
_____ Partnership
_____ Individual

Enclosed: Bid Security

NON-DISCRIMINATION REQUIREMENT

Contractor certifies that the Contractor has not discriminated against minorities, women or emerging small business enterprises in obtaining any required subcontracts.

The Contractor agrees not to discriminate against any client, employee, or applicant for employment or for services, because of race, color, religion, sex, national origin, physical or mental handicap, sexual orientation or age, unless based upon bona fide occupational qualifications, and that they are otherwise in compliance with all federal, state and local laws prohibiting discrimination, with regard to, but not limited to, the following: Employment upgrading, demotion or transfer; Recruitment or recruitment advertising; Layoffs or termination; Rates of pay or other forms of compensation; Selection for training; Rendition of services. It is further understood that any vendor who is in violation of this clause shall be barred forthwith from receiving awards of any purchase order from the School District, unless a satisfactory showing is made that discriminatory practices have terminated and that a recurrence of such acts is unlikely.

FIRM NAME: _____

ADDRESS: _____

TELEPHONE: _____

BY: _____
(Company or Firm Officer)

BY: _____
(Type or Print Name)

NON-COLLUSION AFFIDAVIT

STATE OF _____)

County of _____)

I state that I am _____ of _____
(Title) (Name of Firm)
and that I am authorized to make this affidavit on behalf of my firm, and its owners, directors, and officers. I am the person responsible in my firm for the price(s) and the amount of this bid.

I state that:

(1) The price(s) and amount of this bid have been arrived at independently and without consultation, communication or agreement with any other contractor, bidder or potential bidder, except as disclosed on the attached appendix.

(2) That neither the price(s) nor the amount of this bid, and neither the approximate price(s) nor approximate amount of this bid, have been disclosed to any other firm or person who is a bidder or potential bidder, and they will not be disclosed before bid opening.

(3) No attempt has been made or will be made to induce any firm or person to refrain from bidding on this contract, or to submit a bid higher than this bid, or to submit any intentionally high or noncompetitive bid or other form of complementary bid.

(4) The bid of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or noncompetitive bid.

(5) _____, its affiliates, subsidiaries, officers, directors and
(Name of my Firm)
employees are not currently under investigation by any governmental agency and have not in the last four years been convicted of or found liable for any act prohibited by State or Federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding on any public contract, except as described on the attached appendix.

I state that _____ understands and acknowledges that the above representations
(Name of my Firm)
are material and important, and will be relied on by School District 4J in awarding the contract(s) for which this bid is submitted. I understand and my firm understands that any misstatement in this affidavit is and shall be treated as fraudulent concealment from School District 4J of the true facts relating to the submission of bids for this contract.

_____
(Authorized Signature)

Sworn to and subscribed before me this _____ day of _____, 2014

_____
(Notary Public for Oregon)

My Commission Expires: _____

END OF BID FORM

SECTION 00 4522
FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM

PROJECT: Howard Elementary School **CIP NUMBER:** 410-213-001

TO: Kathi Hernandez, Facilities Management Assistant
Eugene School District 4J
715 West Fourth Avenue
Eugene, Oregon 97402

BID SUBMISSION DEADLINE: Date: Tuesday, July 8, 2014 **Time:** 2:00

SUBMITTAL REQUIREMENTS
Subcontractor disclosure is required on all public improvement contracts greater than $100,000.

This form must be submitted at the location specified in the Invitation to Bid on the advertised bid closing date and within two working hours after the advertised bid closing time.

List below the name of each subcontractor that will be furnishing labor or labor and materials, and that is required to be disclosed, the category of work that the subcontractor will be performing, and the dollar value of the subcontract. Enter "NONE" if there are no subcontractors that need to be disclosed. (ATTACH ADDITIONAL SHEETS IF NEEDED.)

SUBCONTRACTOR	DOLLAR VALUE	CATEGORY OF WORK
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

The above listed first- tier subcontractor(s) are providing labor, or labor and material, with a Dollar Value equal to or greater than:

a) 5% of the total Contract Price, but at least $15,000. [If the Dollar Value is less than $15,000 do not list the subcontractor above.]
b) $350,000 regardless of the percentage of the total Contract Price

Failure to submit this form by the disclosure deadline will result in a non-responsive bid. A non-responsive bid will not be considered for award.

Form submitted by (Bidder Name): _____

Contact Name: _____ **Phone:** _____

Signature: _____

END OF DOCUMENT 00 45 22

SECTION 00 5213

FORM OF AGREEMENT

PART 1 GENERAL

STANDARD FORM

The form of Agreement will be executed on AIA Form A 101, Standard Form of Agreement Between Owner and Contractor, 2007 edition, a copy of which is included by reference. Copies are available for review at the office of Facilities Management, School District 4J.

END OF DOCUMENT 00 52 13

SECTION 00 7213
GENERAL CONDITIONS

PART 1 GENERAL

STANDARD FORM

General Conditions of the Contract for Construction AIA Document A-201, 2007 edition, immediately following, are part of these specifications.

The Contractor and all Subcontractors shall read and be governed by them.

CONFLICTS

In the case of conflicts between the General Conditions and these Specifications, the Specifications govern.

END OF DOCUMENT 00 72 13

AIA® Document A201™ – 2007

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

THE OWNER:
(Name, legal status and address)

THE ARCHITECT:
(Name, legal status and address)

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

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

TABLE OF ARTICLES

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(Topics and numbers in bold are section headings.)

ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

§ 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 THE WORK

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

§ 1.1.4 THE PROJECT

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

§ 1.1.5 THE DRAWINGS

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

§ 1.1.6 THE SPECIFICATIONS

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

§ 1.1.7 INSTRUMENTS OF SERVICE

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

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

§ 1.3 CAPITALIZATION

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 INTERPRETATION

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

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 GENERAL

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the

portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

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

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 LABOR AND MATERIALS

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

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

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

§ 3.5 WARRANTY

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.6 TAXES

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 **Concealed or Unknown Conditions.** If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 ALLOWANCES

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

.1 Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

.2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and

.3 Whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

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

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

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

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings 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 the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and

completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 USE OF SITE

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 CUTTING AND PATCHING

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 CLEANING UP

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 ACCESS TO WORK

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

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 INDEMNIFICATION

§ 3.18.1 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 GENERAL

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a successor architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

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

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

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

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

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

§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 SUBCONTRACTUAL RELATIONS

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

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

.1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and

.2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the

Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

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

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

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

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

§ 6.2 MUTUAL RESPONSIBILITY

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

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

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.2 CHANGE ORDERS

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

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

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

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

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

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

.1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
.2 Unit prices stated in the Contract Documents or subsequently agreed upon;
.3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
.4 As provided in Section 7.3.7.

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

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount

for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

.1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;

.2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;

.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;

.4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and

.5 Additional costs of supervision and field office personnel directly attributable to the change.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 MINOR CHANGES IN THE WORK

The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

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

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

§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

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

§ 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

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

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or

encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.4 CERTIFICATES FOR PAYMENT

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

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a separate contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

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

§ 9.5.3 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

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

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

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

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.7 FAILURE OF PAYMENT

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

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

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- **.1** liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- **.2** failure of the Work to comply with the requirements of the Contract Documents; or
- **.3** terms of special warranties required by the Contract Documents.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 SAFETY OF PERSONS AND PROPERTY

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

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

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

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

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 HAZARDOUS MATERIALS

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

§ 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- **.1** Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
- **.2** Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- **.3** Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- **.4** Claims for damages insured by usual personal injury liability coverage;
- **.5** Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- **.6** Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- **.7** Claims for bodily injury or property damage arising out of completed operations; and
- **.8** Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.2 OWNER'S LIABILITY INSURANCE

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 11.3 PROPERTY INSURANCE

§ 11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

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

§ 11.3.2 BOILER AND MACHINERY INSURANCE

The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.3.3 LOSS OF USE INSURANCE

The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.

§ 11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment

property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

§ 11.3.7 WAIVERS OF SUBROGATION

The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

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

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

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

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

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

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

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by

such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

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

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

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

§ 13.6 INTEREST

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

§ 13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- **.1** Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- **.2** An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- **.3** Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- **.4** The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

.1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;

.2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;

.3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or

.4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

.1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;

.2 Accept assignment of subcontracts pursuant to Section 5.4; and

.3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

.1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or

.2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

.1 cease operations as directed by the Owner in the notice;

.2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and

.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

.1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

.2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 MEDIATION

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 ARBITRATION

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 CONSOLIDATION OR JOINDER

§ 15.4.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Contractor under this Agreement.

SECTION 00 73 00
SUPPLEMENTARY CONDITIONS
FOR GENERAL CONDITIONS FOR THE CONTRACT FOR CONSTRUCTION

PART 1 GENERAL

The following supplements modify, change, delete from or add to AIA Document A201, General Conditions of the Contract for Construction 2007 Edition. Where any part of the AIA General Conditions is amended, voided, or superseded by the Supplementary Conditions, the unaltered provisions shall remain in effect.

1.1 ARTICLE 1 GENERAL PROVISIONS

A. BASIC DEFINITIONS

1. Add the following Subparagraphs:

1.1.9 ARCHITECT/ENGINEER

Where the term ARCHITECT is used in the Bidding documents, Contract documents, Addenda, Change Orders or other documents related to this contract it shall be defined as either "Architect" or "Engineer" depending upon which design professional has prepared the document in question. When the project has been designed and initiated under the direction of a licensed engineer, the term ENGINEER shall be substituted for the term "Architect" throughout all documents.

1.1.10 MISCELLANEOUS DEFINITIONS

.1 "Provide:" Furnish and install, or furnish labor and materials required for installation, ready for use and in accordance with the Contract Documents.

.2 "As shown:" As indicated, as detailed, as noted, or words of similar import refer to Contract Documents.

.3 "Selected:" As selected by the Architect.

.4 "Approved: "Approved by Architect.

.5 "For Approval: "For the Architect's approval.

B. CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

1. Add the following to Subparagraph 1.2.1:

1.2.1.1 In the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following priorities.

1. The Agreement.
2. Addenda, with those of later date having precedence over those of earlier date.
3. The Supplementary Conditions.
4. The General Conditions of the Contract for Construction.
5. Division 1 of the Specifications.
6. Drawings and Divisions 2- 49 of the Specifications.

In the case of conflicts or discrepancies between Drawings and Divisions 2- 49 of the Specifications or within either Document not clarified by Addendum, the Architect will determine which takes precedence in accordance with Subparagraph 4.2.11.

2. Add the following Subparagraphs:

1.2.4 If work is required in such a manner to make it impossible to produce first class work or should discrepancies appear among Contract Documents, request interpretation before proceeding with work. If Contractor fails to make such request, the Contractor will thereafter be expected to carry out work in satisfactory manner.

1.2.5 Reference to codes, standard specifications, or other standards means and intends latest edition of such documents and/or adopted as of bid date. Where brand name products are specified and no installation instructions given herein, install product in accordance with the manufacturer's specifications and instructions, latest edition.

1.2.6 No provision of any reference standard specification, manual or code shall change the privileges or responsibilities of Owner, Architect, or Contractor, or any of their consultants, agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to Architect, or any of Architect's consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the work or any duty or authority to undertake responsibility contrary to the provision of the Contract Documents.

1.2.7 Sections of Division 1, General Requirements govern the execution of all sections of the specifications.

1.2 ARTICLE 2 OWNER

A. 2.1 GENERAL

1. Add the following Subparagraph:

2.1.3 The Owner is the Eugene School District 4J, 200 North Monroe Street, Eugene, Oregon 97402, (541) 790-7417.

The Owner's representative is Ben Brantley, (541) 790-7427, 715 West Fourth Avenue, Eugene, OR 97402.

B. INFORMATION AND SERVICES REQUIRED OF THE OWNER

1. Delete Subparagraph 2.2.5 and substitute the following:

2.2.5 The Contractor will be furnished free of charge up to 10 copies of the Contract Documents. The Owner will furnish additional copies requested by the Contractor at the cost of reproduction, postage and handling.

1.3 ARTICLE 3 CONTRACTOR

A. 3.1 GENERAL

1. Delete the second sentence to Subparagraph 3.1.1, and add the following:

The Contractor and each subcontractor shall maintain for the duration of the Project a registration with the Oregon State Construction Contractor's Board.

2. Add the following Subparagraph 3.1.4

3.1.4 The Contractor is required to demonstrate that an employee drug testing program is in place.

3. Add the following Subparagraph 3.1.5

3.1.5 The Contractor certifies that the Contractor is not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in this Contract by any Federal department or agency. If requested by the Eugene 4J School District, the Contractor shall complete a Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion form. Any such form completed by the Contractor for this Contract shall be incorporated into this Contract by reference.

B. 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

1. Delete the last sentence to Subparagraph 3.2.4, and add the following:

If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, unless the Contractor recognized such error, inconsistency, omission or difference and knowingly failed to report it to the Architect.

C. 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

1. Add the following Subparagraphs:

3.3.4 The Contractor shall review with all Subcontractors, construction means, methods and materials to be used to verify their compliance with all safety standards and laws and be responsible for compliance with same to insure safe, hazard free conditions for all persons visiting or working on the entire project.

3.3.5 The Contractor shall comply with the provisions of Oregon Revised Statutes and 4J Board Policy. Attention is directed to ORS 279A and 279C, Public Contracting Code.

D. 3.4 LABOR AND MATERIALS

1. Add the following Subparagraphs:

3.4.4 PAYMENT OF LABORERS AND MATERIALMEN, CONTRIBUTIONS TO INDUSTRIAL ACCIDENT FUND, LIENS AND WITHHOLDING TAXES: The Contractor shall: (1) Make payment promptly, as due, to all persons supplying to such contractor labor or material for the prosecution of the Work provided for in such contract. (2) Pay all contributions or amounts due the Industrial Accident Fund from such Contractor or subcontractor incurred in the performance of the contract. (3) Not permit any lien or claim to be filed or prosecuted against the state, county, school district, municipality, municipal corporation or subdivision thereof, on account of any labor or material furnished. (4) Pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.

3.4.5 HOURS OF LABOR: No person shall be employed for more than ten hours in any one day, or 40 hours in any one week, except in the cases of necessity, emergency, or where the public policy absolutely requires it, and in such cases the person so employed shall be paid at least time and a half of the regular pay for all time worked.

.1 For all overtime in excess of eight hours a day or 40 hours in any one week when the work week is five consecutive days, Monday through Friday; or

.2 For all overtime in excess of 10 hours a day or 40 hours in any one week when the work week is four consecutive days, Monday through Friday; and

.3 For all work performed on Saturday and on any legal holiday specified in ORS 279C.540.

.4 Worker claims for overtime, in order to be considered, must be filed with the Contractor within 90 days from the completion of the contract, in accordance with ORS 279C.545.

The Contractor shall give notice to employees who work on a public contract in writing, either at the time of hire or before commencement of work on the contract, or by posting a notice in a location frequented by employees, of the number of hours per day and days per week the employees may be required to work.

3.4.6 PAYMENT FOR MEDICAL CARE AND PROVIDING WORKERS' COMPENSATION: The Contractor shall promptly, as due, make payment to any person, co-partnership, association or corporation, furnishing medical, surgical and hospital care or other needed care and attention, incident to sickness or injury, to the employees of such Contractor, of all sums which the Contractor agrees to pay for such services and all moneys and sums which the Contractor collected or deducted from the wages of employees pursuant to any law, contract or agreement for the purpose of providing or paying for such service. All employers working under this contract are subject employers and must comply with ORS 656.017.

3.4.7 PREVAILING WAGE RATES**:** When the total price of the Project is $50,000 or more, each worker in each trade or occupation employed in the performance of this Contract either by the contractor, subcontractor or other person doing or contracting to do contracting for the whole or any part of the Work on the Contract shall be paid not less than the applicable state prevailing rate of wage. This provision applies to all contracts, regardless of the price of the individual contract, as long as the combined price of all contracts awarded on the Project is $50,000 or more.

a. The existing Oregon prevailing rate of wage in effect at the time the specifications are first advertised for bid solicitations is the applicable rate.

b. The Owner will pay the public works fee to Oregon Bureau of Labor and Industries.

c. Certification of rate or wage by Contractor or Subcontractor (ORS 279C.845):

.1 The contractor or the contractor's surety and every subcontractor or the subcontractor's surety shall file certified statements with the public agency in writing, on a form prescribed by the Commissioner of the Bureau of Labor and Industries, certifying the hourly rate of wage paid each worker whom the contractor or the subcontractor has employed upon the public works, and further certifying that no worker employed upon the public works has been paid less than the higher of the applicable state or federal prevailing rate of wage or less than the minimum hourly rate of wage specified in the contract. The certificate and statement shall be verified by the oath of the contractor or the contractor's surety or subcontractor or the subcontractor's surety that the contractor or subcontractor has read the statement and certificate and knows the contents thereof and that the same is true to the contractor or subcontractor's knowledge. The certified statements shall set out accurately and completely the payroll records for the prior week, including the name and address of each worker, the worker's correct classification, rate of pay, daily and weekly number of hours worked, deductions made, and actual wages paid.

.2 If the Contractor does not file certified payroll as required (at least once per month) the Owner will withhold 25% of the amounts due the Contractor, in addition to any other required retainage.

.3 If a first-tier Subcontractor does not file certified payroll reports as required, the prime Contractor shall withhold 25% of amounts due the first-tier Subcontractor.

.4 Each certified statement required by subsection (1) of this section shall be delivered or mailed by the contractor or subcontractor to the public contracting agency. Certified statements shall be submitted to the public contracting agency once a month by the fifth business day of the following month, for each week workers are employed. Information submitted on certified statements may be used only to ensure compliance with the provisions of ORS 279C.800 to 279C.870.

.5 Each contractor or subcontractor shall preserve the certified statements for a period of three years from the date of completion of the contract.

.6 Certified statements received by a public agency are public records subject to the provisions of ORS 192.410 to 192.505. As such, they must be made available upon request.

3.4.8 PAYMENT OF CLAIMS BY PUBLIC OFFICERS: If the Contractor fails, neglects or refuses to make prompt payment of any claims for labor or services furnished to the Contractor or a subcontractor by any person in connection with this Contract as such claim becomes due, the Owner may pay such claim and charge the amount of the payment against funds due or to become due the Contractor by reason of this Contract.

3.4.9 PAYMENT FOR MEDICAL CARE AND PROVIDING WORKERS' COMPENSATION: The Contractor shall promptly, as due, make payment to any person, co-partnership, association or corporation, furnishing medical, surgical and hospital care or other needed care and attention, incident to sickness or injury, to the employees of such Contractor, of all sums which the Contractor agrees to pay for such services and all moneys and sums which the Contractor collected or deducted from the wages of employees pursuant to any law, contract or agreement for the purpose of providing or paying for such service.

3.4.10 Any person owed for labor or material by a subcontractor or Contractor may file a complaint with the Construction Contractors Board in accordance with ORS 279C.515(3).

E. 3.7 PERMITS, FEES AND NOTICES

1. Delete Subparagraph 3.7.1, and substitute the following:

3.7.1 The OWNER will pay the plan check fee, building permit fee, and systems development charges directly to the authority having jurisdiction. [(For large projects add the following) The Owner will pay the initial review and approval costs for deferred submittals, which are specifically required by the governing jurisdiction during the plan review process, directly to the authority having jurisdiction. Any deferred

submittal costs due to incomplete submittals, or corrections required by the governing jurisdiction shall be the responsibility of the contractor. (This edit not needed for small/medium sized projects.)]

The CONTRACTOR shall pay for all other permits, fees, licenses and inspections necessary for the proper execution and completion of the Work which are customarily secured after execution of the Contract and which are legally required when bids are received or negotiations concluded. The Contractor shall pick up permits and call for inspections through final inspection, as required by the City Building Department.

F. 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

1. Add the following to Subparagraph 3.12.5:

Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Architect without action.

2. Add the following to Subparagraph 3.12.9:

Shop drawings that are submitted to the Architect for review do not constitute "in writing" unless it is brought to the attention of the Architect, in written form, that specific changes are being suggested. In any event, changes to the contract documents by means of shop drawings become the responsibility of the person initiating such changes.

G. 3.18 INDEMNIFICATION

1. Delete Subparagraph 3.18.1, and substitute the following:

13.18.1 To the fullest extent of the law, the Contractor will defend, indemnify, hold harmless and reimburse the Eugene School District 4J (including its officers, board members, agents, and employees) from all claims, demands, suits, actions, penalties, and damage expenses, for liability of any kind including attorney's fees. To the extent that death or bodily injury to persons or damage to property arises out of the fault of the Contractor, the Contractor's indemnity obligation exists only to the extent that the death or bodily injury to persons or damage to property arises out of the fault of the Contractor, or the fault of the Contractor's agents, representatives or subcontractors, contributed to or caused such damage, whether or not such incidents are contributed to or caused in any part by Eugene School District 4J.

1.4 ARTICLE 4 ARCHITECT

A. 4.1 GENERAL

1. Modify Paragraph 4.1.1

a. In the first sentence delete "shall retain" and insert "may have retained" in it's place.

b. Add sentence: "The term "Architect" means the Architect or the Architect's authorized representative."

2. Add the following to Subparagraph 4.1.2:

Written consent of the Contractor shall only apply to those items which directly or indirectly affect the work of the Contractor.

3. Add the following Subparagraph:

In the first sentence delete "shall" and insert "may" in its place.

4. Add the following Subparagraph:

4.1.4 The Architect is defined as:

PIVOT Architecture, 44 W. Broadway, Eugene, OR 97401; 541-342-7291.

B. 4.2 ADMINISTRATION OF THE CONTRACT

1. Add the following sentence to 4.2.1:

The architect may be retained to administer the Contract through the specified period for correction of the Work described in Section 12.2

2. Add the following to Subparagraph 4.2.4:

   4.2.4.1 The Owner may communicate directly with the Contractor when necessary or appropriate. The Owner may give direction to the Contractor in matters related to access to the site, coordination with Owner's occupancy and use by the public, use of parking and staging areas, use of potentially hazardous products, drug and alcohol policy, no smoking policy, appropriate dress and behavior, safety requirements and safe work practices, where appropriate. The Owner will advise the Architect regarding any communication with or direction given to the Contractor.

   4.2.4.2 Representatives of the Owner, Contractor and Architect shall meet periodically at mutually agreed-upon intervals for the purpose of establishing procedures to facilitate cooperation, communication and timely responses among the participants. By participating in this arrangement, the parties do not intend to create additional contractual obligations or modify the legal relationships which may otherwise exist. Nothing in this agreement shall give the Architect the authority to make decisions or give direction without the Owner's concurrence.

3. Add the following to Subparagraph 4.2.9:

   4.2.9.1 The Architect will make one inspection for the determination of Substantial Completion and one for determination of Final Acceptance. Such inspections will be made only after receipt of written notification of readiness for such inspections from Contractor.

   4.2.9.2 Should additional inspections beyond those listed in 4.2.9.1 be required due to Contractor's failure to satisfactorily complete all work, the Contractor shall become responsible for all costs incurred by the Owner in conjunction with required re-inspections. A deductive Change Order shall be prepared using the following hourly rates as the basis for calculating the amounts to be deducted:

Architect/Engineer:	$125 per hour
District 4J Personnel:	$ 75 per hour

   4.2.9.3 The amount to be deducted from the Contract shall be calculated by multiplying the hours expended in additional inspections and documentation by the hourly rates listed in 4.2.9.2.

4. Add the following sentence to Subparagraph 4.2.11:

   The architect's response will be within 10 days of receipt of written requests from the Owner or Contractor.

5. Delete Subparagraph 4.2.13, and substitute the following:

   4.2.13 Decisions on matters related to aesthetic effect will be made collaboratively between the Owner and the Architect. The final decision shall be the Owner's, if consistent with the intent expressed in the Contract Documents.

6. Add the following sentence to Subparagraph 4.2.14

   The architect's response will be within 10 days of receipt of written requests from the Owner or Contractor.

1.5 ARTICLE 5 SUBCONTRACTORS

A. 5.3 SUBCONTRACTUAL RELATIONS

1. Add the following Subparagraphs:

   5.3.1 The Contractor shall include in each subcontract for property or services entered into by the Contractor and a subcontractor, including a material supplier, for the purpose of performing a construction contract:

   .1 A payment clause that obligates the Contractor to pay the subcontractor for satisfactory performance under its subcontract within 10 days out of such amounts as are paid to the Contractor by the owner under such contract; and

   .2 An interest penalty clause that obligates the Contractor to pay to the subcontractor an interest penalty on amounts due in the case of each payment not made in accordance with the payment clause included in the subcontract pursuant to paragraph .1 of this section for the period beginning on the day after the required payment date and ending on the date on which payment of the amount

due is made; computed at the rate specified in ORS 279C.580.

5.3.2 The Contractor shall include in each of its subcontracts, for the purpose of performance of such contract condition, a provision requiring the subcontractor to include a payment clause and an interest penalty clause conforming to the requirements of Subparagraph 5.3.1 in each of its subcontracts and to require each of its subcontractors to include such clauses in their subcontracts with each lower-tier subcontractor or supplier.

1.6 ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

No modifications.

1.7 ARTICLE 7 CHANGES IN THE WORK

A. 7.1 GENERAL

1. Paragraph 7.1.2, delete the following: “an order for minor changes in the Work can be issued by the Architect alone”.

2. Add the following Subparagraph 7.1.4 to Paragraph 7.1:

7.1.4 The combined overhead and profit included in the total cost or credit to the Owner of a change in the Work shall not exceed that stated in 7.1.4.4 below. In no case shall the Contractor’s or Subcontractors individual overhead and profit request exceed the following schedule:

.1 For the Contractor, for Work performed by the Contractor’s own forces, 15 percent of the cost.

.2 For the Contractor, for Work performed by the Contractor’s Subcontractors, 10 percent of the amount due the Subcontractors.

.3 For each Subcontractor involved, for Work performed by that Subcontractor’s own forces, 10 percent of the cost.

.4 The **Base Cost** to which overhead and profit is to be applied shall be determined in accordance with Subparagraph 7.3.7., articles .1, .2, .3, .4, and .5. To this **Base Cost** is added the applicable overhead and profit. In no case shall the combined overhead and profit (including all Contractor and Subcontractor(s) overhead and profit) exceed 25 percent of this **Base Cost**.

.5 In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including those applicable costs from paragraph 7.3.7, .1 - .5, and Subcontractor and Contractor overhead and profit as applicable.

.6 Cost of preparing change order shall not be included in cost of Change Order.

3. Add the following Subparagraph 7.1.5 to Paragraph 7.1:

7.1.5 A Change Order providing a CREDIT to the Owner shall include a credit for overhead and profit based on the following schedule:

.1 For the Contractor, 5 percent of the Cost to be credited.

.2 For each Subcontractor, 5 percent of the Cost to be credited.

.3 For each Sub-subcontractor, 5 percent of the Cost to be credited.

.4 All other provisions of Subparagraph 7.1.4 shall apply to Credit Change Orders.

B. 7.3 CONSTRUCTION CHANGE DIRECTIVES

1. Add the following to Subparagraph 7.3.1:

For the purposes of this Agreement, The Owner’s “CHANGE REQUEST/PROCEED ORDER” may be substituted for and used interchangeably with “CONSTRUCTION CHANGE DIRECTIVE”.

2. Modify Subparagraph 7.3.7 as follows:

In the first sentence, delete the words "a reasonable amount." and substitute "an amount for overhead

and profit in accordance with Paragraph 7.1.4 or 7.1.5."

3. Delete Subparagraph 7.3.7.1 and substitute the following:

   7.3.7.1 The maximum allowable hourly wage rate for Changes to the Work shall be the appropriate Base Wage Rate plus Fringe Rate as listed for each occupation in the Prevailing Wage Rate for Public Works Contracts in Oregon manual issued by the Oregon Bureau of Industries; multiplied by 1.20. An amount for Overhead and Profit may be added in accordance with Paragraph 7.1.4 or 7.1.5.

4. Delete 7.3.7.3, and substitute the following:

   7.3.7.3 Rental costs of machinery and equipment, exclusive of hand tools and motor vehicles, when rented from the Contractor or others;

5. Change the first sentence of Subparagraph 7.3.8 to read as follows:

   The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost, including overhead and profit according to the schedule in Subparagraph 7.1.5 above.

6. Change the first sentence of Subparagraph 7.3.9 to read as follows:

   Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in the Application for Payment accompanied by an executed Change Order indicating the parties' agreement with part or all of such costs.

1.8 ARTICLE 8 TIME

A. 8.2 PROGRESS AND COMPLETION

1. Add the following Subparagraph 8.2.4

   8.2.4 The Contractor agrees that said work shall be executed regularly, diligently, at such a rate of progress as will insure Substantial Completion thereof within the time specified. It is expressly understood and agreed by and between the Contractor and the Owner that the time for the completion of the work described herein is reasonable taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

1.9 ARTICLE 9 PAYMENT AND COMPLETION

A. 9.2 SCHEDULE OF VALUES

1. Revise the first sentence of Subparagraph 9.2 to read as follows:

   ".... the Contractor shall submit to the Architect and the Owner,....."

2. Add the following sentence to Paragraph 9.2:

   Submit on AIA Document A703, latest edition.

B. 9.3 APPLICATIONS FOR PAYMENT

1. Add the following sentence to Subparagraph 9.3.1:

   The form of Application for Payment shall be a notarized AIA Document G702, Application and Certification for Payment, supported by AIA Document G703, Continuation Sheet.

2. Delete Clause 9.3.1.1, and substitute the following:

   9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, accompanied by an executed Change Order.

C. 9.5 DECISIONS TO WITHHOLD CERTIFICATION

1. Delete Subparagraph 9.5.3.

D. 9.6 PROGRESS PAYMENTS

1. Add the following Clause to Subparagraph 9.6.1:

   9.6.1.1 After the Architect has issued a certificate for payment and it has been approved by the Owner, the Owner will pay the Contractor 95 percent (95%) of the total value of material and labor incorporated into the project as indicated on the Application for Payment less the aggregate of previous payments. Progress schedule update shall accompany each payment request.

   9.6.1.2 Payment will be made within fifteen (15) days of approval of the Application for Payment by School District 4J ("Progress Payment Due Date").

   9.6.1.3 The first Application for Payment and each subsequent Application for Payment will not be considered complete unless it is accompanied by the certified payroll for the contractor and all subcontractors requesting payment.

2. Add the following Subparagraph to Paragraph 9.6:

   9.6.8 In lieu of cash retainage to be held by the Owner, the Contractor may select one of the following options:

   .1 The Contractor may deposit bonds or securities with the Owner or in any bank or trust company to be held for the benefit of the Owner. In such event, the Owner shall reduce the retainage in an equal amount to the value of the bonds and securities.

   .2 Upon written request of the Contractor, the Owner will deposit any amounts withheld as retainage in an interest-bearing account in a bank, savings bank, trust company or savings association for the benefit of the Owner. Interest earned shall accrue to the Contractor.

   .3 If the Owner incurs additional costs as a result of the exercise of any of the options for retainage described herein, the Owner may recover such costs from the Contractor by reduction of final payment.

E. 9.8 SUBSTANTIAL COMPLETION

1. Delete Subparagraph 9.8.1 and substitute the following:

   9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the Owner can fully occupy and fully utilize the Work for its intended use with only minor corrective work remaining which can be accomplished without disruption of the occupants.

2. Delete the last two sentences to Subparagraph 9.8.5 and add the following:

   9.8.5 Upon Substantial Completion of the Work, the Contractor may submit an application for payment in accordance with Subparagraph 9.3.1 in an amount sufficient to increase the total payments to ninety-five percent (95%) of the Contract Sum, less such amounts as the Architect determines for incomplete Work or unsettled claims.

F. 9.10 FINAL COMPLETION AND FINAL PAYMENT

1. Add the following Subparagraph to Paragraph 9.10:

   9.10.6 The Contractor shall not permit any lien or claim to be filed or prosecuted against the Owner on account of any labor or material furnished in connection with the Work.

G. Add the following Paragraphs to Article 9:

1. 9.11 LIQUIDATED DAMAGES

   9.11.1 The Owner will suffer financial loss if the Work is not Substantially Complete, as defined in Article 9.8.1 above, on the dates specified in Section 01 11 00. The Contractor and the Contractor's surety shall be liable for and shall pay the Owner the sum hereinafter stipulated as fixed, agreed, and liquidated damages for each calendar day of delay until the date established in the Certificate of Substantial Completion.

The agreed amount of liquidated damages is $1,000 per each calendar day. The amount of liquidated damages may be reduced in cases of partial occupancy, at the sole discretion of the Owner.

2. 9.12 AGENCY PAYMENT FOR UNPAID LABOR OR SUPPLIES

9.12.1 Contract incomplete. If the Contract is still in force, the Agency may, in accordance with ORS 279C.515, pay a valid claim to the Entity furnishing the labor or services, and charge the amount against payments due or to become due to the Contractor under the Contract. If an Agency chooses to make such a payment as provided in 279C.515, the Contractor and the Contractor's surety shall not be relieved from liability for unpaid claims.

9.12.2. Contract completed. If the Contract has been completed and all funds disbursed to the prime Contractor, all claims shall be referred to the Contractor's surety for resolution. The Agency shall not make payments to subcontractors or suppliers for Work already paid for by the Agency.

1.10 ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

A. 10.1 SAFETY PRECAUTIONS AND PROGRAMS

1. Add the following sentence to Article 10.1

Where asbestos abatement is part of the Work, the Contractor or appropriate subcontractor shall be licensed by the Department of Environmental Quality to perform "asbestos abatement work", OAR 340-248-0120, Adopted January 25, 1990, and meet requirements of AHERA, as specified in Federal Register 40CFR, Part 763.

B. 10.3 HAZARDOUS MATERIALS

1. Delete Subparagraph 10.3.3.

1.11 ARTICLE 11 INSURANCE AND BONDS

A. 11.1 CONTRACTOR'S LIABILITY INSURANCE

1. Modify the second sentence of Subparagraph 11.1.2 as follows:

a. Delete the following: "….and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of coverage as specified in the Contract Documents."

2. Add the following Clause to Subparagraph 11.1.2:

.1. The Contractor shall provide and maintain in force for the duration of this agreement, the following:

.1 General Insurance:

The Contractor shall maintain in force for the duration of this agreement a Umbrella Insurance Policy with the limits not less than $5,000,000, a Commercial General Liability, Automobile Liability (owned, non-owned and hired) Insurance policy(s) written on an occurrence basis with limits not less than $1,000,000 per occurrence and $2,000,000 in the aggregated naming the District, its employees, officials and agents as an additional insured as respects to work or services performed under this agreement. This insurance will be primary to any insurance the District may carry on its own. If the District requires Professional Liability coverage, the terms, conditions, and limits must be approved by the District's Risk Manager. (eff. 4/2/13)

.2 Workers' Compensation:

Contractor shall provide and maintain workers' compensation coverage for its employees, officers, agents, or partners, as required by applicable workers' compensation laws.

.3 Evidence of Coverage:

Evidence of the above coverages issued by a company satisfactory to the District shall be provided to the District by way of a certificate of insurance before any work or services commence. A 30-day notice of cancellation or material change in coverage clause shall be included. It is the Contractor's obligation to provide the 30 days notice if not done so by the

Contractor's insurance company(s). Failure to maintain the proper insurance shall be grounds for immediate termination of this Agreement.

.4 Subcontractors:

The Contractor shall require all subcontractors to provide and maintain general liability, auto liability, professional liability (as applicable) and Workers' Compensation insurance with coverage's equivalent to those required of the General Contractor in this Agreement. The Contractor shall require certificates of insurance from all subcontractors as evidence of coverage.

.5 Exceptions or Waivers:

Any exception or waiver of these requirements shall be subject to review and written approval from the Eugene School District Risk Manager.

3. Delete the third sentence of Subparagraph 11.1.3

B. 11.3 PROPERTY INSURANCE

1. Modify the first sentence of Subparagraph 11.3.1 as follows:

   a. Delete "Unless otherwise provided, the Owner" and substitute "The Contractor".

   b. Modify the last sentence by adding "Architect," after the word "Owner".

2. Add the following to Clause 11.3.1.1:

   The form of policy for this coverage shall be Completed Value. If the Owner is damaged by the failure of the Contractor to maintain such insurance, then the Contractor shall bear all reasonable costs properly attributed thereto.

3. Delete Clause 11.3.1.2.

4. Modify Clause 11.3.1.3 by substituting "Contractor" for "Owner".

5. Delete Clause 11.3.1.4.

6. Modify the first sentence of Subparagraph 11.3.2 to read: "The Owner, at the Owner's option, may purchase...".

7. Delete Subparagraph 11.3.4.

8. Delete Subparagraph 11.3.6, and substitute the following:

   11.3.6 Evidence of the above coverages issued by a company satisfactory to the District shall be provided to the District by way of a certificate of insurance before any work or services commence. A 30-day notice of cancellation or material change in coverage clause shall be included. It is the Contractor's obligation to provide the 30 days notice if not done so by the Contractor's insurance company(s). Failure to maintain the proper insurance shall be grounds for immediate termination of this Agreement.

9. Modify 11.3.7 by substituting "Contractor" for "Owner" at the end of the first sentence.

10. Modify the first sentence of Subparagraph 11.3.8 to read as follows:

    11.3.8 A loss insured under the Contractor's property insurance shall be adjusted by the Contractor as fiduciary and made payable to the Contractor and Owner, as their interests may appear, subject to requirements of any applicable mortgagee clause.

11. Delete Subparagraph 11.3.9.

12. Modify the first sentence of Subparagraph 11.3.10 by substituting "Contractor" for "Owner" the first two times it occurs. Modify the last sentence by substituting "Contractor" for "Owner" the second time it occurs.

13. Add the following Subparagraph:

11.3.11 EQUIPMENT AND MATERIAL:

The Contractor shall be responsible for any loss, damage, or destruction of Contractor's own property, equipment, and materials used in conjunction with the Work.

C. 11.4 PERFORMANCE BOND AND PAYMENT BOND

1. Delete 11.4.1 and 11.4.2 and substitute the following:

11.4.1 Unless otherwise stated in the solicitation document, prior to execution of the Agreement, the Bidder shall furnish separate bonds that in all respects conform to the requirements of ORS 279C.380 covering the faithful performance of the Contract, and the payment of all obligations arising thereunder, each in an amount equal to one hundred percent (100%) of the Contract sum. The duration of the performance bond shall match the length of the project warranty.

11.4.2 The surety issuing such bonds shall be duly authorized and licensed to issue bonds in the State of Oregon. The bonds shall be executed by an Attorney-in-fact, principal or other authorized representative for the surety company, showing the Oregon agent for service, and bears the seal of the surety company. Where the bond is executed by a person outside the state of Oregon, his authority to execute bond shall be shown.

11.4.3 Bonds are to be obtained through a company that is on the US Government Treasury list for approved sureties and/or approved by the Owner's Risk Manager.

11.4.4 Bonds shall be submitted on AIA Document A312, latest edition.

11.4.5 The cost of furnishing such bonds shall be included in the bid.

11.4.6 The Contractor shall deliver the required bonds to the Owner with the signed Agreement to:

Don Philpot, Project Manager
Facilities Management Office
Eugene Public School District 4J
715 West Fourth
Eugene, Oregon 97402

11.4.7 The Contractor shall require the Attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of their power of attorney.

D. Add the following Paragraphs to Article 11:

1. 11.5 PUBLIC WORKS BOND:

11.5.1 Pursuant to ORS 279C.836, for any contract awarded where the contract price is $100,000 or greater, the Contractor and every subcontractor shall have a Public Works bond, in the amount of $30,000 filed with the Construction Contractors Board (CCB) before starting work on the project unless exempt. This bond is in addition to performance bond and payment bond requirements. **A copy of the Contractor's State of Oregon Statutory Public Works Bond shall be provided with the executed contract documents.**

11.5.2 Contractor shall include in every subcontract a provision requiring their Subcontractors to have a public works bond filed with the CCB before starting work on the project, unless exempt. Contractors shall verify that all of their subcontractors have filed a public works bond with the CCB.

1.12 ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

A. 12.2 AFTER SUBSTANTIAL COMPLETION

1. Add the following sentence to Clause 12.2.2.1:

The correction period relating to faulty products and workmanship will begin on the date appearing on the Certificate of Substantial Completion, or if a Certificate of Substantial Completion is not issued, on the date appearing on the Final Certificate of Payment to the Contractor, whichever is earlier. The Owner's use of the project will not alter the warranty period herein defined.

2. Add the following sentence to Clause 12.2.2.2:

   The correction periods specified are an extension of the one-year correction period called for in the General Conditions and are in addition to any guaranty bond called for elsewhere.

1.13 ARTICLE 13 MISCELLANEOUS PROVISIONS

A. 13.1 GOVERNING LAW

1. Change Paragraph 13.1 to read as follows:

   13.1 The Contract shall be governed by the law of the place where the Project is located.

B. Add the following Subparagraph 13.1.1:

   13.1.1 Contractor shall be in compliance with the Oregon Department of Revenue tax certification rules including OAR 150-305.385 (6)-A, (6)-B, (6)-C and (7).

C. Revise Subparagraph 13.2.1 as follows:

Delete last two sentences, and replace with:

> Contractor shall not assign, sell, dispose of, or transfer rights, nor delegate duties under the contract, either in whole or in part, without the Contracting Agency's prior written consent. Unless otherwise agreed by the Contracting Agency in writing, such consent shall not relieve the Contractor of any obligations under the contract. Any assignee or transferee shall be considered the agent of the Contractor and be bound to abide by all provisions of the contract. If the Contracting Agency consents in writing to an assignment, sale, disposal or transfer of the Contractor's rights or delegation of Contractor's duties, the Contractor and its surety, if any, shall remain liable to the Contracting Agency for complete performance of the contract as if no such assignment, sale, disposal, transfer or delegation had occurred unless the Contracting Agency otherwise agrees in writing, in accordance with ORS 279A.065.

D. Delete Subparagraph 13.2.2

E. Add the following Paragraphs to Article 13:

1. 13.8 ENVIRONMENTAL AND NATURAL RESOURCES LAWS AND RULES

   13.8.1 The Contractor and subcontractors shall comply with federal, state, and local ordinances and regulations dealing with prevention of pollution and preservation of natural resources that affect Work of this project.

   13.8.2 Pursuant to ORS 279C.525, If the Contractor is delayed or must undertake additional work by reason of existing regulation or ordinances of agencies not cited in the Contract Documents or due to the enactment of new or the amendment of existing statutes, ordinances, or regulations relating to the prevention of environmental pollution and the preservation of natural resources occurring after the Bid Date, the Owner will grant a time extension and issue a change order setting forth the additional work that must be undertaken. The change order shall not invalidate the contract and there shall be, in addition to a reasonable extension of the Contract time, a reasonable adjustment in the Contract price to compensate the successful bidder for all costs and expenses incurred, including overhead and profits, as a result of such delay or additional work.

2. 13.9 FOREIGN CONTRACTORS

   In the event this Contract is awarded to a Contractor not domiciled in or registered to do business in the State of Oregon and the contract price exceeds $10,000, the Contractor shall promptly report to the Department of Revenue the total price, terms of payment, length of contract, and such other information as the Department of Revenue may require before final payment can be received on the public contract. The Owner will satisfy itself that the requirement of this subsection has been complied with before it issues a Final Payment.

3. 13.10 EQUAL OPPORTUNITY

   13.10.1 The Contractor shall maintain policies of employment as follows:

13.10.1.1 The Contractor and the Contractor's subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex or national origin. The Contractor shall take affirmative action to insure that applicants are employed, and that employees are treated during employment without regard to their race, religion, color, sex, national origin, physical or mental handicap, sexual orientation or age, unless based upon bona fide occupational qualifications; and that they are otherwise in compliance with all federal, state and local laws prohibiting discrimination. Such action 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. It is further understood that any vendor who is in violation of this clause shall be barred forthwith from receiving awards of any purchase order from the School District, unless a satisfactory showing is made that discriminatory practices have terminated and that a recurrence of such acts is unlikely. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of nondiscrimination.

13.10.1.2 The Contractor and the Contractor's subcontractors shall, in all solicitations or advertisements for employees placed by them or on their behalf, state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex or national origin.

4. 13.11 DRUG-TESTING PROGRAM

13.11.1 The contractor agrees with the provisions of Oregon Revised Statutes 279C.505, which requires that the contractor shall demonstrate it has established a drug-testing program for employees and will require each subcontractor providing labor for the Project to do the same.

1.14 ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

No modifications.

1.15 ARTICLE 15 CLAIMS AND DISPUTES

A. 15 CLAIMS AND DISPUTES

1. Add the following to Clause 15.1.5.2

Abnormal weather conditions for the purposes of this agreement are defined as conditions more extreme than any conditions experienced within the general vicinity of the site for each project for a comparable period at any time within the past ten years.

2. Delete Subparagraph 15.1.6.

B. 15.2 INITIAL DECISION

1. Modify Subparagraph 15.2.1 as follows:

In the third sentence, change “30 days” to read “10 days” and add the following: The Initial Decision Maker shall review all submitted claims and render decisions as soon as possible.

2. Modify Clause 15.2.6.1 as follows:

In the first sentence, change the “30 days and “60 days” to read “10 days” and “30 days” respectively.

C. 15.3 MEDIATION

1. Delete Paragraph 15.3 MEDIATION, and substitute the following:

15.3 MEDIATION AND ARBITRATION

15.3.1 Parties shall attempt to resolve all disputes at the lowest possible level. Both parties to this Agreement agree to provide other resources and personnel to negotiate and find resolution to disputes that cannot be resolved at the Project Manager level. As a next step, claims, disputes or other matters in question between the parties to this Agreement arising out of or relating to this Agreement or breach thereof shall be determined by mediation, arbitration or litigation. Disputes shall be initially submitted to mediation by a mediator chosen by the parties. The cost of mediation shall be borne equally by the parties. If the parties are unable to agree upon a mediator within five days or if mediation fails to resolve

the dispute, either party may request that the dispute be submitted to arbitration before a single arbitrator agreed to by the parties in an additional five days. If both parties agree to arbitration but are unable to agree upon an arbitrator, each party shall select an arbitrator, the arbitrators so chosen shall select a third, and the decision of a majority of the arbitrators shall be final, binding the parties, and any judgment may be entered thereon. Unless the parties mutually agree otherwise, any arbitration proceeding shall be conducted in accordance with the currently in effect Construction Industry Arbitration Rules of the American Arbitration Association.

Notwithstanding the above, the Owner may, at the Owner's sole discretion, elect to resolve disputes in excess of $50,000 by litigation, if mediation is not successful.

15.3.2 In the event of arbitration or litigation arising out of the execution of this Agreement, the prevailing party shall be entitled to recover from the adverse party, reasonable attorney fees and costs for the arbitration proceedings, trial court or any appellate proceeding, in the amount determined by the arbitrator or the court, as appropriate.

For the purposes of the above provisions referring to attorney fees and related costs, the prevailing party in an arbitration proceeding or trial shall be a claimant who receives an award or damages in excess of the adverse party's pretrial or prehearing offer made at least 10 days before trial or hearing. If the claimant receives an award of damages no greater than the adverse party's pretrial or prehearing offer, the adverse party shall be deemed to be the prevailing party. In the event both sides are awarded damages, the prevailing party shall be the party who recovers the net award, provided the recovery exceeds the adverse party's pretrial or prehearing offer. If the claimant net recovery is no greater than the adverse party's pretrial or prehearing offer, the adverse party shall be deemed the prevailing party.

D. 15.4 ARBITRATION

1. Delete Paragraph 15.4 ARBITRATION.

END OF DOCUMENT 00 73 00

SECTION 00 7343

PREVAILING WAGE RATES

PART 1 GENERAL

The Prevailing Wage Rates dated January 2014, including any subsequent corrections or amendments issued by the Oregon Bureau of Labor and Industries, are included as a portion of the Contract Documents by reference. Copies are available for review at the office of Facilities Management, School District 4J, and can be viewed on line at www.boli.state.or.us. Click on Prevailing Wages, then PWR Rate Publications, and then Prevailing Wage Rates for Public Works Contracts in Oregon (subject only to state law).

END OF DOCUMENT 00 73 43

SECTION 01 1100

SUMMARY OF WORK

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Identification: The project consists of site preparation for the future construction of a new elementary school on the Howard Site. The majority of work includes site clearing, excavation, fills and grading. Selective demolition and temporary modifications to portions of the existing Howard Elementary School are also part of the work. Associated work includes site clearing, site and building demolition, temporary building enclosures and repairs, temporary pathways, revisions to existing building mechanical and electrical systems, temporary storm water measures, and erosion control.

1. Project Location: Howard Elementary School, 700 Howard Ave, Eugene, OR 97404
2. Owner: Eugene School District 4J, 715 West Fourth Avenue, Eugene, OR 97402.

B. Architect Identification: The Contract Documents, dated June 11, 2014, were prepared for Project by PIVOT Architecture, 44 W. Broadway, Eugene, OR 97401.

C. Project Manager: Ben Brantley has been appointed by Owner to serve as Project Coordinator.

1.03 CONTRACT

A. Project will be constructed under a general construction contract.
1. AIA Document A101 - Standard Form of Agreement Between Owner and Contractor.

1.04 WORK SEQUENCE

A. Do not commence Work until after execution of Agreement and receipt of Notice-to-Proceed from Owner.

B. Perform work in order to achieve Substantial Completion by 10/31/2014.

C. Achieve Final Completion within seven (7) days following the date of Substantial Completion.

1.05 USE OF PREMISES

A. Work Area Access: Buildings will be occupied during work. Access to the work area will be available on a week-day basis from approximately 7:00 am to 4:00 pm. Coordinate all other work hour schedules with Owner so as not to interfere with Owner's use of the building.

B. Limit use of the premises to construction activities in areas indicated; allow for Owner occupancy and use by the public, subject to approval by a District Safety Specialist.

C. Site Access: Maintain drives and building entrances and exits clear and protected at all times to Owner's, employees, and public access and for use by emergency personnel. Do not use these areas for parking or storage. Schedule deliveries to minimize space and time requirements for storage of materials at site.

D. Parking: Contractor may use existing parking areas adjacent to the Work. Parking for a limited number of School District Personnel shall be maintained.

E. Contractor Staging Areas: Limit staging to within Work Limit area as indicated on Drawings.

F. Construction Operations: Limited to within Work Limit areas indicated on Drawings.

1.06 WORK UNDER SEPERATE CONTRACTS

A. Separate Contract: Owner will award separate contracts for performance of certain construction operations at Project site. Those operations will be conducted simultaneously with work under this Contract. The work includes:
1. Kelly Middle School

a. Wood floor refinishing at all (3) gyms.
b. Reroofing at Breezeways at front of school.
c. Synthetic Turf Field installed within the Track of this project.

2. Howard Elementary School
   a. Asbestos removal from portions of the existing Howard Elementary School prior to demolition.

B. Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract.

1.07 FUTURE WORK

A. Future Contract: Owner will award a separate contract for additional work to be performed at the site after Substantial Completion. Completion of that work will depend on successful completion of preparatory work under this Contract. The Contract for future work will include the following:
   1. Construction of a new Howard Elementary School building and site improvements to replace the existing facility: A separate contract will be awarded for construction of the new school, demolition of the old school building, and completion of site improvements.

1.08 SURVEYING FOR RECORD DOCUMENTATION

A. Provide field surveying services as required for record drawings, Section 01 7839 Project Record Documents.

1.09 SALVAGED MATERIALS

A. Refer to Section 02 4100 Demolition and to Drawings for building materials to be salvaged for reuse.

1.10 MISCELLANEOUS PROVISIONS

A. DRUG AND ALCOHOL POLICY
   1. The possession, use, or distribution of illicit drugs and alcohol on school premises is prohibited. Prescription medications brought to the project site shall be in the original container bearing the name of the drug, the name of the physician and the prescribed dosage.

B. USE OF TOBACCO PRODUCTS
   1. Smoking and the other use of tobacco products is prohibited on all school district property pursuant to OAR 581-021-0110.

C. SAFETY REQUIREMENTS
   1. Safety must not be sacrificed for the sake of productivity or expedience. Safety of students, staff, and the public is critical. Take all reasonable precautions to prevent endangerment or injury. Advise and coordinate operations with the school office.
   2. All contractors who perform work on District property, and their employees, are expected to know the District's expectations for safe work and to adhere to those expectations.
   3. Contractor's are to adhere to the regulations of Oregon OSHA for all projects within the School District.

D. GENERAL SAFE WORK PRACTICES
   1. Students, public and school staff shall not be put at risk by the activities of contractors or their employees.
   2. Safe vehicle operation rules are to be followed at all times. These include positioning vehicles to minimize the necessity of backing and providing a "spotter", someone who will make sure that people do not run into the path of a vehicle when driving on a playground or field that is occupied by students.
   3. Tools shall never be left out when an unsecured work area is vacated.
   4. Ladders and scaffolding will be taken down when an unsecured work area is vacated.
   5. Open holes and other tripping hazards shall be fenced or barricaded.
   6. Operations resulting in vapors, emissions or flying objects shall be conducted in such a way as to prevent exposure to any unprotected parties or property.

7. "Secured Work Area" is defined as an area having a perimeter cyclone fence at least 6 feet in height, with gates which close and lock so that no casual entrance is possible by unauthorized adults or children.
8. Contractor to follow all OR-OSHA rules for Confined Spaces, where applicable.

E. COMMUNICATIONS REGARDING UNSAFE PRACTICES
1. Upon perceiving a problem, the District will immediately communicate the concern to the Contractor or Contractor's representative on the work site.
2. If agreement on correction of unsafe conditions cannot be reached, the concerns of the District shall prevail and safety concerns shall be addressed in accordance with the District requirements.

F. ELECTRICAL PANELS - LOCKOUT/TAGOUT
1. Contractor shall implement a Lockout/Tag-out program for his employees who take equipment out of service or place equipment back into service. Contractor shall review the District's Energy Control Program prior to commencing work. Rules applying to this procedure are Oregon Occupational Safety and Health Code OAR 437, Division 2, Subdivision J, General Environmental Controls Lockout/Tag-out (1919.147), or latest edition.

G. ARC FLASH – ELECTRICAL SAFETY
1. Contractor shall comply with NFPA 70E (Electrical Safety in the Workplace), current edition. Contractor shall comply with Oregon OSHA 1910.137 (Personal Protective Equipment). The Contractor shall review with the School District Project Manager the 'Eugene School District Electrical Safety Program' before any work commences. The Contractor shall comply with all 'Arc Flash' and 'Electrical Safety' protocols referenced in any and all NFPA, OSHA, OROSHA, NEC, NESC, UL, IBC, IFC and ANSI documents (current editions).

H. POTENTIALLY HAZARDOUS PRODUCTS
1. The District attempts to maintain a safe and healthy environment for students and staff. The Contractor is therefore required to follow District guidelines controlling the use of potentially hazardous products and to use these products in a safe manner. Guidelines include the use of materials (adhesives, coatings, carpeting, etc.) which are known to emit little or no airborne pollutants.
2. MSDS information is required for all potentially hazardous products. The Project Manager and a District Safety Specialist will review these and determine what, if any, mitigation procedures will be required.
3. Contractor is to maintain and post copies of all MSDS information at the project site and adhere to the required controls.
4. Contractor is to ensure that work area by students and teachers is restricted. The District will provide signage appropriate for this purpose. The Contractor is to construct and maintain appropriate barriers. This shall include provision of physical separation barriers between "construction" and "occupied" spaces.
5. Contractor to adopt means of maintaining the construction space in negative air pressure in relation to occupied spaces.
6. Where there is a new or existing ventilation system in an affected space, the system shall be adjusted to provide the maximum amount of outside air possible with the system.
7. Efforts shall be made to install and operate new ventilation systems as soon in the construction process as practical.

I. ASBESTOS CONTAINING MATERIALS WARNING
1. Asbestos containing materials are known to exist in areas of the Work. The Contractor shall not, in any way, disturb materials which are known to contain asbestos, assumed to contain asbestos, or otherwise have not been tested and confirmed to be asbestos free.
2. Where access to concealed spaces is required, or it is necessary to disturb building materials such as for drilling of holes, cutting, etc., notify the Owner so that proper investigation and/or removal procedures are followed.

3. Prior to commencing Work, the Contractor shall meet with the District Safety Specialist and review the Owner's Asbestos Management Plan for the locations of asbestos-containing materials and/or materials assumed to contain asbestos. After reviewing the Owner's Asbestos Management Plan, the Contractor is required to sign Form 01 11 00A, Asbestos-containing Materials Notification Statement, provided at the end of this Section.
4. Contractor must not install any asbestos-containing materials when performing the Work of this project. At the completion of the Work, Contractor will be required to furnish a statement stating that no asbestos-containing materials were installed during the course of the Work. Refer to Sample Form 01 11 00B at the end of this Section.

J. FULL TIME SUPERINTENDENT DISCLOSURE STATEMENT
1. Prior to or in conjunction with the Preconstruction Conference, the Contractor shall submit the disclosure statement which identifies the Full Time Superintendent for this Project. The form for this statement, Form 01 11 00C, is provided at the end of this Section.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

PART 4 SCHEDULE OF PRODUCTS ORDERED IN ADVANCE

PART 5 ASBESTOS FORMS

FORM 01 11 00A

ASBESTOS-CONTAINING MATERIALS NOTIFICATION STATEMENT

FOR CONTRACTORS

THIS FORM MUST BE COMPLETED AND SIGNED BY THE CONTRACTOR PRIOR TO BEGINNING WORK IN ANY EUGENE SCHOOL DISTRICT 4J BUILDING.

THE PRESENCE OF KNOWN AND ASSUMED ASBESTOS CONTAINING MATERIALS IS DOCUMENTED IN THE AHERA MANAGEMENT PLAN FOR EACH BUILDING. COPIES OF THE AHERA MANAGEMENT PLAN ARE AVAILABLE IN THE MAIN OFFICE OF EACH BUILDING AND IN THE FACILITIES MANAGEMENT OFFICE AT 715 WEST FOURTH AVENUE, EUGENE, OREGON. THE DISTRICT ASBESTOS SPECIALIST MUST BE INFORMED OF THE CONTRACTOR'S ACTIVITIES IN EACH BUILDING PRIOR TO THE START OF WORK SO THAT THE CONTRACTOR CAN BE INFORMED ON HOW TO USE THE AHERA MANAGEMENT PLAN AND TO DETERMINE IF ANY ASBESTOS-CONTAINING MATERIALS ARE LIKELY TO BE IMPACTED BY THE WORK OF THE CONTRACTOR.

THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING ALL EMPLOYEES AND SUBCONTRACTORS OF THE PRESENCE OF ASBESTOS IN THE BUILDING. THE CONTRACTOR SHALL NOT DISTURB KNOWN OR ASSUMED ASBESTOS-CONTAINING MATERIALS. IF THE CONTRACTOR DISCOVERS SUSPECTED ASBESTOS-CONTAINING MATERIALS THAT HAVE NOT BEEN IDENTIFIED, THE CONTRACTOR MUST STOP ANY WORK IMPACTING THE SUSPECTED MATERIALS AND NOTIFY THE DISTRICT ASBESTOS SPECIALIST SO THAT THE MATERIAL CAN BE SAMPLED. ANY ASBESTOS-CONTAINING MATERIALS THAT MUST BE REMOVED TO ALLOW THE CONTRACTOR TO COMPLETE THE CONTRACTOR'S WORK WILL BE REMOVED BY THE DISTRICT UNDER SEPARATE CONTRACT. IF THE CONTRACTOR DISTURBS ASBESTOS-CONTAINING MATERIALS, THE CONTRACTOR WILL BE RESPONSIBLE FOR THE COST OF THE CLEANUP AND DECONTAMINATION.

I _____, REPRESENTING _____,

(Print Name of Representative) (Business Name)

HAVE BEEN NOTIFIED OF THE LOCATION OF THE AHERA MANAGEMENT PLAN AND AGREE TO AVOID IMPACTING ALL KNOWN OR ASSUMED ASBESTOS-CONTAINING MATERIALS IN THE PERFORMANCE OF THE WORK.

_____ _____

SIGNATURE OF REPRESENTATIVE **DATE**

_____ _____

WORK SITE **CIP #**

FORM 01 11 00B

THE ENVIRONMENTAL PROTECTION AGENCY (AHERA) RULES REQUIRE THE SCHOOL DISTRICT OBTAIN A SIGNED STATEMENT FROM THE SITE SUPERINTENDENT THAT, TO THE BEST OF HIS/HER KNOWLEDGE, NO ASBESTOS-CONTAINING BUILDING MATERIALS WERE INSTALLED DURING THE WORK. THEREFORE, THE FOLLOWING STATEMENT MUST BE SUBMITTED ON THE CONTRACTORS LETTERHEAD PRIOR TO PROJECT CLOSEOUT.

SAMPLE FORM

(TO BE SUBMITTED ON THE CONTRACTOR'S LETTERHEAD)

ASBESTOS-CONTAINING MATERIALS STATEMENT

EUGENE SCHOOL DISTRICT 4J

_____

(NAME OF PROJECT AND CIP NUMBER)

WE THE UNDERSIGNED, (NAME OF COMPANY), HEREBY WARRANT THAT TO THE BEST OF OUR KNOWLEDGE ALL MATERIALS FURNISHED FOR THE ABOVE REFERENCED PROJECT CONTAIN 0% ASBESTOS.

_____

(NAME OF CONSTRUCTION COMPANY)

_____

(SIGNATURE AND DATE)

_____

PRINTED NAME

_____

JOB TITLE

END OF SECTION

SECTION 01 2100

ALLOWANCES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes administrative and procedural requirements governing allowances.
   1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change Order.

B. Types of allowances include the following:
   1. Contingency allowances.

C. Related Sections include the following:
   1. Division 1 Section 00 41 13 Bid Form
   2. Division 1 Section 01 25 00 "Contract Modification Procedures" for procedures for submitting and handling Change Orders for allowances.
   3. Division 1 Section 01 40 00 "Quality Requirements" for procedures governing the use of allowances for testing and inspecting.
   4. Divisions 2 through 49 Sections for items of Work covered by allowances.

1.03 SUBMITTALS

A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

B. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.04 COORDINATION

A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.05 CONTINGENCY ALLOWANCES

A. Use the contingency allowance only as directed by Architect for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.

B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.

C. Cost of Allowances are to be included in the Contractor's Base Bid.

D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

1.06 TESTING AND INSPECTION

A. Cost of testing associated with work performed under allowances will be paid for by the Owner.

B. The allowance does include incidental labor required to assist the testing agency or costs for retesting if previous tests and inspections result in failure. The cost for incidental labor to assist the testing agency shall be included in the Contract Sum.

C. At Project closeout, credit unused amounts remaining in the testing and inspecting allowance to Owner by Change Order.

1.07 MEASUREMENT AND PAYMENT

A. Provide field measurements of quantities of material to be removed or installed corresponding to the unit of measurement for each Allowance.

1.08 UNUSED MATERIALS

A. Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
   1. If requested by Architect, prepare unused material for storage by Owner when it is not economically practical to return the material for credit. If directed by Architect, deliver unused material to Owner's storage space. Otherwise, disposal of unused material is Contractor's responsibility.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.02 SCHEDULE OF ALLOWANCES

A. Allowance No. 1: Over Excavation
   1. Description: Provide additional excavation of subgrade and removal from site as directed by Geotechnical Engineer and according to Division 31 Earthwork, Section 31 2000.
   2. Quantity of Work: Up to 500 cubic yards.
   3. Unit of Measurement: Cubic Yard, Truck Measure.
   4. Cost per Cubic Yard: As provided on the Bid Form by Contractor

B. Allowance No. 2: Select Fill
   1. Description: Provide additional installation of Select Fill including compaction as directed by Geotechnical Engineer and according to Division 31 Earthwork, Section 31 2000.
   2. Quantity of Work: Up to 500 cubic yards.
   3. Unit of Measurement: Cubic Yard, Truck Measure.
   4. Cost per Cubic Yard: As provided on the Bid Form by Contractor

C. Allowance No. 3: Granular Fill
   1. Description: Provide additional installation of Granular Fill including compaction as directed by Geotechnical Engineer and according to Division 31 Earthwork, Section 31 2000.
   2. Quantity of Work: Up to 500 cubic yards.
   3. Unit of Measurement: Cubic Yard, Truck Measure.
   4. Cost per Cubic Yard: As provided on the Bid Form by Contractor

END OF SECTION

SECTION 01 2500

CONTRACT MODIFICATION PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.

B. Related Sections include the following:
   1. Division 0 Document 00 52 13 " Form of Agreement" for monetary values of established Unit Prices and Alternates.
   2. Division 0 Document 00 72 13 "General Conditions" for additional requirements for Changes in the Work, Contract Sum, and Contract Time.
   3. Division 1 Section 00 73 00 "Supplementary Conditions" for allowable percentages for Contractors' Overhead and Profit.
   4. Division 1 Section 01 21 00 Allowances for administrative requirement for using allowances.
   5. Division 1 Section 01 25 01 CR/PO Form
   6. Division 1 Section 01 33 00" Submittal Procedures" for Schedule of Values requirements.
   7. Division 1 Section 01 60 00 "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.
   8. Division 1 Section 01 78 39 "Project Record Documents" documentation requirements.

1.03 MINOR CHANGES IN THE WORK

A. Architect, with the concurrence of the Owner, will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time.

1.04 CHANGE REQUEST/PROCEED ORDER - CR/PO (CONSTRUCTION CHANGE DIRECTIVE)

A. Architect or Owner may issue a Change Request/Proceed Order on form included in Section 01 2501 - CR/PO Form.
   1. Change Request contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
   2. Proceed Order, when signed by the Owner, instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Proceed Order.
   1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

C. Authorization Required: When a Change Request is approved and signed by the Owner, it becomes a Proceed Order authorizing the change requested. Do not proceed with any change without the Owner's signature on the Change Request/Proceed Order.

D. Owner-Initiated Change Requests: Architect will issue a Change Request, which will include a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
   1. Change Requests issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
   2. Within time specified in Change Request after receipt of Change Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

a. Include a complete cost breakdown including a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
c. Include costs of labor, supervision, overhead, and profit directly attributable to the change.
d. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

E. Contractor-Initiated Requests: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to the Architect.
1. Changes requested by the Contractor will be authorized only by signature of the Owner on the prescribed. Do not proceed with any changes without this authorization.
2. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
3. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
4. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
5. Include costs of labor, supervision, overhead, and profit directly attributable to the change.
6. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
7. Comply with requirements in Division 1 Section 01 60 00 "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.

F. Change Request Form: Use forms provided by Owner. Sample copies are included at end of this Section.

1.05 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Change Request, and at intervals to be determined, Architect will collect Change Requests and issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

SECTION 01 2501

CHANGE REQUEST/PROCEED ORDER

1992-2010 Capital Improvement Program
Eugene School District 4J

.....

CHANGE REQUEST NOTICE

Change Request No.: _____

Project No.:_____ Contract No.:_____ Date:_____

Project Title:_____

Contractor:_____

1. **REQUEST INFORMATION**
   Estimated $_____ Time_____ Days_____ Initiated by _____
   Reason for change: _____
   _____

2. **DESCRIPTION**
   Describe changes: _____
   _____
   Describe affected work: _____
   List plan and spec sections: _____
   Describe impacted activities: _____
   Comment: _____

3. **DATES**
   Need for change first known _____ By whom _____
   Contractor first notified _____ How _____
   Owner first notified _____
   Date approved or rejected _____ By whom _____

4. **RECOMMENDATION (cost and time)** _____

.....

PROCEED ORDER

PROCEED ORDER NO.: _____ Date: _____

1. **PAYMENT/COST**
   Actual amount of change $_____ The contract time will be:
   Contractor amount $_____ ( ) increased ( ) decreased by _____ days
   Subcontractor amount $_____ ( ) will remain unchanged
   Type of payment (LS/T&M) _____

2. **MISCELLANEOUS**
   Subcontractors involved: _____
   Major materials: _____
   The cost is not to exceed $_____ Date: _____

3 **CHANGE REQUEST ACCEPTED BY:**
   Contractor: _____ Date: _____
   Architect: _____ Date: _____
   4J CIP Project Manager: _____ Date: _____
   4J CIP Program Manager: _____ Date: _____
   4J Facilities Director: _____ Date: _____

Without the signature of Facilities Director, or the acting Director, this Proceed Order is neither accepted or authorized, except by written authorization of other specific delegation.

SECTION 01 2900

PAYMENT PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Sections include the following:
   1. Division 1 Section 01 25 00 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
   2. Division 1 Section 01 21 00 Allowances for administrative requirements governing use of allowances.
   3. Division 1 Section 01 32 00 "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.
   4. Division 1 Section 01 77 00 “Closeout Procedures” for final Application for Payment.

1.03 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.04 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
   1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
      a. Application for Payment forms with Continuation Sheets.
      b. Submittals Schedule.
      c. Contractor's Construction Schedule.
   2. Submit the Schedule of Values to Architect and Owner at earliest possible date but no later than seven days before the date scheduled for submittal of initial Application for Payment.

B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.
   1. Identification: Include the following Project identification on the Schedule of Values:
      a. Project name and location.
      b. Name of Architect.
      c. Architect's project number.
      d. Contractor's name and address.
      e. Date of submittal.
   2. Submit draft of AIA Document G703 Continuation Sheets.
   3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
   4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
   5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
      a. Differentiate between items stored on-site and items stored off-site. If specified, include evidence of insurance or bonded warehousing.

6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
7. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
8. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
    a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.
9. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.05 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
    1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets as form for Applications for Payment.

C. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
    1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
    2. Include amounts of Change Orders issued before last day of construction period covered by application.
    3. Transmittal: Submit 3 signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours.

D. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
    1. List of subcontractors.
    2. Schedule of Values (draft submitted previously).
    3. Contractor's Construction Schedule (preliminary if not final).
    4. Products list.
    5. Schedule of unit prices.
    6. Submittals Schedule (based Architect’s list or required submittals).
    7. List of Contractor's staff assignments.
    8. Initial progress report.
    9. Report of preconstruction conference.

E. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
    1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
    2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

F. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
    1. Evidence of completion of Project closeout procedures (See itemized list in Section 01 77 00 “Closeout Procedures”).

2. Updated final statement, accounting for final changes to the Contract Sum.
3. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
4. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
5. AIA Document G707, "Consent of Surety to Final Payment."
6. Evidence that claims have been settled.
7. Final, liquidated damages settlement statement.

1.06 PART 2 PRODUCTS (NOT USED)

1.07 PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 3100

PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
   1. Administrative and supervisory personnel.
   2. Project meetings.

B. Related Sections include the following:
   1. Division 1 Section 01 32 00 "Construction Progress Documentation" for preparing and submitting Contractor's Construction Schedule.
   2. Division 1 Section 01 73 00 "Execution Requirements" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
   3. Division 1 Section 01 77 00 "Closeout Procedures" for coordinating Contract closeout.

1.03 COORDINATION

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
   1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
   2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
   3. Make adequate provisions to accommodate items scheduled for later installation.
   4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
   1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
   1. Preparation of Contractor's Construction Schedule.
   2. Preparation of the Schedule of Values.
   3. Installation and removal of temporary facilities and controls.
   4. Delivery and processing of submittals.
   5. Progress meetings.
   6. Preinstallation conferences.
   7. Project closeout activities.
   8. Startup and adjustment of systems.
   9. Project closeout activities.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.
   1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Owner's property.

1.04 SUBMITTALS

A. Key Personnel Names: Within 15 days of Notice-to-Proceed, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including pager, cell, and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1.05 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
   1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Schedule meeting dates and times with Owner and Architect.
   2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
   3. Minutes: Architect will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, within three days of receiving them from the Architect.

B. Preconstruction Conference: Owner’s Project Manager will schedule a preconstruction conference before starting construction, no later than 15 days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
   1. Attendees: Owner’s Project Manager, Architect, and their consultants, as required; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
   2. Agenda: Discuss items of significance that could affect progress, including the following (see sample agenda at the end of Part 3):
      a. Introduction of persons present.
      b. Tentative construction schedule.
      c. Phasing.
      d. Critical work sequencing and long-lead items.
      e. Designation of key personnel and their duties.
      f. Procedures for processing field decisions and Change Orders.
      g. Procedures for requests for interpretations (RFIs).
      h. Procedures for testing and inspecting.
      i. Procedures for processing Applications for Payment.
      j. Distribution of the Contract Documents.
      k. Communications.
      l. Role of District’s Project Manager.
      m. Submittal procedures, including MSDS information.
      n. Energy design requirements.
      o. Preparation of Record Documents.
      p. Use of the premises and existing building.
      q. Work hours and restrictions.
      r. Owner's occupancy requirements.
      s. Responsibility for temporary facilities and controls.
      t. Construction waste management and recycling.
      u. Parking availability.
      v. Office, work, and storage areas.

w. Equipment deliveries and priorities.
x. Safety and first aid.
y. Security.
a`. Progress cleaning.

3. Minutes: Architect will record and distribute meeting minutes.
4. Statements made by the Contracting Agency's representative at the pre-construction conference are not binding upon the Contracting Agency unless confirmed by Written Addendum.

C. Preinstallation Conferences: When required by individual specification sections, conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.
1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect and Owner's Project Manager a minimum of four days prior to scheduled meeting dates.
2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
a. Contract documents.
b. Related requests for interpretations (RFIs).
c. Related Change Orders.
d. Purchases.
e. Deliveries.
f. Submittals.
g. Possible conflicts.
h. Compatibility problems.
i. Time schedules.
j. Weather limitations.
k. Manufacturer's written recommendations.
l. Warranty requirements.
m. Compatibility of materials.
n. Acceptability of substrates.
o. Space and access limitations.
p. Regulations of authorities having jurisdiction.
q. Testing and inspecting requirements.
r. Installation procedures.
s. Coordination with other work.
t. Required performance results.
u. Protection of adjacent work.
3. Contractor to record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
4. Distribute minutes of the meeting to each party present and to parties who should have been present, within three working days.
5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Progress Meetings: Conduct progress meetings at weekly intervals. Coordinate dates of meetings with preparation of payment requests.
1. Attendees: In addition to the Owner's Project Manager and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
    a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
    b. Review present and future needs of each entity present, including the following:
        1) Interface requirements.
        2) Sequence of operations.
        3) Status of submittals.
        4) Deliveries.
        5) Off-site fabrication.
        6) Access.
        7) Site utilization.
        8) Temporary facilities and controls.
        9) Work hours.
        10) Hazards and risks.
        11) Progress cleaning.
        12) Quality and work standards.
        13) Status of correction of deficient items.
        14) Field observations.
        15) Requests for interpretations (RFIs).
        16) Status of proposal requests.
        17) Pending changes.
        18) Status of Change Orders.
        19) Pending claims and disputes.
        20) Documentation of information for payment requests.
3. Minutes: Architect will record and distribute to Contractor the meeting minutes.
4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

PRECONSTRUCTION CONFERENCE AGENDA (SAMPLE)

EUGENE SCHOOL DISTRICT 4J

[ENTER PROJECT NAME]

[DATE]

AGENDA

A. ( ) Introduction of Persons Present
   1. District 4J
   2. Consultants
   3. Contractor (including job foreman)
   4. Subcontractors

B. ( ) Availability of Contract Documents

C. ( ) Building Permit Status
   1. Plan check and Building Permit paid by District
   2. Pick up Permit at City of Eugene by Contractor
   3. Location of site stored approved contract documents
   4. Utility permits
   5. LRAPA Permit

D. ( ) Prevailing Wage Requirements
   1. Submittal schedule
   2. Conformance with requirements

E. ( ) Communications
   1. Notification of problems

F. ( ) Role of District's representative
   1. Limits of authority
   2. Visitation schedules

G. ( ) Work Description and Schedule
   1. General work description
   2. Proposed start date: _____
   3. Proposed completion date: _____
   4. Proposed project schedule and phasing
   5. Progress schedule updates
   6. Methods to be employed to maintain schedule
   7. Work requiring Shop Drawings or submittals shall not commence until review is complete.

H. ( ) Submittals Required per Contract Documents
   1. MSDS Information
   2. Written proof of Asbestos Worker Certification
   3. Name, Experience and Qualifications of Asbestos Supervisor
   4. Copy of Contractor's Asbestos Abatement License
   5. Other information as required by Section 01 31 00.
   6. Schedule of values
   7. List of subcontractors including name of contact person, telephone number, and address

I. ( ) Construction
   1. Working hours
   2. Use of premises/set up locations
   3. Protection of existing facilities
   4. Traffic and protection
   5. Excavation and clean-up
   6. Weather restrictions
   7. Deviation from details and/or specifications

J. ( ) Correction of Defects
   1. Daily and/or as observed

K. ( ) Weekly On-Site Progress Meetings
   1. Establish day and time: Day _____Time _____
   2. Provide updated project schedules
   3. Discuss project progress, problems, etc.
   4. Review applications for payment
   5. Required attendance
   6. Observation report distribution

L. ( ) Change Order Requests and Change Order Procedures
   1. Written Change Order requests required
   2. Supporting back-up will be required for all Change Orders
   3. Mark-up limitations on Change Orders
      a. Contractor - 15 percent
      b. Subcontractors - 10 percent
      c. Progressive requests and Change Orders
      d. Processing time required

M. ( ) Applications for Payment
   1. Use AIA documents G702 and G703 latest edition
   2. Provide 5 signed and notarized copies
   3. Wage certifications to be attached

N. ( ) Safety and Emergency Procedures

O. ( ) Clean-up Daily
   1. Project completion

P. ( ) Project Closeout
   1. Inspections for
      a. Air Clearance
      b. AHERA Close Out Requirements
      c. Substantial completion
         1) Contractor provided list of items to be completed
         2) Inspection with job foreman
         3) Final Acceptance
            (a) Written notice from Contractor that all work is done and ready for inspection
            (b) Inspection with job foreman
         4) Responsibility for cost of additional inspections
         5) Submittals for Closeout
            (a) Final application for payment
            (b) Final set of wage certifications
            (c) Release of liens from all Subcontractors and general Contractor

Q. ( ) Tour of Project Sites to Examine and Document Existing Conditions

R. ( ) Additional Comments

THE UNDERSIGNED ACKNOWLEDGES THAT THE ITEMS LISTED ABOVE WERE DISCUSSED DURING THIS PRECONSTRUCTION CONFERENCE AND ARE FULLY UNDERSTOOD.

DATE:

A/E FIRM:

CONTRACTOR:

SUBCONTRACTORS:

END OF SECTION

SECTION 01 3200

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
   1. Preliminary Construction Schedule.
   2. Contractor's Construction Schedule.
   3. Submittals Schedule.

B. Related Sections include the following:
   1. Division 1 Section 01 29 00 "Payment Procedures" for submitting the Schedule of Values.
   2. Division 1 Section 01 31 00 "Project Management and Coordination" for submitting and distributing meeting and conference minutes.
   3. Division 1 Section 01 33 00 "Submittal Procedures" for submitting schedules and reports.
   4. Division 1 Section 01 40 00 "Quality Requirements" for submitting a schedule of tests and inspections.

1.03 SUBMITTALS

A. Submittals Schedule: Submit three copies of schedule. Arrange the following information in a tabular format.
   1. Scheduled date for first submittal.
   2. Specification Section number and title.
   3. Submittal category (action or informational).
   4. Name of subcontractor.
   5. Description of the Work covered.
   6. Scheduled date for Architect's final release or approval.

B. Contractor's Construction Schedule: Submit two opaque copies of initial schedule, large enough to show entire schedule for entire construction period.

1.04 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.
   1. Secure time commitments for performing critical elements of the Work from parties involved.
   2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 PRODUCTS

2.01 SUBMITTALS SCHEDULE

A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
   1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
   2. Initial Submittal: List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.

3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

2.02 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's Construction Schedule within 10 days of date established for the Notice to Proceed. Base schedule on the Preliminary Construction Schedule and whatever updating and feedback was received since the start of Project.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
   1. For construction activities that require 3 months or longer to complete, indicate an estimated completion percentage in 5 percent increments within time bar.

PART 3 EXECUTION

3.01 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
   1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
   2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
   3. As the Work progresses, indicate Actual Completion percentage for each activity.

B. Distribution: Distribute copies of approved schedule to Architect Owner’s Project Manager, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
   1. Post copies in Project meeting rooms and temporary field offices.
   2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION

SECTION 01 3300

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, Information Submittals, Delegated Design and other submittals.

B. Related Sections include the following:
   1. Division 1 Section 01 29 00 "Payment Procedures" for submitting Applications for Payment and the Schedule of Values.
   2. Division 1 Section 01 31 00 "Project Management and Coordination" for submitting and distributing meeting and conference minutes and for submitting Coordination Drawings.
   3. Division 1 Section 01 32 00 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals Schedule.
   4. Division 1 Section 01 40 00 "Quality Requirements" for submitting test and inspection reports and for mockup requirements, if any.
   5. Division 1 Section 01 77 00 "Closeout Procedures" for submitting warranties.
   6. Division 1 Section 01 78 23 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
   7. Division 1 Section 01 78 39 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
   8. Divisions 2 through 49 Sections for specific requirements for submittals in those Sections.

1.03 DEFINITIONS

A. Action Submittals: Written and graphic information either printed or digital that requires Architect's responsive action.

B. Informational Submittals: Written information either printed or digital that does not require Architect's responsive action. Submittals may be rejected for not complying with requirements.

C. "Sheet", "Form" or "Page": Indication of document size if the document were to be printed from a digital file.

1.04 SUBMITTAL PROCEDURES

A. Format
   1. Samples including samples of product colors shall be physical submittals.
   2. Other Submittals: Provide digital versions of submittals in pdf format. Do not provide "paper" or "printed" versions unless specifically requested by Architect. Each submittal including transmittals and cover pages shall be bound into a single pdf file. Digital files shall be in color where original information or color coding adds to the ability to understand the information. References to "sheet sizes" and "pages" below are for reference only and are an indication of how digital files might be printed.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
   1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
   2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

C. Submittals Schedule: Comply with requirements in Division 1 Section 01 32 00 "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.

D. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
   1. Initial Review: Allow 14 calendar days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
   2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.

E. Identification: Place a permanent label or title block on each submittal for identification.
   1. Indicate name of firm or entity that prepared each submittal on label or title block.
   2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect.

F. Deviations: Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals.

G. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return submittals, without review, if received from sources other than Contractor without prior consent.
   1. Transmittal Form: Provide locations on form for the following information:
      a. Project name.
      b. Date.
      c. Destination (To:).
      d. Source (From:).
      e. Names of subcontractor, manufacturer, and supplier.
      f. Category and type of submittal.
      g. Submittal purpose and description.
      h. Specification Section number and title.
      i. Drawing number and detail references, as appropriate.
      j. Submittal and transmittal distribution record.
      k. Remarks.
      l. Signature of transmitter.

H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
   1. Note date and content of previous submittal.
   2. Note date and content of revision in label or title block and clearly indicate extent of revision.
   3. Resubmit submittals until they are marked "<Insert approval notation from Architect's action stamp>."

I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

J. Use for Construction: Use only final submittals with mark indicating action taken by Architect as follows:.
   1. No exception taken
   2. Make corrections noted
   3. Revise & resubmit
   4. Not required for review
   5. Additional submittals required
   6. See attached consultant review

PART 2 PRODUCTS

2.01 ACTION SUBMITTALS

A. General: Prepare and submit Action Submittals required by individual Specification Sections.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
   1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
   2. Mark each copy of each submittal to show which products and options are applicable.
   3. Include the following information, as applicable:
      a. Manufacturer's written recommendations.
      b. Manufacturer's product specifications.
      c. Manufacturer's installation instructions.
      d. Standard color charts.
      e. Manufacturer's catalog cuts.
      f. Wiring diagrams showing factory-installed wiring.
      g. Printed performance curves.
      h. Operational range diagrams.
      i. Compliance with specified referenced standards.
      j. Testing by recognized testing agency.
      k. Application of testing agency labels and seals.
      l. Notation of coordination requirements.
      m. MSDS information, where applicable.
   4. Submit Product Data before or concurrent with Samples.
   5. Number of Copies: Submit the number required by the Contractor plus four (4) copies of Product Data, unless otherwise indicated. Architect will return two copies to Contractor and one to Owner. Mark up and retain one returned copy as a Project Record Document.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
   1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
      a. Dimensions.
      b. Identification of products.
      c. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
      d. Schedules.
      e. Design calculations.
      f. Compliance with specified standards.
      g. Notation of coordination requirements.
      h. Notation of dimensions established by field measurement.
      i. Relationship to adjoining construction clearly indicated.
      j. Seal and signature of professional engineer if specified.
   2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 30 by 40 inches (750 by 1000 mm).
   3. Number of Copies: Submit four opaque copies of each submittal, unless copies are required for operation and maintenance manuals. Submit five copies where copies are required for operation and maintenance manuals. Architect will retain two copies, including one for the Owner’s Project Manager; remainder will be returned. Mark up and retain one returned copy as a Project Record Drawing.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:
   a. Generic description of Sample.
   b. Product name and name of manufacturer.
   c. Sample source.
   d. Number and title of appropriate Specification Section.
3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
   a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
   b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor..
   c. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned.

2.02 INFORMATIONAL SUBMITTALS

A. General: Prepare and submit Informational Submittals required by other Specification Sections.
   1. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. Architect will not return copies.
   2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
   3. Test and Inspection Reports: Comply with requirements specified in Division 1 Section 01 40 00 "Quality Requirements."

B. Coordination Drawings: Comply with requirements specified in Division 1 Section 01 31 00 "Project Management and Coordination."

C. Contractor's Construction Schedule: Comply with requirements specified in Division 1 Section 01 32 00 "Construction Progress Documentation."

D. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

E. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.

F. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

G. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

H. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

I. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

J. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

K. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on

evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

L. Schedule of Tests and Inspections: Comply with requirements specified in Division 1 Section 01 40 00 "Quality Requirements."

M. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

N. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

O. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

P. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements specified in Division 1 Section 01 78 23 "Operation and Maintenance Data."

Q. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

R. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer.

S. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.

T. Material Safety Data Sheets (MSDSs): Submit information directly to Owner; do not submit to Architect.

2.03 DELEGATED DESIGN

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

B. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit three copies of a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 EXECUTION

3.01 CONTRACTOR'S REVIEW

A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date

of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.02 ARCHITECT'S ACTION

A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
   - No exception taken
   - Make corrections noted
   - Revise & resubmit
   - Not required for review
   - Additional submittals required
   - See attached consultant review

C. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

D. Partial submittals are not acceptable, will be considered nonresponsive, and will be returned without review.

E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION

SECTION 01 4000

QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

B. Section 01 7839 Project Record Documents, Field Surveying and preparation of record drawing of as constructed earthwork.

1.02 SUMMARY

A. This Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
   1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
   2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
   3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

C. Related Sections include the following:
   1. Division 1 Section 01 32 00 "Construction Progress Documentation" for developing a schedule of required tests and inspections.
   2. Divisions 2 through 49 Sections for specific test and inspection requirements.

1.03 CONFLICTING REQUIREMENTS

A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.04 SUBMITTALS

A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

B. Reports: Prepare and submit certified written reports that include the following:
   1. Date of issue.
   2. Project title and number.
   3. Name, address, and telephone number of testing agency.
   4. Dates and locations of samples and tests or inspections.
   5. Names of individuals making tests and inspections.
   6. Description of the Work and test and inspection method.
   7. Identification of product and Specification Section.

8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.05 QUALITY CONTROL

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

B. Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 1 Section 01 33 00 "Submittal Procedures."

D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

E. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.

5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform any duties of Contractor.

F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.06 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: Owner will engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of the Owner, described as follows:
1. Section 06 1000 Rough Carpentry, installation of Epoxy Anchors
2. Section 31 2000 Earth Moving, compaction of Structural Fills

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 TEST AND INSPECTION LOG

A. Prepare a record of tests and inspections. Include the following:
1. Date test or inspection was conducted.
2. Description of the Work tested or inspected.
3. Date test or inspection results were transmitted to Architect.
4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

3.02 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION

SECTION 01 5000

TEMPORARY FACILITIES AND CONTROL

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

B. Related Sections include the following:
   1. Division 1 Section 01 11 00 "Summary of Work" for limitations on utility interruptions and other work restrictions.
   2. Division 1 Section 01 33 00 "Submittal Procedures" for procedures for submitting copies of implementation and termination schedule and utility reports.
   3. Division 1 Section 01 77 00 "Execution Requirements" for progress cleaning requirements.
   4. Divisions 2 through 49 Sections for temporary heat, ventilation, and humidity requirements for products in those Sections.

1.03 DEFINITIONS

A. Permanent Enclosure: As determined by Architect, permanent or temporary roofing is complete, insulated, and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures.

1.04 USE CHARGES

A. General: Cost or use charges for temporary facilities shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, testing agencies, and authorities having jurisdiction.

1.05 SUBMITTALS

A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

1.06 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.07 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 PRODUCTS

2.01 MATERIALS

A. Chain-Link Fencing: Minimum 2-inch (50-mm), 0.148-inch- (3.76-mm-) thick, galvanized steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top rails.

B. Portable Chain-Link Fencing: Minimum 2-inch (50-mm), 9-gage, galvanized steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized steel pipe posts; minimum

2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top and bottom rails. Provide concrete bases for supporting posts.

C. Chain-Link Fencing to remain in use following Substantial Completion: Install temporary fencing as shown on drawings. At Substantial Completion, the Owner may assume rent and maintain temporary fencing for a period of one year. Provide information to Owner including proposed rental cost, rental terms, and provisions for removal of fencing.

D. Lumber and Plywood: Comply with requirements in Division 6

E. Gypsum Board: Minimum 1/2 inch (12.7 mm) thick by 48 inches (1219 mm) wide by maximum available lengths; regular-type panels with tapered edges. Comply with ASTM C 36/C 36M.

2.02 TEMPORARY FACILITIES

A. Field Office: Contractors Choice. May use existing janitor room in school near location of partial demolition. Maintain secure and in good condition.

PART 3 EXECUTION

3.01 INSTALLATION, GENERAL

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

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

3.02 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.
   1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
   1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.

C. Water Service: Provide portable water supply as needed for performance of the work. Cost of water paid for by Contractor.

D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities. Cost of Sanitary Facilities paid for by Contractor.

E. Heating: Provide temporary heating required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

F. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

G. Electric Power Service: Use of Owner's existing electric power service will be permitted, as long as equipment is maintained in a condition acceptable to Owner.

H. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.
   1. Connect temporary service to Owner's existing power source, as directed by Owner.
   2. Cost of electrical power in reasonable quantities shall be paid for by Owner.

I. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
2. Install lighting for Project identification sign.

J. Telephone Service: Provide temporary telephone service in common-use facilities for use by all construction personnel. Install two telephone line(s) for each field office.
   1. At each telephone, post a list of important telephone numbers.
      a. Police and fire departments.
      b. Ambulance service.
      c. Contractor's home office.
      d. Architect's office.
      e. Engineers' offices.
      f. Owner's office.
      g. Principal subcontractors' field and home offices.
   2. Provide superintendent with cellular telephone or portable two-way radio for use when away from field office.

3.03 SUPPORT FACILITIES INSTALLATION

A. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations. Locate temporary roads and paved areas as indicated on Drawings.
   1. Provide adequate temporary rock for construction drives capable of preventing damage to the native subgrade caused by construction activities. Remove temporary rock from site. Repair damage to native subgrade caused by construction activities at no cost to Owner.
   2. Provide dust-control treatment that is nonpolluting and contracting. Reapply treatment as required to minimize dust.

B. Traffic Controls: Comply with requirements of authorities having jurisdiction.
   1. Protect existing site improvements to remain including curbs, pavement, and utilities.
   2. Maintain access for fire-fighting equipment and access to fire hydrants.

C. Parking: Arrange for temporary parking areas for construction personnel. Use of School District owned parking areas by written approval of Owner.

D. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
   1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties nor endanger permanent Work or temporary facilities.
   2. Remove snow and ice as required to minimize accumulations.

E. Project Identification and Temporary Signs: Provide Project identification and other signs as indicated on Drawings. Install signs where indicated to inform public and individuals seeking entrance to Project. Unauthorized signs are not permitted.
   1. Project Identification Sign: Provide sign and supporting structure including posts embedded below grade able to support sign, 4 foot by 8 foot sheet of 3/4 " thick MDO plywood, and other supporting structure. Provide sign graphic as shown on drawings and mount to plywood. Digital files of sign graphic to be provided by Architect. Install in location approved by Owner. Maintain in good condition.
   2. Provide temporary, directional signs for construction personnel and visitors.
   3. Maintain and touchup signs so they are legible at all times.

F. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with Division 1 Section 01 77 00 "Execution Requirements" for progress cleaning requirements.

3.04 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that

minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

1. Comply with work restrictions specified in Division 1 Section 01 11 00 "Summary of Work."

B. Temporary Erosion and Sedimentation Control: Comply with requirements specified in Division 2 Section "Site Clearing", and requirements of authority having jurisdiction.

C. Stormwater Control: Comply with authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

D. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.

1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.
2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Provide Owner with one set of keys.

E. Security Enclosure and Lockup: Install substantial temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.

F. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

G. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.

1. Where heating or cooling is needed and permanent enclosure is not complete, insulate temporary enclosures.

H. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner from fumes and noise.

1. Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant plywood on construction operations side.
2. Insulate partitions to provide noise protection to occupied areas.
3. Seal joints and perimeter. Equip partitions with dustproof doors and security locks.
4. Protect air-handling equipment.
5. Weather strip openings.
6. Provide walk-off mats at each entrance through temporary partition.

I. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.

1. Prohibit smoking in construction areas.
2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.05 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

END OF SECTION

SECTION 01 6000

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.

B. Related Sections include the following:
   1. Division 1 Section 01 77 00 "Closeout Procedures" for submitting warranties for Contract closeout.
   2. Divisions 2 through 49 Sections for specific requirements for warranties on products and installations specified to be warranted.

1.03 DEFINITIONS

A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.

1.04 SUBMITTALS

A. Substitution Requests: Instructions to Bidders specify time restrictions for submitting requests for Substitutions during the bidding period, in compliance with this Section.

B. After execution of Agreement, the Owner may, at the Owner’s option, consider formal requests from the Contractor for substitution of products for those specified. One or more of the following conditions must be documented:
   1. Compliance with final interpretation of code requirements or insurance regulations which require that the use of a substituted Product.
   2. Unavailability of a specified Product through no fault of the Contractor.
   3. Inability of specified Product to perform properly of fit in designated place.
   4. Manufacturer’s or Fabricator’s refusal or inability of certify or guarantee performance of a specified Product in the application intended.

C. A Substitution Request constitutes a representation that the Bidder/Contractor:
   1. Has investigated the proposed Product and determined that it meets or exceeds the quality level of the specified Product.
   2. Will provide the same warranty for the Substituted Product as for the specified Product.
   3. Will coordinate installation and make changes to the Work which may be required for the Work to be completed with no additional cost to the Owner.
   4. Waives claims for additional costs or time extension which may subsequently become apparent.
   5. Will reimburse the Owner for review or redesign services associated with re-approval by authorities.

D. Substitutions will not be considered when they are indicated or implied on Shop Drawings or Product Data Submittals, without separate request on the form provided, or when acceptance will require revision to the Contract Documents.

E. Submit three copies of each request for consideration. Limit each request to one proposed Substitution. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

F. Substitution Request Form - See Section 01 6023.

G. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
   1. Statement indicating why specified material or product cannot be provided.
   2. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
   3. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
   4. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
   5. Provide MSDS information to confirm that the product is no more harmful that he products specified.
   6. Samples, where applicable or requested.
   7. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
   8. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
   9. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
   10. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
   11. Cost information, including a proposal of change, if any, in the Contract Sum.
   12. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
   13. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
   14. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within 7 days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.
      a. Form of Acceptance: Change Order.
      b. Use product specified if Architect cannot make a decision on use of a proposed substitution within time allocated.

1.05 QUALITY ASSURANCE

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

1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.

B. Delivery and Handling:
   1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
   2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
   3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
   4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.

C. Storage:
   1. Store products to allow for inspection and measurement of quantity or counting of units.
   2. Store materials in a manner that will not endanger Project structure.
   3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
   4. Store cementitious products and materials on elevated platforms.
   5. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
   6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
   7. Protect stored products from damage and liquids from freezing.
   8. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.
   9. Provide bonded and insured off-site storage and protection when site does not permit on-site storage and protection.

1.07 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
   1. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
   2. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.

B. Submittal Time: Comply with requirements in Division 1 Section 01 77 00 "Closeout Procedures."

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

SECTION 01 6023

SUBSTITUTION REQUEST FORM

SUBSTITUTION REQUEST: DATE SUBMITTED _____

1.01 TO: PIVOT ARCHITECTURE, 44 WEST BROADWAY #300, EUGENE OR 97401-3038

1.02 PROJECT: 4J EARTHWORK AND DEMOLITION - HOWARD SITE CIP #410 213 001, EUGENE SCHOOL DISTRICT 4J

1.03 SPECIFIED ITEM:

A. SECTION NAME AND NUMBER: _____

B. PARAGRAPH: _____

C. PRODUCT DESCRIPTION: _____

1.04 UNDERSIGNED REQUESTS CONSIDERATION OF THE FOLLOWING SUBSTITUTION:

A. MANUFACTURER AND MODEL NUMBER(S): _____

B. PRODUCT DESCRIPTION: _____

1.05 UNDERSIGNED STATES THAT THE FOLLOWING PARAGRAPHS ARE TRUE, EXCEPT WHERE NOTED OTHERWISE:

A. The function, appearance and quality of the proposed substitution are equivalent or superior to the specified item;

B. Proposed substitution does not affect dimensions shown on the drawings;

C. Undersigned will pay for changes to the building design, including engineering and design services, detailing, and construction costs caused by requested substitution.

D. Proposed substitution will have no adverse effect on other trades, construction schedule, or specified warranty requirements.

E. Maintenance and service parts will be available locally for the proposed substitution.

F. The undersigned has attached data concerning the proposed substitution, including: product description, specifications, drawings, photographs, performance and test data adequate for evaluation of request with applicable portions of the data clearly identified. Attached data also includes description of changes to Contract Documents which the proposed substitution will require for proper installation.

G. Undersigned further certifies function, appearance, and quality of proposed substitution are equivalent or superior to specified item.

H. Undersigned further certifies that the manufacturer of the proposed substitution is aware of this substitution request and agrees to the statements noted above.

1.06 SUBMITTED BY:

A. NAME: _____ SIGNATURE:_____

B. FIRM NAME: _____

C. FULL MAILING ADDRESS: _____

D. PHONE: _____ E-MAIL: _____

1.07 FOR USE BY ARCHITECT OR ENGINEER:

A. ____APPROVED ____APPROVED AS NOTED

B. ____NOT APPROVED ____RECEIVED TOO LATE

C. BY: _____

D. DATE: _____

END OF SECTION

SECTION 01 7300
EXECUTION REQUIREMENTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

B. Section 01 7839 - Project Record Docments, Surveying of Earthwork for preparation of Record Drawings

1.02 SUMMARY

A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
   1. Construction layout.
   2. Field engineering and surveying.
   3. General installation of products.
   4. Coordination of Owner-installed products.
   5. Progress cleaning.
   6. Starting and adjusting.
   7. Protection of installed construction.
   8. Correction of the Work.

B. Related Sections include the following:
   1. Division 1 Section 01 31 00 "Project Management and Coordination" for procedures for coordinating field engineering with other construction activities.
   2. Division 1 Section 01 33 00 "Submittal Procedures" for submitting surveys.
   3. Division 1 Section 01 77 00 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.03 SUBMITTALS

A. Final Property Survey: Submit 2 copies showing the Work performed and record survey data.

1.04 QUALITY ASSURANCE

A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 EXAMINATION

A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.
   1. Before construction, verify the location and points of connection of utility services.

B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
   1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
   2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

C. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
   1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
      a. Description of the Work.
      b. List of detrimental conditions, including substrates.
      c. List of unacceptable installation tolerances.
      d. Recommended corrections.
   2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
   3. Proceed with installation only after unsatisfactory conditions have been corrected. PROCEEDING WITH THE WORK INDICATES ACCEPTANCE OF SURFACES AND CONDITIONS.

3.02 PREPARATION

A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.03 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect and Owner's Project Manager promptly.
   1. General: Engage a land surveyor to lay out the Work using accepted surveying practices.

B. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.

C. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect and Owner's Project Manager.

3.04 FIELD ENGINEERING

A. Identification: Owner will identify existing benchmarks, control points, and property corners.

B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
   1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.

2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

D. Surveying for Record Drawings; Perform surveying of earthwork as required for Record Drawings as described in Section 01 7839 - Project Record Documents.

3.05 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
4. Maintain minimum headroom clearance of seven feet in spaces without a suspended ceiling.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated. Bring any conflicts to the Architect for review.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

F. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

G. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints where possible. Obtain Architect and Owner’s Project Manager approval for all questionable conditions.

H. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.06 OWNER-INSTALLED PRODUCTS

A. Site Access: Provide access to Project site for Owner's construction forces.

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

preinstallation conferences conducted by Owner's construction forces if portions of the Work depend on Owner's construction.

3.07 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
   1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
   2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F (27 deg C).
   3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to applicable regulations.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for safety and proper execution of the Work.
   1. Remove liquid spills promptly.
   2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.08 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.09 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.
   1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Restore permanent facilities used during construction to their specified condition.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION

SECTION 01 7329

CUTTING AND PATCHING

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes procedural requirements for cutting and patching.

B. Related Sections include the following:
   1. Division 1 Section 10 31 00 – “Project Management and Coordination” for pre- construction and pre-installation conferences.
   2. Division 2 Section 02 41 00 - "Selective Demolition" for demolition of selected portions of the building.
   3. Divisions 2 through 49 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

1.03 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.

B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.04 SUBMITTALS

A. Cutting and Patching Proposal: Submit a written request describing procedures prior to the time cutting and patching will be performed, requesting approval to proceed, for cutting or alteration which affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather-exposed or moisture-resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Visual qualities of site-exposed elements.
   5. Work of Owner or separate contractor.

B. Include the following information:
   1. Identification of Project and CIP number
   2. Location and description of the affected Work.
   3. Necessity for cutting or alteration.
   4. Description of proposed Work and Products to be used.
   5. Alternatives to cutting and patching.
   6. Effect on work of Owner or separate contractor.
   7. Written permission of affected separate contractor, if any.
   8. date and time work will be executed.

1.05 QUALITY ASSURANCE

A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
   1. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
   2. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.

B. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or

in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

1.06 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 PRODUCTS

2.01 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
   1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
   1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
   2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut.

B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

3.03 PERFORMANCE

A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
   1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
   1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
   2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
   3. Concrete or Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.

4. Excavating and Backfilling: Comply with requirements in applicable Division 2 Sections where required by cutting and patching operations.
5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
   1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
   2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
      a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
      b. Restore damaged pipe covering to its original condition.
   3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
      a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
   4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
   5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION

SECTION 01 7700

CLOSEOUT PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
   1. Observation procedures.
   2. Warranties.
   3. Final cleaning.

B. Related Sections include the following:
   1. Division 1 Section 01 29 00 "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
   2. Division 1 Section 01 73 00 "Execution Requirements" for progress cleaning of Project site.
   3. Division 1 Section 01 78 23 "Operation and Maintenance Data" for operation and maintenance manual requirements.
   4. Division 1 Section 01 78 39 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
   5. Divisions 2 through 49 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.03 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting observation for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
   1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
   2. Advise Owner of pending insurance changeover requirements.
   3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
   4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
   5. Prepare and submit Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
   6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
   7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
   8. Complete startup testing of systems.
   9. Submit test/adjust/balance records.
   10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
   11. Advise Owner of changeover in heat and other utilities.
   12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
   13. Complete final cleaning requirements, including touchup painting.
   14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Observation: Submit a written request for observation for Substantial Completion. On receipt of request, Architect and Owner’s Project Manager will either proceed with observation or notify

Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after observation or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Observation: Request repeat observation when the Work identified in previous observations as incomplete is completed or corrected.
2. Results of completed observation will form the basis of requirements for Final Completion.

1.04 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final observation for determining date of Final Completion, complete the following:
   1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
   2. Submit certified copy of Architect's Substantial Completion observation list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
   3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
   4. Submit the following completed forms, items and documents:
      a. AIA Document G706 Contractor’s Affidavit of Payment of Debts and Claims.
      b. AIA Document G706A Contractor’s Affidavit of Release of Liens.
      c. AIA Document G707 Consent of Surety Company to Final Payment.
      d. Operation and Maintenance Manuals
      e. Warranties and Bonds. Submit original documents, including Contractor’s General Warranty,
      f. Record Documents.
      g. Keys.
      h. Testing and Start-Up records.
      i. Affidavit of Prevailing Wages paid.
      j. Complete list of Contractor and all Subcontractors with address, phone numbers, and work
      k. Asbestos-Containing Materials Statement (Form 01100B).
      l. Proof of final acceptance and compliance from governing authorities having jurisdiction.
      m. Certificate of insurance evidencing continuation of liability coverage including coverage for completed operations until the expiration of the specified warranty periods.
   5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Observation: Submit a written request for final observation for acceptance. On receipt of request, Architect and Owner’s Project Manager will either proceed with observation or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after observation or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
   1. Repeat Observation: Request repeat observation when the Work identified in previous observations as incomplete is completed or corrected.
   2. Cost of additional repeat observations by Architect and Owner’s Project manager will be deducted from Final Payment to the Contractor.

1.05 WARRANTIES

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

B. Partial Occupancy: Submit properly executed warranties within 10 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
   1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (215-by-280-mm) paper.
   2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
   3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.

D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 PRODUCTS

2.01 MATERIALS

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

PART 3 EXECUTION

3.01 FINAL CLEANING

A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
   1. Complete the following cleaning operations before requesting observation for certification of Substantial Completion for entire Project or for a portion of Project:
      a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
      b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
      c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
      d. Remove tools, construction equipment, machinery, and surplus material from Project site.
      e. Remove snow and ice to provide safe access to building.
      f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
      g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
      h. Sweep concrete floors broom clean in unoccupied spaces.
      i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
      j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
      k. Remove labels that are not permanent.

l. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
   1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
m. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
n. Replace parts subject to unusual operating conditions.
o. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
p. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
q. Clean ducts, blowers, and coils if units were operated without filters during construction.
r. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
s. Leave Project clean and ready for occupancy.

C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION

SECTION 01 7839

PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:
   1. Record Survey
   2. Record Drawings.
   3. Record Specifications.
   4. Record Product Data.

B. Related Sections include the following:
   1. Division 1 Section 01 77 00 "Closeout Procedures" for general closeout procedures.
   2. Division 1 Section 01 78 23 "Operation and Maintenance Data" for operation and maintenance manual requirements.
   3. Divisions 2 through 49 Sections for specific requirements for Project Record Documents of the Work in those Sections.

1.03 SUBMITTALS

A. Record Survey: Provide one printed copy on E size drawings sheet. Provide digital file in format able to be imported and manipulated in AutoCAD or Revit software.

B. Record Drawings: Comply with the following:
   1. Number of Copies: Submit copies of Record Drawings as follows:
      a. Final Submittal: Submit one set of marked-up Record Prints (not “Job Shack” set).

C. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications.

D. Record Product Data: Submit one copy of each Product Data submittal.
   1. Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in manual instead of submittal as Record Product Data.
   2. Final action on Submittals is requried prior to start of Substantial Completion.

PART 2 PRODUCTS

2.01 RECORD DRAWINGS

A. Record Survey
   1. Retain the services of a licensed surveyor.
   2. Surveyor to prepare a survey drawing confirming location and grades of earthwork. Include grade at bottom of excavation and top of fill. Include locations of over excavation if any, deep excavation and pads below the main building pad, and boundaries of building pad.
   3. The level of detail of the survey to be equivalent to that of the site grading plan provided in the Contract Documents.
   4. Completed survey to bear the stamp of a licensed surveyor.
   5. Digital files of the earthwork drawings for this contract will be made available to the Contractor by the Architect for use in preparing Record Survey.

B. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.
   1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.

a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
b. Accurately record information in an understandable drawing technique.
c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.

2. Content: Types of items requiring marking include, but are not limited to, the following:
a. Earthwork grades at top and bottom of pads and trenches for future building footings.
b. Dimensional changes to Drawings.
c. Revisions to details shown on Drawings.
d. Locations and depths of underground utilities.
e. Revisions to routing of piping and conduits.
f. Revisions to electrical circuitry.
g. Locations of concealed internal utilities.
h. Changes made by Change Order.
i. Changes made following Architect's written orders.
j. Details not on the original Contract Drawings.
k. Field records for variable and concealed conditions.
l. Record information on the Work that is shown only schematically.

3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.

C. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Record Transparencies: Organize into unbound sets matching Record Prints. Place transparencies in durable tube-type drawing containers with end caps. Mark end cap of each container with identification. If container does not include a complete set, identify Drawings included.
3. Identification: As follows:
a. Project name.
b. Date.
c. Designation "PROJECT RECORD DRAWINGS."
d. Name of Architect and Owner’s Project Manager.
e. Name of Contractor.

2.02 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.

2.03 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders where applicable.

2.04 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

PART 3 EXECUTION

3.01 RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.

B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's and Owner’s Project Manager’s reference during normal working hours.

END OF SECTION

SECTION 02 4100

DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Building demolition excluding removal of hazardous materials and toxic substances.

B. Selective demolition of built site elements.

C. Selective demolition of building elements for alteration purposes.

D. Abandonment and removal of existing utilities and utility structures.

1.02 RELATED REQUIREMENTS

A. Section 00 3100 - Available Project Information: Existing building survey conducted by Owner; information about known hazardous materials.

B. Section 01 1000 - Summary: Limitations on Contractor's use of site and premises.

C. Section 01 1000 - Summary: Sequencing and staging requirements.

D. Section 01 5000 - Temporary Facilities and Controls: Security, protective barriers, and waste removal.

E. Section 01 6000 - Product Requirements: Handling and storage of items removed for salvage and relocation.

F. Section 01 7000 - Execution and Closeout Requirements: Project conditions; protection of existing construction to remain; reinstallation of removed products.

G. Section 31 2200 - Grading: Fill material for filling holes, pits, and excavations generated as a result of removal operations.

1.03 REFERENCE STANDARDS

A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.

B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

1.04 SUBMITTALS

A. See Section 01 3300 - Submittal Procedures, for submittal procedures.

B. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

PART 2 PRODUCTS

2.01 MATERIALS

A. Fill Material: _____.

PART 3 EXECUTION

3.01 SCOPE

A. Within area of new construction as noted on drawings, remove foundation walls and footings to a minimum of 2 feet below finished grade.

B. Outside area of new construction as noted on drawings, remove foundation walls and footings to a minimum of 2 feet below finished grade.

C. Remove concrete slabs on grade as indicated on drawings.

D. Remove fences and gates.

E. Remove items indicated, for salvage, recycling, and to prepare the identified interior building areas for work shown on drawings and structural modifications.

1. **Contractor shall maximize use of removed or salvaged products, material, finishes and equipment for use in other parts of this project where similar products, materials, finishes and equipment are shown on the drawings.**

F. Fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill _____.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
   1. Obtain required permits.
   2. Provide, erect, and maintain temporary barriers and security devices.
   3. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   4. Do not close or obstruct roadways or sidewalks without permit.
   5. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
   6. Use temporary enclosures, and other suitable methods as necessary, to limit the amount of dust and dirt rising and scattering in the air, to the lowest level of air pollution practical for the conditions of work.

B. Do not begin removal until receipt of notification to proceed from Owner.

C. Protect existing structures and other elements that are not to be removed.

D. If hazardous materials are discovered during removal operations, stop work and notify Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.

E. Perform demolition in a manner that maximizes salvage and recycling of materials.

F. Conform to applicable regulations relating to environmental requirements, disposal of debris, and noise control.

G. Burning not permitted.

3.03 EXISTING UTILITIES

A. Protect existing utilities to remain from damage.

B. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.

C. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

D. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

E. Remove exposed piping, valves, meters, equipment, supports, conduit, wiring, and foundations of disconnected and abandoned utilities.

F. Prepare building demolition areas by disconnecting and capping utilities outside the demolition zone; identify and mark utilities to be subsequently reconnected, in same manner as other utilities to remain.

3.04 ELECTRICAL DEMOLITION

A. Site Visitation
   1. The Contractor shall visit the site prior to bidding and become familiar with existing conditions and all other factors which may affect the execution of the work.

B. Coordination
   1. Coordinate Work of This Division with all other trades to ensure proper removal/installation of electrical equipment. Report potential conflicts to Architect prior to rough-in.

C. Protection of Work
   1. Protect all electrical work and equipment installed under this Division against damage by other trades, weather conditions, or any other causes. Equipment found damaged or in other than new condition will be rejected as defective.

2. Keep switchgear, transformers, panels, luminaires, and all electrical equipment covered or closed to exclude dust, dirt, and splashes of plaster, cement, paint, or other construction material spray. Equipment not free of all such contamination is not acceptable.
3. Provide enclosures and trims in new condition, free of rust, scratches, and other finish defects. If damaged, properly refinish in a manner acceptable to the Architect.

D. Uninterrupted Service
1. Maintain electrical service to all functioning portions of the building throughout demolition.
2. Pre-arrange with Owner outages necessary for demolition.
3. Contractor is liable for any damages resulting from unscheduled outages or for those not confined to the pre-arranged times. Damages include costs incurred by the Owner.
4. Maintain signal and communication systems and equipment in operation at all times. Outages of these systems shall be treated the same as electrical power outages.

E. Demolition and Salvage
1. Remove or relocate all electrical wiring, equipment, luminaires, etc., as may be encountered in removed or remodeled areas in the existing construction affected by this work.
2. Disconnect electrical service to hard wired equipment scheduled for removal under other Divisions of Work.
3. Wiring which serves existing outlets and luminaires scheduled to remain shall be restored and routed clear of the construction or demolition.
4. Safely cut off and terminate all wiring to be abandoned and remove to leave site clean.
5. Removed materials, not containing hazardous waste, not scheduled for reuse shall become the property of the Contractor for removal from the site, except for those items specifically indicated on the Demolition Drawings for salvage or reuse.
6. Materials containing, or possibly containing, hazardous waste shall be identified for removal and disposal by the Owner's Hazardous Waste Contractor.

3.05 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
1. Verify that construction and utility arrangements are as shown.
2. Report discrepancies to Architect before disturbing existing installation.
3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Separate areas in which demolition is being conducted from other areas that are still occupied.
1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 5000 in locations indicated on drawings.

C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.

D. Remove existing work as indicated and as required to accomplish new work.
1. Remove items indicated on drawings.

E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, Telecommunications, and Security): Remove existing systems and equipment as indicated.
1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
3. See Section 01 1100 for other limitations on outages and required notifications.
4. Verify that abandoned services serve only abandoned facilities before removal.
5. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.

F. Protect existing work to remain.
   1. Prevent movement of structure; provide shoring and bracing if necessary.
   2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
   3. Repair adjacent construction and finishes damaged during removal work.
   4. Patch as specified for patching new work.

3.06 SALVAGE

A. Salvage for Reuse:
   1. Identify materials shown on the drawings for removal that can be reused in the project for a similar use and in a new location as shown on drawings.
   2. Coordinate carefully, the removal of items to be reused with the requirements of reinstallation.
   3. Carefully remove, clean, pack as necessary and store for reuse. Protect from damage until reinstalled.

B. Damaged items:
   1. If items to be reused are damaged during removal, storage or reinstallation, repair or replace with new to match existing condition prior to start of the work.

C. Salvage for Storing:
   1. Remove Wood Roof Joists as indicated on drawings. Remove fasteners, nails and hardware. Maintain wood pieces in maximum practical length. Load and transport lumber to a location directed by Owner within 10 miles of project site. Unload where directed. Neatly and compactly stack lumber. Store so lumber is not in contact with ground. Provide non-marking "stickers" between boards. Cover with water proof tarp.
   2. Door hardware and wood doors for reuse. See respective specification sections.
   3. Items where shown on drawings.

D. Other Salvage:
   1. Title to all other material to be removed is vested in the Contractor upon notice of award.

3.07 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Leave site in clean condition, ready for subsequent work.

C. Clean up spillage and wind-blown debris from public and private lands.

D. Clean remaining structure, equipment, and facilities of all dirt, dust and debris caused by demolition work. Return areas to conditions existing prior to the start of the work.

END OF SECTION

SECTION 06 1000

ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Structural dimension lumber framing.

B. Non-structural dimension lumber framing.

C. Rough opening framing for doors, windows, and roof openings.

D. Sheathing.

E. Roofing nailers.

F. Preservative treated wood materials.

G. Miscellaneous framing and sheathing.

H. Concealed wood blocking, nailers, and supports.

I. Anchor Bolts and embeds for Rough Carpentry.

1.02 RELATED REQUIREMENTS

Section 02 4100 - Demolition

Section 06 2000 - Finish Carpentry

Section 07 2500 - Weather Barriers: Air barrier over sheathing.

Section 07 4623 - Wood Siding

1.03 REFERENCE STANDARDS

A. AFPA (WFCM) - Wood Frame Construction Manual for One- and Two-Family Dwellings; American Forest and Paper Association; 2012.

B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.

C. AWPA U1 - Use Category System: User Specification for Treated Wood; American Wood Protection Association; 2012.

D. OSSC - Oregon Structural Specialty Code; latest edition.

E. PS 20 - American Softwood Lumber Standard; National Institute of Standards and Technology, Department of Commerce; 2010.

F. WWPA G-5 - Western Lumber Grading Rules; Western Wood Products Association; 2011.

1.04 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

1.05 OPTIONS

A. Contractors may, at their option, substitute:
   1. Power-driven Fasteners in lieu of Anchor Bolts at Interior Non-Structural Stud Wall Base Plates as follows:
      a. Manufacturer and Type:Hilti DN 72, NK72 or approved.
      b. Maximum spacing at Non-load Bearing Walls: 36 inches, 6 inches minimum, 12 inches maximum from ends.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
   1. Species: Douglas Fir-Larch, unless otherwise indicated.
   2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service

for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

B. Provide wood harvested and milled within 500 miles of the project site.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

A. Grading Agency: Western Wood Products Association (WWPA).

B. Sizes: Nominal sizes as indicated on drawings, S4S.

C. Moisture Content: S-dry or MC19.

D. Stud Framing (2 by 2 through 2 by 6):
   1. Grade: No. 2.

E. Joist, Rafter, and Small Beam Framing (2 by 6 through 4 by 16):
   1. Grade: No. 1 & Btr.

F. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
   1. Lumber: S4S, No. 2 or Standard Grade.
   2. Boards: Standard or No. 3.

2.03 CONSTRUCTION PANELS

A. Wall Sheathing: APA PRP-108, Rated Sheathing, Exposure 1, and as follows:
   1. Thickness: 1/2 inch, nominal.
   2. Panel Size: 48 x 96 inches.

2.04 ACCESSORIES

A. Fasteners and Anchors:
   1. Metal and Finish: Hot-dipped galvanized steel per ASTM A 153/A 153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
   2. Machine Bolts, Nuts, Washers, and Screws: Conforming to ASTM A307, galvanized where exposed.
   3. Lag Bolts and Wood Screws: ANSI/ASME B18.6.1-1981, zinc plated.
   4. Threaded Rods: ASTM A36 or ASTM A307.
   5. Anchor Bolts: ASTM A 307, Grade C.
   6. Washers: Provide Hot-dip Galvanized Steel Washers under Bolt Heads, Lag Heads, and Nuts adjacent to all wood framing members.
   7. Epoxy Anchors: Hilti HIT HY-150 Max (at CMU); Hilti HIT-RE 500 SD (at concrete), or approved.
   8. Powder Actuated Fasteners:
      a. To Steel: "DS with Washer", by Hilti, "Power Point with Washer", by Ramset/Redhead, or approved.
      b. To Concrete (non-seismic applications only): "DN72 with Washer", by Hilti, or approved.
      c. To Concrete Masonry (non-seismic applications only): "DXE72 with Washer", by Hilti, or approved.
   9. Self-drilling screws of wood-to-wood connections: Simpson SDS series or approved.
   10. Self-drilling screws to light-gage framing: Traxx by ITW Buildex or approved; with break-off wings, flat or bugle head.

B. Framing Connectors: Zinc-coated steel; Simpson, or approved. Connector model numbers shown on Drawings are taken from Simpson Catalog. If specific type is not shown on Drawings, use type recommended by Manufacturer for conditions of installation.

C. Joist Hangers: Hot dipped galvanized steel, sized to suit framing conditions.
   1. For contact with preservative treated wood in exposed locations, provide minimum G185 galvanizing per ASTM A653/A653M.

2.05 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
   1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

B. Preservative Treatment:
   1. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative to 0.25 lb/cu ft retention.
      a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
      b. Treat lumber in contact with roofing, flashing, or waterproofing.
      c. Treat lumber in contact with masonry or concrete.
      d. Treat lumber in other locations as indicated.
   2. Preservative Pressure Treatment of Lumber in Contact with Soil: AWPA U1, Use Category UC4A, Commodity Specification A using waterborne preservative to 0.4 lb/cu ft retention.
      a. Preservative for Field Application to Cut Surfaces: As recommended by manufacturer of factory treatment chemicals for brush-application in the field.

PART 3 EXECUTION

3.01 PREPARATION

A. Coordinate installation of rough carpentry members specified in other sections.

3.02 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.03 FRAMING INSTALLATION

A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.

B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.

C. Install structural members full length without splices unless otherwise specifically detailed.

D. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes and AFPA Wood Frame Construction Manual.

E. Install horizontal spanning members with crown edge up and not less than 1-1/2 inches of bearing at each end.

F. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed. Space to provide clearance for pipes in partitions.

G. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

H. Do not notch, bore, or drill framing members except as noted on Drawings, or as approved by Engineer.

I. Do not install composite lumber in contact with concrete. Provide treated dimension lumber for plates in contact with foundations.

J. Provide preservative-treated wood nailers on roof deck as indicated on Drawings or as required by membrane roofing manufacturer.
   1. Coordinate thickness of nailer with thickness of roof insulation.

3.04 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.

C. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.

D. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.

3.05 HEADERS

A. Provide Headers over Openings more than 2 ft-6 inches wide as specified below if not otherwise specifically noted on Drawings.

B. Quantity:
   1. At 2x6 stud walls use 3 members.
   2. At 2x4 stud walls use 2 members.
   3. At stud walls larger than 2x6 use 3 members and shim evenly along header length unless otherwise shown on drawings.

C. Individual Member Nominal Size:
   1. Spans to 2 ft. 6 inches:2 x 4
   2. Spans to 3 ft. 6 inches:2 x 6
   3. Spans to 5 ft. 0 inches:2 x 8
   4. Spans to 6 ft. 0 inches:2 x 10
   5. Spans to 8 ft. 0 inches:2 x 12
   6. Spans longer than 8 ft.:See drawings

D. At 6 feet and longer spans:
   1. Triple Studs at each end of Header and bear each end on 2 Studs.

3.06 ROOF-RELATED CARPENTRY

A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.

3.07 INSTALLATION OF CONSTRUCTION PANELS

A. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using fasteners as indicated on Drawings.
   1. Block unsupported edges at shear walls as shown on Drawings.
   2. Drive sheathing fasteners flush with panel face, do not overdrive.

B. Install panels with a minimum 1/16 inch, maximum 1/8 inch gap between adjoining panels.

3.08 ACCESSORIES AND FASTENER INSTALLATION

A. Provide Framing Connectors where indicated; secure with fasteners recommended by manufacturer to achieve maximum load capacity.

B. Provide Washers under Nuts and Heads when making Bolted or Lag Screwed connections.

C. Drive Nails perpendicular to Grain in lieu of toe-nailing where feasible.

D. Lag Screws: Pre-drill to 70% of the shank diameter in supporting member, 1/32 to 1/16 inch larger than shank diameter in attached members. Use standard cut washer between bolt head and wood. Install Lag Screws by turning, do not drive with hammer.

E. Nails and Screws: Fasten members as shown on Drawings. Predrill holes as required to prevent splitting of members. Nailed connections not shown on Drawings or specified by manufacturer shall conform to the building code.

F. Bolts: Set in holes 1/32 inch to 1/16 inch larger than bolt through wood member. Tighten to snug position. Use cut washer between nut or bolt head and wood.

G. Powder-Driven Connectors: Select size and type for full penetration into substrate without splitting connected wood members or fracturing substrate. Use washer under head to prevent over-driving.

3.09 SITE APPLIED WOOD TREATMENT

A. Apply preservative treatment compatible with factory applied treatment at site-sawn cuts, complying with manufacturer's instructions.

B. Allow preservative to dry prior to erecting members.

3.10 TOLERANCES

A. Framing Members: 1/4 inch in 10 feet from true position, maximum.

B. Variation from Plane (Other than Floors): 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

END OF SECTION

SECTION 06 2000
FINISH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Wood casings and moldings.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Support framing, grounds, and concealed blocking.

B. Section 08 1416 - Flush Wood Doors.

C. Section 09 9000 - Painting and Coating: Painting and finishing of finish carpentry items.

1.03 REFERENCE STANDARDS

A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2009.

1.04 QUALITY ASSURANCE

A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Protect work from moisture damage.

B. Protect material from discoloration due to uneven exposure to light.

PART 2 PRODUCTS

2.01 FINISH CARPENTRY ITEMS

A. Quality Grade: Unless otherwise indicated provide products of quality specified by AWI/AWMAC/WI Architectural Woodwork Standards for Economy Grade.

B. Surface Burning Characteristics: Provide materials having fire and smoke properties as required by applicable code.

2.02 WOOD-BASED COMPONENTS

A. Wood fabricated from old growth timber is not permitted.

2.03 LUMBER MATERIALS

A. Reuse of salvaged trim and lumber from the existing building demolition area is encouraged.

B. Softwood Lumber: Douglas Fir species, plain sawn, maximum moisture content of 6 percent; with vertical grain, of quality suitable for transparent finish.

C. Interior Painted Wood Trim: Douglas Fir, Hem-Fir, or Poplar species; PS 20, AWI Custom Grade; smooth sawn, mixed grain; maximum moisture content of 6 percent; suitable for painted finish.

1. Ease exposed edges with 1/16inch radius, unless otherwise shown.
2. Minimum lengths: Opening & Standing Trim: 1 piece, single length. Running Trim: Joints minimum 12 feet apart.
3. Extent of Work: As shown on Drawings, and/or as Scheduled.

2.04 ACCESSORIES

A. Wood Filler: Solvent base, tinted to match surface finish color.

2.05 FABRICATION

A. Shop assemble work for delivery to site, permitting passage through building openings.

B. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of backing and support framing.

B. Verify mechanical, electrical, and building items affecting work of this section are placed and ready to receive this work.

3.02 INSTALLATION

A. Provide trim materials matching appearance and quality of existing trim in conditions of similar use. Match adjacent trim of same type. Reuse existing trim.

B. Install work in accordance with AWI/AWMAC/WI Architectural Woodwork Standards requirements for grade indicated.

C. Set and secure materials and components in place, plumb and level.

D. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps.

E. Miter corners.

F. Use concealed fasteners wherever possible, unless noted otherwise on Drawings.

G. At fasteners installed through the exposed surface(s) of the trim, countersink and/or set fasteners low enough to accommodate wood plugs or wood filler.

H. Ease sharp external corners prior to finishing.

3.03 PREPARATION FOR SITE FINISHING

A. Set exposed fasteners. Apply wood filler in exposed fastener indentations less than 1/4 inch in diameter, and wood plugs in indentations 1/4 inch or greater. Sand work smooth.

3.04 TOLERANCES

A. Maximum Variation from True Position: 1/16 inch.

B. Maximum Offset from True Alignment with Abutting Materials: 1/32 inch.

END OF SECTION

SECTION 07 2100
THERMAL INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Batt insulation and vapor retarder in exterior wall construction.

B. Incidental batt insulation to fill uninsulated areas of existing framing exposed by demolition.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Supporting construction for batt insulation.

B. Section 07 2500 - Weather Barriers: Separate air barrier and vapor retarder materials.

C. Section 07 5100 - Built-Up Bituminous Roofing: Installation requirements for board insulation over low slope roof deck specified in this section.

D. Section 09 2116 - Gypsum Board Assemblies: Acoustic insulation inside walls and partitions.

1.03 REFERENCE STANDARDS

A. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2012.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2013a.

C. ASTM E136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace At 750 Degrees C; 2012.

1.04 FIELD CONDITIONS

A. Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.

PART 2 PRODUCTS

2.01 BATT INSULATION MATERIALS

A. Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit.
   1. Flame Spread Index: 25 or less, when tested in accordance with ASTM E84.
   2. Smoke Developed Index: 450 or less, when tested in accordance with ASTM E84.
   3. Combustibility: Non-combustible, when tested in accordance with ASTM E136, except for facing, if any.
   4. Formaldehyde Content: Zero.
   5. Facing: Unfaced.
   6. Manufacturers:
      a. CertainTeed Corporation: www.certainteed.com.
      b. Johns Manville Corporation: www.jm.com.
      c. Knauf Insulation GmbH: www.knaufinsulation.us.
      d. Owens Corning Corp: www.owenscorning.com.
   7. Substitutions: See Section 01 6000 - Product Requirements.
   8. Extent of Work and R-Value:
      a. Exterior Walls: R-Value as required to fill stud void. Provide insulation in walls modified to accommodate new storefront system and roof canopy structure.

2.02 INSULATION VAPOR RETARDERS

A. Batt Insulation Vapor Retarder: Polyimide film vapor retarder that changes permeance with change in humidity; Certainteed MemBrain, or approved.
   1. Vapor Retarder Class: Class II.
   2. Water Vapor Permeance:
      a. ASTM E 96, dry cup method: 1.0 perms (57ng/Pa*s*m2) or less.
      b. ASTM E 96, wet cup method: 10.0 perms (1144ng/Pa*s*m2) or greater.

3. Fire Hazard Classification: ASTM E 84:
   a. Maximum Flame Spread Index: 20.
   b. Maximum Smoke Developed Index: 55.
4. Extent: Over thermal batt insulation at all walls.
5. Manufacturers:
   a. Certainteed Corporation: www.certainteed.com.
   b. Substitutions: See Section 01 6000 - Product Requirements.

2.03 ACCESSORIES

A. Tape: Polyethylene self-adhering type, mesh reinforced, 2 inch wide, compatible with vapor retarder.

B. Nails or Staples: Steel wire; electroplated or galvanized; type and size to suit application.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation and adhesive.

3.02 BATT INSTALLATION

A. Install insulation and vapor retarder in accordance with manufacturer's instructions.

B. Install in exterior wall spaces without gaps or voids. Do not compress insulation.

C. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.

D. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation.

E. Install vapor retarder in continuous sheets over the inside face of all exterior wall surfaces and at bottom of batt ceiling insulation. Lap and seal sheet retarder joints over framing member face.

F. Tape seal tears or cuts in vapor retarder.

G. Extend vapor retarder tightly to full perimeter of adjacent window and door frames and other items interrupting the plane of the membrane. Tape seal in place.

3.03 PROTECTION

A. Do not permit installed insulation or vapor barriers to be damaged prior to its concealment.

END OF SECTION

SECTION 07 2500
WEATHER BARRIERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Air Barriers: Materials that form a system to stop passage of air through exterior walls, joints between exterior walls and roof, and joints around frames of openings in exterior walls.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Water-resistive barrier under exterior cladding.

B. Section 07 2100 - Thermal Insulation: Vapor retarder installed in conjunction with batt or blown insulation.

C. Section 07 6200 - Sheet Metal Flashing and Trim: Metal flashings installed in conjunction with weather barriers.

D. Section 07 9005 - Joint Sealers: Sealant materials and installation techniques.

1.03 DEFINITIONS

A. Weather Barrier: Assemblies that form either water-resistive barriers, air barriers, or vapor retarders.

B. Air Barrier: Air tight barrier made of material that is relatively air impermeable but water vapor permeable, both to the degree specified, with sealed seams and with sealed joints to adjacent surfaces. Note: For the purposes of this specification, vapor impermeable air barriers are classified as vapor retarders.

1.04 REFERENCE STANDARDS

A. AATCC Test Method 127 - Water Resistance: Hydrostatic Pressure Test; 2013.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2013a.

C. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials; 2013.

D. ASTM E2178 - Standard Test Method for Air Permeance of Building Materials; 2013.

1.05 SUBMITTALS

A. See Section 01 3300 - Submittal Procedures for submittal procedures.

B. Product Data: Provide data on material characteristics, performance criteria, and limitations.

C. Shop Drawings: Provide drawings of special joint conditions.

1.06 FIELD CONDITIONS

A. Maintain temperature and humidity recommended by the materials manufacturers before, during and after installation.

PART 2 PRODUCTS

2.01 WEATHER BARRIER ASSEMBLIES

A. Air Barrier:
   1. On outside surface of sheathing of exterior walls use air barrier sheet, mechanically fastened type.

2.02 AIR BARRIER MATERIALS (WATER VAPOR PERMEABLE AND WATER-RESISTIVE)

A. Air Barrier Sheet, Mechanically Fastened:
   1. Air Permeance: 0.004 cubic feet per minute per square foot, maximum, when tested in accordance with ASTM E2178.
   2. Water Vapor Permeance: 5 perms, minimum, when tested in accordance with ASTM E96/E96M Procedure A (desiccant method).
   3. Water Penetration Resistance: Withstand a water head of 21 inches, minimum, for minimum of 5 hours, when tested in accordance with AATCC 127.

4. Ultraviolet and Weathering Resistance: Approved in writing by manufacturer for minimum of 6 months weather exposure.
5. Surface Burning Characteristics: Flame spread index of 25 or less, smoke developed index of 50 or less, when tested in accordance with ASTM E84.
6. Products:
   a. DuPont Building Innovations; Tyvek CommercialWrap, Tyvek Wrap Caps, Tyvek Tape, and Tyvek Commercial Sealant: www.dupont.com.
   b. Substitutions: See Section 01 6000 - Product Requirements.

B. Air Barrier Membrane Assembly: Combination of air barrier material and accessories assembled to provide a complete, integrated assembly, tested for air leakage in accordance with ASST E2357.
1. Components: Includes Air Barrier Membrane, Transition Membranes, Flexible Flashings, Sealants, and other accessories required for complete air barrier system.
2. Assembly Air Permeance: 0.04 cubic feet per minute per square foot, maximum, when tested in accordance with ASTM E2357.
3. Performance: Provide an air barrier system constructed to perform as a continuous air barrier, and as a liquid water drainage plane flashed to discharge to the exterior any incidental condensation or water penetration. Membrane system shall accommodate movements of building materials b providing expansion and control joints as required, with accessory air sealant materials at such locations, changes in substrate, perimeter conditions, and penetrations.

2.03 SEALANTS

A. Type compatible with air barrier material and part of approved assembly.

2.04 ACCESSORIES

A. Opening flashings, sill flashings, through-wall flashings, and transition membranes: Type compatible with air barrier material and part of manufacturer's approved assembly.

B. Primers, Cleaners, and Sealants: As recommended by membrane manufacturer, appropriate to application, and compatible with adjacent materials.

C. Fasteners:
1. Wood Frame Construction: Similar to DuPont Tyvek® Wrap Caps: #4 nails with large 1-inch plastic cap fasteners, or 1-inch plastic cap staples with leg length sufficient to achieve a minimum penetration of 5/8-inch into the wood stud.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces and conditions are ready to accept the work of this section.

3.02 PREPARATION

A. Remove projections, protruding fasteners, and loose or foreign matter that might interfere with proper installation.

3.03 INSTALLATION

A. Install materials in accordance with manufacturer's instructions.

B. Air Barriers: Install continuous air tight barrier over surfaces indicated, with sealed seams and with sealed joints to adjacent surfaces.

C. Apply sealants and adhesives within recommended application temperature ranges. Consult manufacturer if temperature is out of this range.

3.04 FIELD QUALITY CONTROL

A. Do not cover installed weather barriers until required inspections have been completed.

B. Take digital photographs of each portion of the installation prior to covering up.

3.05 PROTECTION

A. Do not leave materials exposed to weather longer than recommended by manufacturer.

END OF SECTION

SECTION 07 4623

WOOD SIDING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Panel siding for Walls .

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Siding substrate.

B. Section 06 2000 - Finish Carpentry: Exterior wood trim at doors, corners, and bottom of siding..

C. Section 07 2500 - Weather Barriers: Weather barrier under siding.

D. Section 07 6200 - Sheet Metal Flashing and Trim: Product requirements for metal flashings and trim associated with wood siding for placement by this section.

E. Section 07 9005 - Joint Sealers: Sealant at perimeter.

F. Section 09 9000 - Painting and Coating: Prime and finish painting.

1.03 REFERENCE STANDARDS

A. APA B840 - 303 Siding Manufacturing Specifications; APA - The Engineered Wood Association; 2012.

1.04 SUBMITTALS

A. See Section 01 3300 - Submittal Procedures for submittal procedures.

B. Product Data: Provide data indicating materials, component profiles, fastening methods, jointing details, surface texture, finishes, and accessories.

C. Samples: Submit two samples 12 x 12 inch in size illustrating surface texture.

D. Samples: Submit two samples 12 x 12 inch in size to applicator of finish paint for use in preparation of finish samples.

1.05 QUALITY ASSURANCE

1.06 DELIVERY, STORAGE, AND HANDLING

PART 2 PRODUCTS

2.01 SIDING

A. Siding Panels: APA Rated Siding 303-6-S/W, Exterior exposure class, panel style.
   1. Panel Size: 48 x 96 inch size sheet, 19/32 inch thick.
   2. Span Rating: 16 inches o.c.
   3. Texture/Pattern: APA Texture 1-11. Smooth surface, no striations.
   4. Finish: Smooth

2.02 ACCESSORIES

A. Nails: Hot dipped galvanized type; non-staining, of size and strength to securely and rigidly retain the work .

B. Nails: Stainless steel, non-staining, of size and strength to securely and rigidly retain the work, without penetrating the air barrier.

C. Wood Screws: Stainless steel, #10 square drive.

D. Sealants: As specified in Section 07 9005.

E. Flashing: Galvanized steel as specified in Section 07 6200.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrates are ready to receive work.

B. Verify that weather barrier has been installed over substrate completely and correctly.

C. Do not begin until unacceptable conditions have been corrected.

D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Prime paint surfaces in contact with cementitious materials.

3.03 INSTALLATION

A. Install siding in accordance with manufacturer's instructions.

B. Discard pieces that are warped, twisted, bowed, crooked, or otherwise defective.

C. Fasten siding in place, level and plumb.
   1. Arrange for orderly nailing pattern. Blind nail except on over trim.
   2. Install siding for natural shed of water.
   3. Position cut ends over bearing surfaces. Sand cut edges smooth and clean.

D. Install corner strips.

E. Install metal flashings at locations shown on Drawings.

F. Sand work smooth and set exposed nails and screws.

G. Prepare for site finishing specified in Section 09 9000.

3.04 TOLERANCES

A. Maximum Variation From Plumb and Level: 1/4 inch per 10 feet.

B. Maximum Offset From Joint Alignment: 1/16 inch.

END OF SECTION

SECTION 07 5100
BUILT-UP BITUMINOUS ROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Built-up roofing membrane, Repairs and patching of existing conventional application.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Wood nailers and curbs.

B. Section 07 6200 - Sheet Metal Flashing and Trim: Counterflashings and parapet flashing.

1.03 REFERENCE STANDARDS

A. ASTM D41/D41M - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing; 2011.

B. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2009.

C. ASTM D312 - Standard Specification for Asphalt Used in Roofing; 2000 (Reapproved 2006).

D. ASTM D1863/D1863M - Standard Specification for Mineral Aggregate Used on Built-Up Roofs; 2005 (Reapproved 2011)e1.

E. ASTM D2178/D2178M - Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing; 2013a.

F. ASTM D3909/D3909M - Standard Specification for Asphalt Roll Roofing (Glass Felt) Surfaced with Mineral Granules; 1997b (Reapproved 2012)e1.

G. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007 (Reapproved 2012)e1.

H. ASTM D4601/D4601M - Standard Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing; 2004 (Reapproved 2012)e1.

I. ASTM D6380/D6380M - Standard Specification for Asphalt Roll Roofing (Organic Felt); 2003 (Reapproved 2013).

1.04 SUBMITTALS

A. See Section 01 3300 - Submittal Procedures for submittal procedures.

B. Product Data: Provide data indicating membrane and bitumen materials, base flashing materials, vapor retarder, and surfacing.

C. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver products in manufacturer's original containers, dry, undamaged, with seals and labels intact.

B. Store products in weather protected environment, clear of ground and moisture.

1.07 FIELD CONDITIONS

A. Do not apply roofing membrane during unsuitable weather.

B. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.

1.08 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

B. Correct defective Work within a two year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Sheet and Bitumen Materials:
   1. CertainTeed Corporation: www.certainteed.com.
   2. GAF: www.gaf.com.
   3. Johns Manville Corporation: www.jm.com.
   4. Substitutions: See Section 01 6000 - Product Requirements.

2.02 ROOFING - CONVENTIONAL APPLICATION

A. Built-up Bituminous Roofing: Asphalt felt membrane, cap sheet, three ply, with vapor retarder and insulation.

B. Materials suitable for repairs to existing roof after selective demolition. Provide mastic, membrane flashing, and cap sheet as needed to prevent water intrusion for 2 years during construction of Replacement School.

2.03 SHEET MATERIALS

A. Base Sheet: ASTM D4601/D4601M Type I; asphalt-coated glass fiber; unperforated.

B. Roofing Felt: ASTM D2178/D2178M; Asphalt-saturated glass fiber felt; standard duty.

C. Mineral Surface Cap Sheet: ASTM D3909/D3909M; Asphalt-saturated glass fiber roll roofing; white colored mineral granules.

D. Flexible Flashing Material: Modified bitumen, SBS type; conforming to the following:

2.04 BITUMINOUS MATERIALS

A. Bitumen: ASTM D312 Type I, asphalt.

B. Primer: ASTM D41/D41M, asphalt type.

C. Roof Cement: ASTM D4586/D4586M, Type I.

2.05 ACCESSORIES

A. Roofing Nails: Galvanized, hot dipped type, size and configuration as required to suit application.

PART 3 EXECUTION

3.01 WOOD DECK PREPARATION

A. Verify flatness and tightness of joints of wood decking. Fill knot holes with latex filler.

3.02 MEMBRANE APPLICATION

A. Equiviscous Temperature (EVT) at Point of Application: In accordance with NRCA recommendations.

B. Apply mineral surface cap sheet.

C. Apply membrane plies, weather lap edges and ends, and mop with 20 lb/square of bitumen per ply. Apply plies 2 on 2 in same direction.

D. Apply smooth, free from air pockets, wrinkles, fish-mouths, or tears.

E. At end of day's operation, install two plies membrane and bitumen glaze coat for cut-off. Glaze exposed felts. Remove cut-off before resuming roofing.

F. At intersections with vertical surfaces:
   1. Extend membrane and base sheet over cant strips and up a minimum of 4 inches onto vertical surfaces.
   2. Mop on base flashing of two additional plies of felt and one ply of base flashing material.

G. Around roof penetrations, mop in and seal flanges and flashings with two additional plies of felt.

H. Coordinate installation of roof drains and related flashings.

3.03 CLEANING

A. Remove bituminous markings from finished surfaces.

B. In areas where finished surfaces are soiled by bitumen or other source of soiling caused by work of this section, consult manufacturer of surfaces for cleaning advice and conform to their documented instructions.

C. Repair or replace defaced or damaged finishes caused by work of this section.

3.04 PROTECTION

A. Protect installed roofing and flashings from construction operations.

B. Where traffic must continue over finished roof membrane, protect surfaces using durable materials.

END OF SECTION

SECTION 07 6200

SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fabricated sheet metal items, including flashings, counterflashings, and gutters.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Wood nailers.

B. Section 07 4113 - Metal Roof Panels: Flashings associated with roofing system.

C. Section 07 5100 - Built up Roofing: Roofing system.

D. Section 07 9005 - Joint Sealers.

E. Section 09 9000 - Painting and Coating: Field painting.

1.03 REFERENCE STANDARDS

A. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels; 2013.

B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2013.

C. ASTM B32 - Standard Specification for Solder Metal; 2008.

D. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2009.

E. ASTM D4479/D4479M - Standard Specification for Asphalt Roof Coatings - Asbestos-Free; 2007 (Reapproved 2012)e1.

F. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007 (Reapproved 2012)e1.

G. SMACNA (ASMM) - Architectural Sheet Metal Manual; Sheet Metal and Air Conditioning Contractors' National Association; 2012.

1.04 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA Architectural Sheet Metal Manual requirements and standard details, except as otherwise indicated.

B. Fabricator and Installer Qualifications: Company specializing in sheet metal work with 5 years of documented successful experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

B. Prevent contact with materials that could cause discoloration or staining.

1.06 WARRANTY

A. Provide two year warranty under provisions of Section 01 7800.

B. Include material, installation, and repairs resulting from weather tightness failure.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

A. Galvanized Steel: ASTM A653/A653M, with G90/Z275 zinc coating; minimum 0.025 inch (24 ga) thick base metal.

B. Pre-Finished Galvanized Steel: ASTM A653/A653M, with G90/Z275 zinc coating; minimum 0.025 inch (24 ga) thick base metal, shop pre-coated with PVDF coating.

1. PVDF (Polyvinylidene Fluoride) Coating: Superior Performance Organic Finish, AAMA 2605; multiple coat, thermally cured fluoropolymer finish system.

2. Color: As scheduled.

2.02 ACCESSORIES

A. Fasteners: Stainless steel, with soft neoprene washers.

B. Underlayment: ASTM D226/D226M, organic roofing felt, Type I ("No. 15").

C. Slip Sheet: Rosin sized building paper.

D. Primer: Zinc chromate type.

E. Protective Backing Paint: Asphaltic mastic, ASTM D4479 Type I.

F. Sealant: Type as specified in Section 07 9005.

G. Plastic Cement: ASTM D4586, Type I.

H. Solder: ASTM B32; Sn50 (50/50) type.

I. Flux: Rosin, cut Muriatic Acid, or commercial preparation suitable for use.

2.03 FABRICATION

A. Form sections true to shape, accurate in size, square, and free from distortion or defects.

B. Fabricate cleats of same material as sheet, minimum 2 inches wide, interlocking with sheet.

C. Form pieces in longest possible lengths.

D. Hem exposed edges on underside 1/2 inch; miter and seam corners.

E. Form material with flat lock seams, except where otherwise indicated. At moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.

F. Fabricate corners from one piece with minimum 18 inch long legs; seam for rigidity, seal with sealant.

G. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.

H. Fabricate flashings to allow toe to extend 1 1/2 inches over roofing edge. Return and brake edges.

I. Fabricate new flashings to match existing for similar conditions of use.

2.04 GUTTER AND DOWNSPOUT FABRICATION

A. Gutters: Match profile of existing gutter

B. Downspouts: Round profile.

C. Accessories: Profiled to suit gutters and downspouts.
   1. Anchorage Devices: In accordance with SMACNA requirements.
   2. Gutter Supports: Brackets.
   3. Downspout Supports: Brackets.

D. Seal metal joints.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.

B. Verify roofing termination and base flashings are in place, sealed, and secure.

C. Verify that nailers and blocking are properly installed.

3.02 PREPARATION

A. Install starter and edge strips, and cleats before starting installation.

B. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil.

3.03 INSTALLATION

A. Conform to drawing details.

B. Install Work watertight, without waves, warps, buckles, tool marks, fastening stresses, distortion, or defects which impair strength of mar appearance.

C. Secure flashings in place using concealed fasteners. Use exposed fasteners only where permitted.

D. Apply plastic cement compound between metal flashings and felt flashings.

E. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.

F. Seal metal joints watertight.

G. Install planes and lines in true alignment. Allow for sheet metal expansion and contraction.

H. Copings:
   1. Install copings with continuous cleat on the exterior side, fastened at 16 inches on center. Use exposed fasteners with neoprene washers through elongated holes on the roof side, at 24 inches on center.

END OF SECTION

SECTION 07 9005

JOINT SEALERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Sealants and joint backing.

1.02 RELATED REQUIREMENTS

A. Section 07 2500 - Weather Barriers: Sealants required in conjunction with air barriers and vapor retarders

B. Section 07 4623 - Wood Siding

1.03 REFERENCE STANDARDS

A. ASTM C834 - Standard Specification for Latex Sealants; 2010.

B. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2014.

C. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2013.

D. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; current edition; www.aqmd.gov.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the work with other sections referencing this section.

1.05 FIELD CONDITIONS

A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

1.06 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

B. Correct defective work within a one year period after Date of Substantial Completion.

C. Warranty: Include coverage for installed sealants and accessories which fail to achieve airtight seal and watertight seal, exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Gunnable and Pourable Sealants:
   1. BASF Construction Chemicals-Building Systems: www.buildingsystems.basf.com.
   2. Bostik Inc: www.bostik-us.com.
   3. Dow Corning Corporation: www.dowcorning.com.
   4. Momentive Performance Materials, Inc (formerly GE Silicones): www.momentive.com.
   5. Pecora Corporation: www.pecora.com.
   6. Tremco Global Sealants: www.tremcosealants.com.
   7. Substitutions: See Section 01 6000 - Product Requirements.

2.02 SEALANTS

A. Sealants and Primers - General: Provide only products having lower volatile organic compound (VOC) content than required by South Coast Air Quality Management District Rule No.1168.

B. General Purpose Exterior Sealant: Polyurethane; ASTM C920, Grade NS, Class 25, Uses M, G, and A; single component.
   1. Color: Match adjacent finished surfaces.
   2. Product: Similar to NP2 manufactured by BASF Sonneborn or equal.
   3. Applications: Use for:
      a. Control, expansion, and soft joints in masonry.
      b. Joints between concrete and other materials.
      c. Joints between metal frames and other materials.

d. Other exterior joints for which no other sealant is indicated.

C. General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C834, Type OP, Grade NF single component, paintable.
1. Color: Match adjacent finished surfaces.
2. Product: Sonolac manufactured by Sonneborn or equal.
3. Applications: Use for:
a. Interior wall and ceiling control joints.
b. Joints between door and window frames and wall surfaces.
c. Other interior joints for which no other type of sealant is indicated.

2.03 ACCESSORIES

A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.

B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.

C. Joint Backing: Round foam rod compatible with sealant; ASTM D 1667, closed cell PVC; oversized 30 to 50 percent larger than joint width.

D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate surfaces are ready to receive work.

B. Verify that joint backing and release tapes are compatible with sealant.

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean and prime joints in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Protect elements surrounding the work of this section from damage or disfigurement.

3.03 INSTALLATION

A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Perform installation in accordance with ASTM C1193.

C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.

D. Install bond breaker where joint backing is not used.

E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.

F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.

G. Tool joints concave. Remove and replace sealant in joints improperly tooled.

3.04 CLEANING

A. Clean adjacent soiled surfaces.

3.05 PROTECTION

A. Protect sealants until cured.

END OF SECTION

SECTION 08 1416
FLUSH WOOD DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Relocation of existing wood doors and frames; flush configuration; non-rated.

1.02 RELATED REQUIREMENTS

A. Section 06 2000 - Finish Carpentry, reuse of existing wood frames.

B. Section 08 7100 - Door Hardware, reuse existing.

1.03 REFERENCE STANDARDS

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Protect doors with resilient packaging . Do not store in damp or wet areas; or in areas where sunlight might bleach veneer. Seal top and bottom edges if stored more than one week. Break seal on site to permit ventilation.

B. Protect existing/salvaged doors and frames from damage.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Wood Veneer Faced Doors:
   1. Existing wood doors and frames salvaged from demolition for reuse.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.02 INSTALLATION

A. Install doors and frames in a manner consistent with the quality level of existing doors and frames intended for similar use within the existing school.

B. Use machine tools to cut or drill for hardware.

C. Coordinate installation of doors with installation of frames and hardware.

D. Protect from damage during construction. Do not wedge open doors with any material that might cause the veneer to split or chip.

3.03 TOLERANCES

A. Conform to specified quality standard for fit and clearance tolerances.

B. Conform to specified quality standard for telegraphing, warp, and squareness.

3.04 ADJUSTING

A. Adjust doors for smooth and balanced door movement.

B. Adjust closers for full closure.

3.05 SCHEDULE - SEE DRAWINGS

END OF SECTION

SECTION 08 7100
DOOR HARDWARE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Reinstallation of existing door hardware

1.02 RELATED REQUIREMENTS

A. Section 08 1416 - Flush Wood Doors.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Visit site and examine existing hardware prior to demolition. Identify existing hardware of suitable type and condition for re-use. Remove hardware, clean and provide reasonable repairs, package label and store for reuse.

B. Coordinate the manufacture, fabrication, and installation of products onto which door hardware will be installed.

1.04 SUBMITTALS

A. See Section 01 3300 - Submittal Procedures, for submittal procedures.

B. Hardware Schedule: Detailed listing of each item of hardware to be installed on each door. Use door numbering scheme as included in the Contract Documents. Identify electrically operated items and include power requirements.

C. Keys: Deliver with identifying tags to Owner by security shipment direct from hardware supplier.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Package hardware items individually; label and identify each package with door opening code to match hardware schedule.

1.06 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

PART 2 PRODUCTS - RE-USE OF EXISTING

2.01 DOOR HARDWARE - GENERAL

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that doors and frames are ready to receive work; and dimensions are as indicated on shop drawings.

B. Verify that salvaged hardware is of appropriate type for reuse and in suitable condition.

3.02 INSTALLATION

A. Install for proper operation.

B. Mounting heights for hardware from finished floor to center line of hardware item:
   1. Match existing.

3.03 ADJUSTING

A. Adjust hardware for smooth operation.

B. Adjust gasketing for complete, continuous seal; replace if unable to make complete seal.

C. Test and adjust all Locks and Latches, including Lock Keyways for smooth and easy operation.

3.04 CLEANING

A. Clean adjacent surfaces soiled by hardware installation. Clean finished hardware per manufacturer's instructions after final adjustments has been made. Replace items that cannot be cleaned to manufacturer's level of finish quality at no additional cost.

3.05 PROTECTION

A. Protect finished Work under provisions of Section01 7700.

B. Do not permit adjacent work to damage hardware or finish.

END OF SECTION

SECTION 09 2116

GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Gypsum wallboard.

B. Joint treatment and accessories.

C. Textured finish system.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Building framing and sheathing.

B. Section 07 2500 - Weather Barriers: Water-resistive barrier over sheathing.

C. Section 09 9600 - Painting: PVA primer/sealer on gypsum board.

1.03 REFERENCE STANDARDS

A. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2012.

B. ASTM C514 - Standard Specification for Nails for the Application of Gypsum Board; 2004 (Reapproved 2009)e1.

C. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2013.

D. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2011.

E. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2007 (Reapproved 2013).

F. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base; 2010a.

G. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2013.

H. ASTM C1658/C1658M - Standard Specification for Glass Mat Gypsum Panels; 2013.

I. GA-216 - Application and Finishing of Gypsum Board; Gypsum Association; 2013.

J. OSSC - Oregon Structural Specialty Code; latest edition.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing gypsum board application and finishing, with minimum 5 years of documented experience.

PART 2 PRODUCTS

2.01 BOARD MATERIALS

A. Manufacturers - Gypsum-Based Board:
   1. American Gypsum: www.americangypsum.com.
   2. Celotex.
   3. CertainTeed Corporation: www.certainteed.com.
   4. Domtar Gypsum America, Inc.
   5. Georgia-Pacific Gypsum: www.gpgypsum.com.
   6. Lafarge North America Inc: www.lafargenorthamerica.com.
   7. National Gypsum Company: www.nationalgypsum.com.
   8. PABCO Gypsum: www.pabcogypsum.com.
   9. Temple-Inland Building Product by Georgia-Pacific, LLC: www.temple.com.
   10. USG Corporation: www.usg.com.
   11. Substitutions: See Section 01 6000 - Product Requirements.

B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Use for vertical surfaces, unless otherwise indicated.
   2. Glass mat faced gypsum panels as defined in ASTM C1658/C1658M, suitable for paint finish, of the same core type and thickness may be substituted for paper-faced board.
   3. Thickness:
      a. Vertical Surfaces: Match exisitng wall finish inch.

2.02 ACCESSORIES

A. Finishing Accessories: ASTM C1047, galvanized steel or rolled zinc, unless otherwise indicated.
   1. Types: As detailed or required for finished appearance.
   2. Special Shapes: In addition to conventional cornerbead and control joints, provide U-bead at exposed panel edges.

B. Joint Materials: ASTM C475 and as recommended by gypsum board manufacturer for project conditions.
   1. Tape: 2 inch wide, creased paper tape for joints and corners, except as otherwise indicated.
   2. Ready-mixed vinyl-based joint compound.

C. Textured Finish Materials: Latex-based compound; plain.

D. Screws for Attachment to Steel Members Less Than 0.03 inch In Thickness, to Wood Members, and to Gypsum Board: ASTM C1002; self-piercing tapping type; cadmium-plated for exterior locations.

E. Screws for Attachment to Steel Members From 0.033 to 0.112 inch in Thickness: ASTM C954; steel drill screws for application of gypsum board to loadbearing steel studs.

F. Nails for Attachment to Wood Members: ASTM C514.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

3.02 BOARD INSTALLATION

A. Comply with ASTM C 840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.

C. Installation on Wood Framing: For rated assemblies, comply with requirements of listing authority. For non-rated assemblies, install as follows:
   1. Single-Layer Applications: Screw attachment.

3.03 INSTALLATION OF TRIM AND ACCESSORIES

A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
   1. Not more than 30 feet apart on walls and ceilings over 50 feet long.

B. Corner Beads: Install at external corners, using longest practical lengths.

C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials and as indicated.

3.04 JOINT TREATMENT

A. Paper Faced Gypsum Board: Use paper joint tape, bedded with ready-mixed vinyl-based joint compound and finished with ready-mixed vinyl-based joint compound.

B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
   1. Match existing wall finish at former Break Room.
   2. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated below.

C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
   1. Feather coats of joint compound so that camber is maximum 1/32 inch.

3.05 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION

SECTION 09 9000

PAINTING AND COATING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints, stains, varnishes, and other coatings.

C. Provide coatings on new or relocated work. Paint areas damaged by work of this contract.

D. Do Not Paint or Finish the Following Items:
   1. Items fully factory-finished unless specifically so indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
   5. Non-metallic roofing and flashing.
   6. Stainless steel, anodized aluminum, bronze, terne, and lead items, unless otherwise indicated.
   7. Marble, granite, slate, and other natural stones.
   8. Floors, unless specifically so indicated.
   9. Ceramic and other tiles.
   10. Brick, architectural concrete, cast stone, integrally colored plaster and stucco.
   11. Exterior insulation and finish system (EIFS).
   12. Glass.
   13. Acoustical materials, unless specifically so indicated.
   14. Concealed pipes, ducts, and conduits.
   15. Existing painted surfaces not affected by the Work.

1.02 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

1.03 SUBMITTALS

A. See Section 01 3300 - Submittal Procedures for submittal procedures.

B. Product Data: Provide complete list of all products to be used, with the following information for each:
   1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
   2. MPI product number (e.g. MPI #47).
   3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
   4. Manufacturer's installation instructions.

C. Manufacturer's Instructions: Indicate special surface preparation procedures and substrate conditions requiring special attention.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

D. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction over project.

1.05 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.

B. Paints:
1. Glidden Professional: www.gliddenprofessional.com.
2. Benjamin Moore & Co: www.benjaminmoore.com.
3. Parker Paint Mfg Co Inc., a Comex Group company: www.parkerpaint.com.
4. PPG Architectural Finishes, Inc: www.ppgaf.com.
5. Pratt & Lambert Paints: www.prattandlambert.com.
6. Sherwin-Williams Company: www.sherwin-williams.com.

C. Primer Sealers: Same manufacturer as top coats.

D. Block Fillers: Same manufacturer as top coats.

E. Substitutions: See Section 01 6000 - Product Requirements.

2.02 PAINTS AND COATINGS - GENERAL

A. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.
1. Where MPI paint numbers are specified, provide products listed in Master Painters Institute Approved Product List, current edition available at www.paintinfo.com, for specified MPI categories, except as otherwise indicated.
2. Provide paints and coatings of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
3. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
4. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color.
5. Supply each coating material in quantity required to complete entire project's work from a single production run.
6. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.

B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.

C. Volatile Organic Compound (VOC) Content:
1. Provide coatings that comply with the most stringent requirements specified in the following:
   a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
   b. Architectural coatings VOC limits of State in which the project is located.
2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

D. Chemical Content: The following compounds are prohibited:
   1. Aromatic Compounds: In excess of 1.0 percent by weight of total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
   2. Acrolein, acrylonitrile, antimony, benzene, butyl benzyl phthalate, cadmium, di (2-ethylhexyl) phthalate, di-n-butyl phthalate, di-n-octyl phthalate, 1,2-dichlorobenzene, diethyl phthalate, dimethyl phthalate, ethylbenzene, formaldehyde, hexavalent chromium, isophorone, lead, mercury, methyl ethyl ketone, methyl isobutyl ketone, methylene chloride, naphthalene, toluene (methylbenzene), 1,1,1-trichloroethane, vinyl chloride.

E. Flammability: Comply with applicable code for surface burning characteristics.

F. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Architect from the manufacturer's full line.

G. Colors and Gloss: match existing colors of similar elements.
   1. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling they are mounted on/under.
   2. In utility areas, finish equipment, piping, conduit, and exposed duct work in colors according to the color coding scheme indicated.

2.03 PAINT SYSTEMS - EXTERIOR

A. Paint WE-OP-2L - Wood, Opaque, Latex, 2 Coat:
   1. One coat of latex primer sealer.
   2. Semi-gloss: One coat of latex enamel.

B. Ferrous Metals, Unprimed, 3 Coat:
   1. One coat of alkyd primer MPI #79.
   2. Semi-gloss: Two coats of latex enamel MPI #163.
   3. Note: For primed Structural Steel and/or Shop Fabricated Metals, omit primer from this assembly.

C. Galvanized Metals, Latex, 3 Coat:
   1. One coat galvanize primer MPI #34.
   2. Semi-gloss: Two coats of latex enamel MPI #163.

2.04 PAINT SYSTEMS - INTERIOR

A. Paint I-OP - All Interior Surfaces Indicated to be Painted, Unless Otherwise Indicated: Including gypsum board.
   1. Two top coats and one coat primer.
   2. Eggshell: MPI gloss level 3; use this sheen at all locations.
   3. Primer(s): As recommended by manufacturer of top coats.

B. Paint WI-OP-2L - Wood, Opaque, Latex, 2 Coat:
   1. One coat of latex primer sealer.
   2. Semi-Gloss: One coat of latex enamel.

C. Paint GI-OP-2LA - Gypsum Board/Plaster, Latex-Acrylic, 2 Coat:
   1. One coat of alkyd primer sealer.
   2. Semi-Gloss: One coat of latex-acrylic enamel.

2.05 ACCESSORY MATERIALS

A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required to achieve the finishes specified whether specifically indicated or not; commercial quality.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

D. Test shop-applied primer for compatibility with subsequent cover materials.

E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
   1. Interior Wood: 15 percent, measured in accordance with ASTM D4442.
   2. Exterior Wood: 15 percent, measured in accordance with ASTM D4442.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to coating application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

D. Seal surfaces that might cause bleed through or staining of topcoat.

E. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

F. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair.

G. Interior Wood Surfaces to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.

H. Exterior Wood Surfaces to Receive Opaque Finish: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior calking compound after prime coat has been applied. Back prime concealed surfaces before installation.

I. Wood Doors to be Field-Finished: Seal wood door top and bottom edge surfaces with clear sealer.

3.03 APPLICATION

A. Exterior Wood to Receive Opaque Finish: If final painting must be delayed more than 2 weeks after installation of woodwork, apply primer within 2 weeks and final coating within 4 weeks.

B. Apply products in accordance with manufacturer's instructions.

C. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

D. Apply each coat to uniform appearance.

E. Sand wood and metal surfaces lightly between coats to achieve required finish.

F. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

G. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.05 PROTECTION

A. Protect finished coatings until completion of project.

B. Touch-up damaged coatings after Substantial Completion.

3.06 SCHEDULE - COLORS

A. Colors to match existing color of nearest item of similar materials and type.

END OF SECTION

SECTION 31 2000
EARTH MOVING

PART 1 GENERAL

1.01 CONTRACT CONDITIONS

A. Work of this section is bound by the Contract Conditions and Division 1, bound herewith, in addition to this specification and accompanying drawings.

1.02 SECTION INCLUDES

A. Excavation and fills, including compaction, of on-site private building pad and pavement.

1.03 RELATED SECTIONS

A. Section 02 3200 - Geotechnical Investigations

B. Section 31 2333 - Trenching and Backfill

1.04 REFERENCED SPECIFICATIONS

A. ODOT Standard Specifications (latest revision).

1.05 REFERENCED DOCUMENTS

A. Geotechnical Report: Geotechnical Investigation and Seismic Hazard Study, Howard Elementary School, Eugene, Oregon, dated December 31, 2013.

B. All earthwork operations shall comply with the recommendations and requirements of the Geotechnical Report.

1.06 DEFINITIONS

A. Rock: Material that cannot be removed by one-yard shovel, by backhoe with 9,500 lb. digging force, by pick and shovel, or by 200 HP Crawler fitted with normal excavating equipment. Ripper attachment as might be hooked into seam is not considered "normal" excavating equipment.

B. Unstable Soil: Soft, loose, wet, or disturbed ground that is incapable of supporting material, equipment, personnel, or structure.

C. Wet Weather Conditions: Wet Weather Conditions apply to materials placed during dry weather but which are subsequently subjected to rainfall and equipment or construction traffic. The Contractor shall be responsible for the performance of the selected type of material.

1.07 SUBMITTALS

A. Comply with Section 01 3300, unless otherwise noted.

B. Product Data: Manufacturer's specifications and technical data including performance, construction, and manufacturing information.
   1. Submit for: Subgrade geotextile.

C. Samples: Submit 2 material sample(s) (2 quart minimum) of the following product for approval prior to delivery to site.
   1. Select Fill.
   2. Granular Site Fill (if Bar-Run is used).

D. Field Quality Control: Submittals as specified in Part 3 of this section.
   1. Field Tests.
   2. Special Inspections for Code Compliance.

E. Closeout Requirements: Comply with Section 01 7700 and Section 01 7800.
   1. Provide record documents.

1.08 QUALITY REQUIREMENTS

A. Manufacturer's Qualifications: Not less than 5 years experience in the actual production of specified products.

B. Installers Qualifications: Firm with not less than 5 years experience in installation of systems similar in complexity to those required for this project.

C. Product/Material Qualifications:
   1. Design Data: Compaction testing shall be in accordance with Section 01 4500, QUALITY CONTROL.
   2. Test Reports: Provide imported material gradation test reports. Provide material compaction test reports.

D. Regulatory Requirements:
   1. An erosion control permit is required. The Owner shall apply, pay for, and secure the permit. The contractor shall comply with the construction erosion control permit.
   2. Comply with 2008 Oregon Standard Specifications for Construction published by ODOT and the Oregon chapter of APWA and City of Eugene Amendment No. 1 for work within right-of-ways.

E. Observation and Inspection: Owner will retain a Geotechnical Engineer to monitor earthwork operations.

1.09 DELIVERY, STORAGE, AND HANDLING

A. Delivery, Storage and Protection: Comply with manufacturer's recommendations.
   1. Protect from damage by the elements and construction procedures.

1.10 ADVANCE NOTICES

A. Notify Engineer at least 48 hours before starting work of this section.

1.11 COORDINATION

A. Coordinate with other trades affecting or affected by work of this section.

PART 2 PRODUCTS

2.01 STABILIZATION FILL

A. Imported, clean, angular quarry rock, 3-inch or 6-inch minus material, open-gradation.

2.02 SELECT FILL

A. Shall consist of 1½”-0 or 3/4"-0, clean, well-graded, durable, crushed rock that is free of plastic clay, organic matter and construction debris and with no more than 5 percent by weight passing the No. 200 sieve.

2.03 GRANULAR SITE FILL

A. Shall consist of 3”-0, clean, well-graded, crushed (quarry) rock.

B. Bar-run gravel approved by the Geotechnical Engineer may be used if placed during dry weather.

2.04 SUBGRADE SEPARATION GEOTEXTILE

A. The Separation Geotextile shall have Mean Average Roll Value (MARV) strength properties meeting the requirements of an AASHTO M 288-06 Class 2 woven geotextile. The geotextile shall have MARV hydraulic properties meeting the requirements of AASHTO M 288-2006 (geotextile for separation) with a permitivity greater than 0.05 per $sec.^{-1}$ and an AOS less than 0.6 mm. This geotextile is not suitable for construction during wet weather.

PART 3 EXECUTION

3.01 EXISTING CONDITIONS

A. Prior to starting of the work of this section verify that existing grades and field conditions agree with drawings. Notify Engineer of deviations.

B. Do not start work of this section until all unsatisfactory conditions have been corrected. Commencing work implies acceptance of existing conditions.

C. If field measurements differ slightly from drawing dimensions, modify work as required for accurate fit. If measurements differ substantially, notify Engineer prior to starting work of this section.

3.02 PRECONSTRUCTION CONFERENCE

A. Hold a preconstruction conference with the Geotechnical Engineer, Owner's Representative and the earthwork subcontractor prior to beginning earthwork operations.

B. Comply with the recommendations of the Geotechnical Engineer.

3.03 PROTECTION

A. Monuments: Carefully maintain bench marks, monuments, and other reference points. If disturbed or destroyed, replace as directed.

B. Existing Utilities: Existing utilities shall be field located. Protect active utility lines encountered. Repair or replace utility lines damaged by work of this Section.

C. Pavement Cleaning: Maintain pavements and walkways clean at all times.

D. Dust Control: Protect persons and property against damage and discomfort caused by dust; water as necessary and when directed.

E. Other Work and Adjacent Property: Protect against damage caused by work of this section.

3.04 GENERAL REQUIREMENTS

A. Contractor shall perform all excavation necessary or required for proper construction of the work and placement or installation of materials.

B. Cutting Pavements: Cut vertical, straight-line joints using power saw designed for cutting pavements.

C. Line and Grade: Excavate to lines and grades shown on the drawings or as established by the Engineer.

D. Shoring: Shore excavations when necessary to prevent caving during excavation in unstable material, or to protect adjacent structures, property, workers, and the public or as required by local, state, or federal agencies. Shoring shall be removed, as the backfilling is done, in a manner that does not damage work or permit voids in the backfill. It shall be the sole responsibility of the Contractor to see that safety requirements are met.

E. Temporary stockpiling of Excavated Materials: Excavated materials may be placed in approved areas. Do not obstruct roadways, bikeways, or pedestrian walkways. Conform to all federal, state and local codes governing the safe loading of excavated materials adjacent to excavations.

F. Excess Excavation: Where excavation, through the Contractor's error, is carried to levels lower than those shown on drawings, backfill with specified bedding material to proper levels at Contractor's expense.

G. Drainage: Except as otherwise permitted, excavation shall be done in a manner as to provide for adequate drainage. In excavation where gravity drainage is not practical, the Contractor shall provide pumps and accessories with which to remove and dispose of all water, including but not limited to, surface water from rainfall entering the excavations, as required to accomplish the work and as required by governing jurisdictions.

H. Backfilling shall not commence until after excavations have been inspected. Backfill shall be placed in such a manner as not to disturb, damage, or subject such facilities to unbalanced loads or forces. Make fills as soon as feasible after Engineer's review and acceptance.

I. If rock or unstable soil are encountered, notify Engineer. Removal of rock or unstable soil will be paid for as an addition to the contract.

3.05 GEOTEXTILE PLACEMENT

A. Acquisition and Storage: Provide complete rolls of geotextile as furnished by the manufacturer, and protect against damage and deterioration. Store all geotextile rolls in a dry place and off the ground at all times according to ASTM D4873 (latest revision). Cover all rolls and partial

rolls with a dark protective covering when received. The geotextile will be rejected for use if the Engineer determines it has defects, deterioration, or has been damaged.

B. Surface Preparation: Prepare the surface receiving the geotextile to a smooth condition free of obstructions, depressions, and debris unless otherwise directed. Do not drag the geotextile on the ground or mishandle it in any way.

C. Loosely place the geotextile without wrinkles so placement of the overlying material will not tear the geotextile. Lap or sew the geotextile at the ends and sides of adjoining sheets as specified.

D. On Slopes: Place the geotextile with the machine direction oriented up-down the slope. Lap the upper sheets over the top of the lower sheets. When the geotextile is placed on a slope steeper than 6:1, securely anchor the laps to the ground surface with pins or stakes as necessary to prevent slippage and tearing of the geotextile. Start placement of fill material on the geotextile at the toe of the slope and proceed upwards.

E. Overlap: Minimum overlap shall be 24 inches.

F. If the Engineer determines the specified overlap is not sufficient, increase the overlap to provide adequate coverage or sew the geotextile together in the field. If field-sewn, the provisions of ODOT 00350.20 and 00350.41(a-3) apply.

G. Protection of Geotextile: Protect the geotextile at all times from ultraviolet (UV) rays, contamination by surface runoff, and construction activities.

H. Traffic or construction equipment will not be permitted directly on the geotextile except as authorized by the Engineer. When placed for construction, cover the geotextile with specified cover material as soon as possible.

I. Place cover material on the geotextile in a manner that the geotextile is not torn, punctured, or shifted. Use a minimum 6-inch-thick cover layer or twice the maximum aggregate size, whichever is thicker. End-dumping cover material directly on the geotextile will not be permitted.

J. Limit construction vehicles in size and weight so rutting in the initial layer above the geotextile is not more than three inches deep or one half the layer thickness, whichever is less. Turning of vehicles on the first layer will not be permitted.

K. Repair of Geotextile: Repair or replace all torn, punctured, or contaminated geotextiles during construction at no cost to the Owner. Repair by placing a patch of the specified geotextile over the affected area. Where geotextile seams are required to be sewn, repair any damaged sheet by sewing unless otherwise indicated on the plans or special provisions or as directed.

3.06 CLEARING AND GRUBBING

A. Clear and grub site in all areas to receive improvements. Clearing shall be the removal of all brush, grass, shrubs, trees, weeds, rubbish, structures, pavements, and debris flush with or slightly below original ground surface. Remove willow and blackberry, if any, to not less than 12 inches below original ground surface. Grubbing shall be the removal of all stumps and roots larger than 1-1/2 inches in diameter, rocks larger than 6 inches, and existing structures to 4 inches below existing grade.

B. Dispose of all cleared and grubbed materials off site.

3.07 EXCAVATION AND FILLS AT PEDESTRIAN PAVEMENT AREAS (DRY WEATHER)

A. Strip the existing ground approximately 4 inches or as required to remove roots, sod or other existing demolition debris. Stripping depth to be confirmed by the Geotechnical Engineer. Remove strippings from site.

B. Excavate any additional existing material to the grades required on the drawings. Remove any additional excavated material from site.

C. Use Select Fill to raise the grade to the bottom of the pavement section elevation. Place fill in 12-inch maximum loose lifts and compact to a minimum density of 95 percent relative compaction, per a maximum dry density of ASTM D698 (latest revision) at an optimum

moisture content of ±2 percent. Fill that cannot be tested shall be compacted to the approval of the Engineer and Geotechnical Engineer.

D. Place Crushed Rock Pavement Base. Place base material in 12-inch maximum loose lifts and compact to a minimum density of 95 percent relative compaction, per a maximum dry density of ASTM D698 (latest revision) at an optimum moisture content of ±2 percent.

3.08 EXCAVATION AND FILLS AT BUILDING AREAS (DRY WEATHER)

A. Strip the existing ground approximately 4 inches or as required to remove roots, sod or other existing demolition debris. Stripping depth to be confirmed by the Geotechnical Engineer. Remove strippings from site.

B. Excavate the existing native material in the one test pits indicated on the drawings under the direction of the Engineer and Geotechnical Engineer. Remove material from site. Fill the test pits with Granular Site Fill or Select Fill. Place fill in 12-inch maximum loose lifts and compact to a minimum density of 95 percent relative compaction, per a maximum dry density of ASTM D698 (latest revision) at an optimum moisture content of ±2 percent. Fill that cannot be tested shall be compacted to the approval of the Engineer and Geotechnical Engineer.

C. Excavate any additional existing material to the grades required on the drawings. Remove any additional excavated material from site.

D. Over excavate any unsuitable fill or other deleterious material as directed by the Engineer and Geotechnical Engineer. Overexcavation will be paid for as an addition to the contract. Overexcavated material shall be removed from site. Use Select Fill or Granular Site Fill to fill the voids left after overexcavation. Place fill in 12-inch maximum loose lifts and compact to a minimum density of 95 percent relative compaction, per a maximum dry density of ASTM D698 (latest revision) at an optimum moisture content of ±2 percent. Fill that cannot be tested shall be compacted to the approval of the Engineer and Geotechnical Engineer.

E. Building Pad Preparation:
   1. Proof-roll the completed subgrade with a vehicle approved by the Geotechnical Engineer. Scarify and moisture condition the subgrade to a depth of 12-inches and compact the subgrade to a depth of 12-inches where soft soils are present.
      a. The Contactor may over-excavate the soft soil and replace with Select Fill or Granular Site Fill in lieu of scarifying and moisture conditioning the subgrade at the contractor's cost. The final excavation for areas requiring the removal of soft soil shall be done with a hoe equipped with a smooth bucket. The depth of over-excavation and backfill shall be directed by Geotechnical Engineer.
   2. Place subgrade geotextile over entire subgrade.
   3. Use Granular Site Fill or Select Fill to raise the grade to 12" below top of building pad. Place fill in 12-inch maximum loose lifts and compact to a minimum density of 95 percent relative compaction, per a maximum dry density of ASTM D698 (latest revision) at an optimum moisture content of ±2 percent. Fill that cannot be tested shall be compacted to the approval of the Engineer and Geotechnical Engineer.
   4. Place Select Fill to provide a 12-inch thick building pad. Top of pad shall be 12 inches below finished floor elevation. Place fill in 12-inch maximum loose lifts and compact to a minimum density of 95 percent relative compaction, per a maximum dry density of ASTM D1557 (latest revision) at an optimum moisture content of ±3 percent. It shall be the contractor's responsibility to maintain and repair the building slab base after initial testing and approval.

F. Foundation Preparation:
   1. Scarify and moisture condition the subgrade to a depth of 12-inches and compact the subgrade to a depth of 12-inches where soft soils are present.
      a. The Contactor may over-excavate the soft soil and replace with Select Fill or Granular Site Fill in lieu of scarifying and moisture conditioning the subgrade at the contractor's cost. The final excavation for areas requiring the removal of soft soil shall be done with a hoe equipped with a smooth bucket. The depth of over-excavation and backfill shall be directed by Geotechnical Engineer.

2. Building foundations shall be supported on a minimum 12 inches of Select Fill. The Select Fill shall extend horizontally on all sides of the footing a minimum distance equal to one-half the depth of the fill. Place Separation Geotextile in the footing locations at the direction of the Geotechnical Engineer.
3. Place fill in 12-inch maximum loose lifts and compact to a minimum density of 95 percent relative compaction, per a maximum dry density of ASTM D698 (latest revision) at an optimum moisture content of ±2 percent.
4. It shall be the Contractor's responsibility to maintain and repair the building foundation fills after initial testing and approval.

3.09 GRADING

A. Perform all earthwork to the lines and grades shown on the drawings. Shape and finish slopes to conform to the lines, grades, and cross sections as shown or approved by the Engineer. Provide positive drainage away from buildings and sidewalks.

3.10 MAINTENANCE OF EARTHWORK

A. Contractor shall maintain all earthwork surfaces until all work has been completed and accepted. Such maintenance shall include, but not be limited to, addition of appropriate backfill material to keep backfilled surface smooth, free from ruts and potholes, and suitable for traffic flow.

3.11 DISPOSAL OF WASTE MATERIAL AND EXCESS EXCAVATION

A. Remove from site excess material that is unsuitable for backfilling or stockpiling at the Contractor's expense.

3.12 SETTLEMENT

A. Any settlement in earthwork which occurs during the warranty period and is attributable to construction procedures, such as improper removal of shoring or insufficient compaction, shall be corrected by the Contractor at his own expense. Any piping or facilities damaged by such settlement shall be restored to their original condition at the Contractor's expense.

3.13 FIELD QUALITY CONTROL

A. Refer to Section 01 4500 for responsibilities for arranging, supervising, and payment of field quality control requirements.

B. Field Tests:
   1. Subgrade compaction testing.
   2. Material compaction testing.
   3. Imported material gradation testing.

C. Field Inspections: Notify Engineer prior to work of this section.

D. Special Inspections for Code Compliance: Obtain building inspector approvals.

3.14 CLEANING

A. Upon completion of the work of this section promptly remove from the working area all scraps, debris, and surplus material.

3.15 PROTECTION

A. Protect all work installed under this section.

B. Replace at no additional cost to Owner, any damaged work of this Section.

END OF SECTION

SECTION 31 2500

EROSION AND SEDIMENT CONTROL

PART 1 GENERAL

1.01 CONTRACT CONDITIONS

A. Work of this section is bound by the Contract Conditions and Division 1, bound herewith, in addition to this specification and accompanying drawings.

1.02 SECTION INCLUDES

A. Prevention of erosion due to construction activities.

B. Prevention of sedimentation of storm and sanitary sewers due to construction activities.

C. Restoration of areas eroded due to insufficient preventative measures.

D. Compensation of owner fines levied by authorities having jurisdiction due to non-compliance by contractor.

1.03 RELATED SECTIONS

A. Section 02 3200 - Geotechnical Investigations

B. Section 31 2000 - Earth Moving

1.04 REFERENCED SPECIFICATIONS

A. ODOT Standard Specifications (current edition).

1.05 SUBMITTALS

A. Comply with Section 01 3300, unless otherwise noted.

B. Product Data: Manufacturer's specifications and technical data including performance, construction, and manufacturing information.
   1. Submit for: Inlet protection products.

C. Closeout Requirements: Comply with Section 01 7700 and Section 01 7800.

1.06 QUALITY REQUIREMENTS

A. All measures indicated in this specification may not be required. Contractor responsible for implementing erosion and sediment controls adequate to comply with permit requirements.

B. Manufacturer's Qualifications: Not less than 5 years experience in the actual production of specified products.

C. Installers Qualifications: Firm with not less than 5 years experience in installation of systems similar in complexity to those required for this project.

D. Regulatory Requirements:
   1. Do not begin clearing, grading, or other work involving disturbance of ground surface cover until applicable permits have been obtained.
   2. An erosion control permit is required from the City of Eugene. The Owner shall apply, pay for, and secure the permit. The contractor shall comply with the construction erosion control permit.
   3. Owner will withhold payment to Contractor equivalent to all fines resulting from non-compliance with applicable regulations.
   4. Action Plan: Contractor shall prepare and submit an Action Plan when Erosion and Sediment Control Measures are modified after permit registration is approved. The Action Plan shall identify revisions made to the approved Erosion and Sediment Control Plan, and shall identify corrective actions taken to cease the discharge of sediment into surface waters or stormwater systems. The Action Plan shall be prepared in accordance with the *1200-C Construction Stormwater Permit Registration Guidance* document published by Oregon DEQ in June 2006. An Action Plan shall be required under the following circumstances:

a. Emergency Situations: Emergency change in erosion control measures due to emergency situations, where immediate corrective action is required to cease the discharge of significant amounts of sediment from entering surface waters or nearby properties. In emergency situations, contractor shall take immediate action to correct the stormwater discharge. Contractor shall submit action plan to City of Eugene within 10 calendar days of the discharge identifying the corrective actions taken to cease the discharge.
b. Non-Emergency Changes Made Once Project is Underway: Submit Action Plan for changes in the project design affecting stormwater discharges, local conditions, project schedule, weather conditions, or other appropriate reasons. Action Plan shall be required for changes to the Erosion and Sediment Control Measures identified in the Drawings, their location, maintenance required, and any other revisions necessary to prevent and control erosion and sediment runoff. Contractor shall submit action plan to City of Eugene at least 10 calendar days before implementing the revisions.

5. Comply with 2008 Oregon Standard Specifications for Construction published by ODOT and the Oregon chapter of APWA and City of Eugene Amendment No. 1 for work within rights-of-way.

E. Stormwater Runoff: Control increased stormwater runoff due to disturbance of surface cover due to construction activities for this project.
1. Prevent runoff into storm sewer systems, including open drainage channels, in excess of actual capacity or amount allowed by authorities having jurisdiction, whichever is less.
2. Anticipate runoff volume due to the most extreme short term and 24-hour rainfall events that might occur in 25 years.

F. Erosion On Site: Minimize wind, water, and vehicular erosion of soil on project site due to construction activities for this project.
1. Control movement of sediment and soil from temporary stockpiles of soil.
2. Prevent development of ruts due to equipment and vehicular traffic.
3. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner.

G. Erosion Off Site: Prevent erosion of soil and deposition of sediment on other properties caused by water leaving the project site due to construction activities for this project.
1. Prevent windblown soil from leaving the project site.
2. Prevent tracking of mud onto public roads outside site.
3. Prevent mud and sediment from flowing onto sidewalks and pavements.
4. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner.

H. Sedimentation of Waterways On Site: Prevent sedimentation of waterways on the project site, including rivers, streams, lakes, ponds, open drainage ways and storm sewers.
1. If sedimentation occurs, install or correct preventive measures immediately at no cost to Owner; remove deposited sediments and relocate on site; comply with requirements of authorities having jurisdiction.

I. Sedimentation of Waterways Off Site: Prevent sedimentation of waterways off the project site, including rivers, streams, lakes, ponds, open drainage ways, storm sewers, and sanitary sewers.
1. If sedimentation occurs, install or correct preventive measures immediately at no cost to Owner; remove deposited sediments and relocate on site; comply with requirements of authorities having jurisdiction.

J. Open Water: Prevent standing water that could become stagnant.

K. Monitoring and Inspection:
1. Contractor shall be responsible for monitoring the construction erosion control measures and shall make adjustments to measures, in accordance with the drawings and permit, to accommodate changes in earthwork operations and weather conditions.

2. Contractor shall be responsible for appointing an Erosion Control Inspector. Inspector shall be a person knowledgeable in the principles and practice of erosion and sediment controls, who possesses the skills to assess conditions at the construction site that could impact stormwater quality, is knowledgeable in the correct installation of the erosion and sediment controls, and is able to assess the effectiveness of any sediment and erosion control measures selected to control the quality of stormwater discharges from the construction activity. Erosion Control Inspector shall submit periodic inspection reports as noted on the Drawings.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Delivery, Storage and Protection: Comply with manufacturer's recommendations.
   1. Protect from damage by the elements and construction procedures.

1.08 ADVANCE NOTICES

A. Notify Engineer at least 48 hours before starting work of this section.

1.09 COORDINATION

A. Coordinate with other trades affecting or affected by work of this section.

PART 2 PRODUCTS

2.01 BARK/MULCH BIO BERM

A. The compost filter berm material consists of compost or a blend of compost and mulch materials according to the specifications as follows.

B. The filter berm material shall meet particle sizing specifications that when used in a filter berm system are tested in conformance with the outlined methods and scope of ASTM D6459 (latest revision), standard test method for determination of Erosion Controlled Blanket (ECB) Performance in Protecting Hill Slopes from Rainfall Erosion.

C. The compost portion of the filter berm shall be derived from well-decomposed organic matter source produced by controlled aerobic (biological) decomposition that has been sanitized through the generation of heat and stabilized to the point that it is appropriate for this particular application. Compost material shall be processed through proper thermophilic composting, meeting the U.S. Environmental Protection Agency's definition for a 'process to further reduce pathogens' (PFRP). The compost portion shall meet the chemical, physical and biological properties outlined below.
   1. The pH shall be between 5.0 and 8.5 for berms to receive vegetation.
   2. Nitrogen Content: 0.5 - 2.0%.
   3. Soluble Salts: Maximum 5 mmhos/cm.
   4. Compost shall be weed and pesticide free, with manmade materials comprising less than 1%.

2.02 SEDIMENT FENCE

A. Sediment Fence Fabric: Polypropylene geotextile resistant to common soil chemicals, mildew, and insects; non-biodegradable; in longest lengths possible; fabric including seams with the following minimum average roll lengths.

B. Apparent Opening Size: 30 U.S. Std. Sieve, maximum, when tested in accordance with ASTM D4751 (latest revision).

C. Permittivity: 0.05 sec^{-1}, minimum, when tested in accordance with ASTM D4491 (latest revision).

D. Ultraviolet Resistance: Retaining at least 70 percent of tensile strength, when tested in accordance with ASTM D4355 (latest revision) after 500 hours exposure.

E. Grab Tensile Strength-Supported: 100 lb-f, minimum, in cross-machine direction; 120 lb-f, minimum, in machine direction; when tested in accordance with ASTM D4632 (latest revision).

F. Grab Tensile Strength-Unsupported: 90 lb-f, minimum, in cross-machine direction; 100 lb-f, minimum, in machine direction; when tested in accordance with ASTM D4632 (latest revision).

G. Color: Manufacturer's standard, with embedment and fastener lines preprinted.

H. Manufacturers:
   1. BP Amoco, Amoco Fabrics and Fibers; www.geotextile.com.
   2. TC Mirafi; www.tcmirafi.com.
   3. Synthetic Industries; www.fixsoil.com.

2.03 BIO-FILTER BAGS

A. Provide minimum size 18" x 6" x 30" plastic mesh bags with 1/2 inch openings filled with approximately 45 pounds of clean, 100% recycled wood-product waste.

2.04 CATCH BASIN INSERT BAG / CURB INLET SEDIMENT DAM

A. Provide prefabricated filter inserts manufactured specifically for collecting sediment in drainage inlets. Include handles and/or fasteners sufficient to keep the insert from falling into the inlet during maintenance and removal of the insert from the inlet. Insert bags shall be included on the Oregon Qualified Products List (QPL) for Type 3 Inlet Protection, or approved. Curb Inlet Sediment Dams shall be included on the Oregon QPL for Type 6 Inlet Protection, or approved.

2.05 STRAW MULCH COVER

A. Straw mulch for non-hydroseeding applications from bentgrass, bluegrass, fescue or ryegrass, singly or in combination. If grass seed straw is not available within a reasonable distance of the project, straw from barley, oat or wheat may be allowed upon approval of the Agency. Provide straw that is not moldy, caked, decayed, or of otherwise low quality. Submit certification from the supplier that the straw is free of noxious weed seeds or plant parts. Acceptable documentation will show either (1) that the straw source is from an "Oregon Certified Seed" field, or (2) the seed lab test results of the seed harvested from the straw meet minimum Oregon Certified Seed quality for weed seed content. Use a straw binder or tackifier.

2.06 SUBGRADE GEOTEXTILE

A. Subgrade geotextile shall meet the requirements of Section 02 3200, Geotechnical Investigations, and Section 31 2000, Earth Moving.

PART 3 EXECUTION

3.01 EXISTING CONDITIONS

A. Examine site and identify existing features that contribute to erosion resistance; maintain such existing features to greatest extent possible.

B. Do not start work of this section until all unsatisfactory conditions have been corrected. Commencing work implies acceptance of existing conditions.

C. If field measurements differ slightly from drawing dimensions, modify work as required for accurate fit. If measurements differ substantially, notify Engineer prior to starting work of this section.

3.02 INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES

A. Install as shown on drawings, or as directed by Engineer, Erosion and Sediment Control Inspector, or Local Authority Having Jurisdiction. All measures included in this specification or details shown on Drawings may not be necessary. Contractor to utilize measures, as needed, to meet the requirements of erosion control permit(s) and the intent of this specification.

3.03 PROTECTION

A. Monuments: Carefully maintain bench marks, monuments, and other reference points. If disturbed or destroyed, replace as directed.

B. Existing Utilities: Existing utilities shall be field located. Protect active utility lines encountered. Repair or replace utility lines damaged by work of this Section.

C. Pavement Cleaning: Maintain pavements and walkways clean at all times.

D. Dust Control: Protect persons and property against damage and discomfort caused by dust; water as necessary and when directed.

E. Other Work and Adjacent Property: Protect against damage caused by work of this section.

3.04 FIELD QUALITY CONTROL

A. Refer to Section 01 4500 for responsibilities for arranging, supervising, and payment of field quality control requirements.

B. Special Inspections for Code Compliance:
   1. Obtain building approvals from Local Authority Having Jurisdiction.
   2. Provide periodic inspection reports as noted on the Drawings.

3.05 MAINTENANCE

A. Maintain temporary measures until permanent measures have been established.

B. Repair deficiencies immediately.

3.06 CLEANING

A. Remove temporary measures after permanent measures have been installed, unless permitted to remain by Engineer.

B. Clean out temporary sediment control structures that are to remain as permanent measures.

C. Where removal of temporary measures would leave exposed soil, shape surface to an acceptable grade and finish to match adjacent ground surfaces.

3.07 PROTECTION

A. Protect all work installed under this section.

B. Replace at no additional cost to Owner, any damaged work of this Section.

END OF SECTION

SECTION 32 1200
FLEXIBLE PAVING

PART 1 GENERAL

1.01 CONTRACT CONDITIONS

A. Work of this Section is bound by the Contract Conditions and Division 1, bound herewith, in addition to this specification and accompanying drawings.

1.02 SECTION INCLUDES

A. Asphaltic concrete pavements and crushed rock pavement base for on-site private improvements.

1.03 WORK INCLUDED BUT SPECIFIED IN OTHER SECTIONS

A. Section 31 2000 – Earth Moving

1.04 REFERENCED SPECIFICATIONS

A. 2008 Oregon Standard Specifications for Construction, HMAC Pavement Reference, Section 00744.

1.05 SUBMITTALS

A. Comply with Section 01 3300, unless otherwise indicated.

B. Product Data: Manufacturer's specifications and technical data including performance, construction, and fabrication information.
   1. Submit for job mix formulas (JMF).

C. Field Quality Control submittals as specified in Part 3 of this Section:
   1. Field Tests.

D. Closeout Requirements: Comply with Section 01 7700 and Section 01 7800.
   1. Special warranties
   2. Provide record documents.

1.06 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Not less than 5 years experience in the actual production of specified products.

B. Installer's Qualifications: Firm with not less than 5 years experience in installation of systems similar in complexity to those required for this project.

C. Pre-installation Conference: Contractor, installer, Engineer, and representatives of other affected trades shall meet at site to review paving operations, acceptance of substrata surfaces, and coordination with other trades.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Delivery, Storage and Protection: Comply with manufacturer's recommendations.
   1. Protect materials and maintain product temperature during delivery.

1.08 SPECIAL WARRANTIES

A. Contractor shall warrant installed pavement for a period of 2 years from date of Substantial Completion. When notified in writing from Owner, they shall promptly and without inconvenience and cost to Owner correct said deficiencies to comply with requirements.

1.09 COORDINATION

A. Coordinate with other trades affecting or affected by work of this section.

1.10 ADVANCE NOTICES

A. Notify Engineer at least 48 hours before starting work of this section at each site.

PART 2 PRODUCTS

2.01 CRUSHED ROCK PAVEMENT BASE

A. Under Dense Graded HMAC Mixture: Imported Clean 3/4"-0 or 1-1/2"-0 dense graded crushed rock or crushed gravel, free of foreign material and meeting the requirements of ODOT Standard Specifications (current edition) 02630, Base Aggregate.

2.02 HOT MIXED ASPHALT CONCRETE (HMAC)

A. Asphalt Mixture: The asphalt concrete mixture shall be a well-graded, uniform coated, durable mix of the mix type(s) as shown on the plans or approved by the Engineer.

BROADBAND LIMITS
DENSE GRADED MIXTURE

Sieve Size Passing	Percentage of Total Aggregate (by weight) 1/2" Dense	Percentage of Total Aggregate (by weight) 3/4" Dense
1"	--	99-100
3/4"	99-100	92-100
1/2"	90-100	75-91
1/4"	52-80	50-70
No. 10	21-46	21-41
No. 40	8-25	6-24
No. 200	3-8	2-7
Asphalt Cement	4-8	4-8

Asphalt Cement (Binder): Per Oregon Standard Specifications for Construction, (current edition). Use PG (Performance Grade) 64-22 for base and wearing courses.

B. Aggregate for Base Course Mix: Per Oregon Standard Specifications for Construction (current edition).

C. Aggregate for Wearing Course (Top Lift of HMAC) Mix: Per Oregon Standard Specifications for Construction (current edition).

D. Fine Aggregate: Per Oregon Standard Specifications for Construction (current edition).

E. Mineral Filler: Finely ground particles of limestone, hydrated lime, or other mineral dust, free of foreign matter.

F. Asphalt Tack Coat: Type CSS-1, CSS-1h, CMS-2, CMS-2S, CMS-2h, CRS-2, HFRS-2 or HFMS-2 emulsified asphalt (EA) conforming to Standard Specifications for Highway Construction (current edition).

G. Reclaimed Asphalt Pavement (RAP) Material: Shall not exceed 30% in the new pavement. Rap material not permitted in Level 4 HMAC pavement, in accordance with Standard Specifications for Highway Construction (current edition). Asphalt mixtures including RAP to meet all normal specification and Oregon Standard Specifications for Construction (current edition) requirements.

2.03 JOB MIX FORMULA (JMF)

A. Mix Formula: The Contractor shall submit a JMF for each mixture to be used on the project and meeting the Level 2 criteria of Oregon Standard Specifications for Construction, Current Edition.

B. The Contractor shall supply the job mix design to the Engineer ten (10) work days prior to production. The job mix formula shall be no more than five (5) years old.

C. Approval: No paving shall occur until the Contractor receives written approval of the Contractor's job mix formula.

2.04 HMAC ACCEPTANCE

A. The mixture will be accepted by visual inspection of the Engineer. If the mixture is considered suspect, the Contractor shall obtain samples under the observation of the Engineer and tested as per Oregon Standard Specifications for Construction, Current Edition (section 00744.16).

Testing shall be performed by an independent testing agency paid for by the Contractor. Contractor to be reimbursed by Owner if testing shows HMAC is within the specified limits and tolerances.

2.05 HMAC PRODUCTION QUALITY CONTROL/ASSURANCE

A. As specified for Level 2 HMAC in the Oregon Standard Specifications for Construction, Current Edition. Submit the appropriate documentation/reports to Engineer for review.

2.06 MODIFICATION OF MIXES

A. Modification: The Engineer reserves the right to modify specified mixes for use under various traffic conditions on various segments of the work and for feathering, spot patching, and other special purposes. The Contractor shall provide mixes proportioned as directed by the Engineer for such purposes.

PART 3 EXECUTION

3.01 EXISTING CONDITIONS

A. Prior to starting of the work of the section verify that existing grades and field conditions agree with drawings. Notify Engineer of deviations.

B. Do not start work of this section until all unsatisfactory conditions have been corrected. Commencing work implies acceptance of existing conditions.

C. If field measurements differ slightly from drawing dimensions, modify work as required for accurate fit. If measurements differ substantially, notify Engineer prior to starting work of this section.

3.02 WEATHER LIMITATIONS

A. Surface Temperature: Asphalt concrete shall be placed on a dry prepared surface when the surface temperature is not less than specified below.

Nominal Specified Compacted Thickness of Individual Courses	
2" to 2-1/2"	50°F
2-1/2" and over	40°F

B. Weather: Asphalt concrete shall not be placed during rain or other adverse weather conditions. However, if approved by the Engineer, the mix in transit at the time the adverse conditions occur may be laid if the mix has been covered during transit and is at the specified temperature, if the foundation is free from pools or flow of water, and if all other requirements of these specifications are met. Asphalt concrete mixtures shall not be placed when the foundation is frozen or when, in the opinion of the Engineer, existing or expected weather conditions will prevent the proper handling, finishing, or compaction of the mixtures. Dense mixes shall only be placed from 3/15 – 9/30.

C. Ambient Temperature Caution: The Contractor is cautioned that placing asphalt concrete on cool days when the temperature is less than 60°F may require an adjustment in Contractor's normal placing and compaction procedures so that specified minimum compaction requirements will be met. The temperatures shown in the table in this section are not recommended temperatures for paving, but paving may be allowed at these temperatures on the condition that specified pavement compaction is achieved.

3.03 ASPHALT CONCRETE PAVING MACHINE

A. Pavers: Pavers shall be self-contained, power-propelled units with an activated screed or strike-off assembly, heated if necessary, and capable of spreading and finishing layers of asphalt concrete material to the widths thicknesses, lines, grades, and cross sections required.

3.04 COMPACTORS

A. Rollers: Rollers shall be steel wheel, pneumatic tire, vibratory or a combination of these types. They shall be in good condition and capable of reversing without backlash.

3.05 PREPARATION OF FOUNDATION

A. Bases: All bases and foundations on which the pavement is to be constructed shall meet the applicable specifications and be approved prior to the start of paving. Existing bases and foundations shall be reconditioned as specified or directed.

B. Edges: Broken or ragged edges of existing paved surfaces underlying or abutting the new pavement shall be trimmed back to firm material. Surfaces against which asphalt concrete is to be placed shall be treated with an asphalt tack coat.

C. Tack Coat: Prior to placing each lift of asphalt concrete, tack coat asphalt shall be applied to completely cover all cold longitudinal joint and all prepared existing asphalt and portland cement concrete surfaces. Immediately before applying the tack coat, the surface to be tacked shall be clean and dry. The application rate shall be between 0.05 and 0.20 gallons per square yard of surface area to achieve uniform, thorough coverage and as approved by the Engineer. Emulsified asphalt temperature to be between 140 and 185°F and application to be in accordance with manufacturer's recommendations.

3.06 CRUSHED ROCK PAVEMENT BASE PLACEMENT

A. Placement and compaction shall conform to the requirements of Section 31 2000, Earth Moving.

3.07 PLACING ASPHALT PAVEMENT - SINGLE COURSE

A. Place asphalt within 24 hours of applying tack coat. Do not place HMAC pavement on the tack coat until the asphalt separates from the water (breaks), but before it loses its tackiness.

B. Place up to 3 inch compacted thickness in one lift.

C. Install drainage covers and frames in correct position and elevation.

D. Compact pavement by rolling. Do not displace or extrude pavement from position. Use hand-operated compacting equipment in areas inaccessible to rolling equipment.

E. Develop rolling with consecutive passes to achieve even and smooth finish, without roller marks.

3.08 CONTROL OF LINE AND GRADE

A. Line and Grade: The Contractor shall furnish, place, and maintain supports, wires, devices, and materials as necessary to provide continuous line and grade reference control to the automatic paver control system on either or both sides of the paving machine.

3.09 HAULING, DEPOSITING AND PLACING

A. Hauling: Cover HMAC if rain or cold air temperatures are encountered any time between loading and placement. Engineer may reject material compromised (below specified temperature, slumping or separating, solidifying or crusting). Rejected loads will be disposed of off-site at the Contractor’s expense.

B. Depositing: Material shall be deposited from vehicles to prevent segregation.

C. Placing: Do not place material during rain or other adverse weather conditions, unless allowed by Engineer. Material placed in adverse conditions is to meet all normal contract specification requirements. Material in transit at the time adverse conditions occur may be placed if it has been covered during transport, it is placed in areas free of standing or flowing water, temperature and all other requirements are met.

3.10 TEMPERATURE CONTROL

A. Temperature of Mixture:
   1. The temperature of the mixture at the time it is placed in final position shall be within 10 degrees of 280°F. The Engineer may adjust the lay-down temperature in 10-degree increments to attain maximum workability and compaction. In no case shall the lay-down temperature of mixture be less than 240°F.

3.11 COMPACTION

A. Rolling: Immediately after the asphalt concrete mixture has been spread, struck off and surface irregularities and other defects remedied, it shall be thoroughly and uniformly rolled until the mixture is compacted. Complete breakdown and intermediate compaction before the mix temperature drops below 180°F.

B. General:
   1. The type, number, and weight of rollers shall be sufficient to compact the mixture while it is still within the specified temperature range. Rollers shall not be operated in vibratory mode when the temperature of the mixture has dropped below 180 degrees.
   2. Steel roller wheels shall be moistened with water or other approved material to the least extent necessary to prevent pickup of mixture and not cause spotting or defacement of the surface of the mixture.
   3. Rollers shall be operated at speeds recommended by the roller manufacturer and slow enough to avoid displacement of the mixture. The maximum speeds shall be 3 miles per hour for steel-wheeled rollers and pneumatic-tired rollers, unless faster speeds are approved.
   4. Care shall be exercised not to displace the line and grade of edges. Displacement of any course occurring as a result of the reversing of the direction of a roller, or from other causes, shall be corrected at once by the use of approved rakes and addition of fresh mixture when required.
   5. Any mixture that becomes loose and broken, contaminated, segregated, or is in any way defective, shall be removed and replaced with new mixture at no expense to the Owner.
   6. Finish rolling shall continue until all roller marks are eliminated.
   7. Along curbs and walls, on walks, irregular areas, and other areas not practicably accessible to specified rollers, the mixture shall be compacted with approved self-propelled rollers, mechanical tampers, hot hand tampers, or heavy hand rollers. On depressed areas, a trench roller may be used or cleated compression strips may be used under the roller to transmit compression to the depressed area.

C. Density Requirements:
   1. The Contractor is responsible for process control and shall conduct sampling, testing, measurement and inspection. The contractor shall provide daily nuclear density testing (ODOT Test Method 310C-87) to develop rolling patterns necessary to achieve the minimum compaction requirement of 91 percent as determined by Rice Density Test AASHTO T 209 as modified by ODOT TM 306. This is in addition to Owner's testing as necessary to ensure the finished pavement meets specifications. A copy of all compaction test reports shall be provided to the Engineer. Contractor to immediately take corrective measures when it is determined that specified compaction density is not achieved. If specified compaction density cannot be achieved the Contractor shall remove and replace the defective asphalt areas at the Contractor’s expense. The Owner has the option of accepting these areas with a reduced payment to the Contractor.
   2. Asphalt compaction below 88 percent as determined by Rice Density Test AASHTO T 209 as modified by ODOT TM 306 is not acceptable.
   3. The Architect will determine the suitability of the final product through final acceptance testing. Results of these tests will be used to determine payment deductions, if any to be assessed against the Contract. The final density of each paving project location will be determined by averaging the results of a minimum of five (5) density tests taken with a nuclear gauge (ODOT TM 310C-87) at randomly selected locations within each paving project.
   4. Paving in areas 6 feet wide or less and irregular areas not accessible by large rollers are not subject to the minimum compaction per (2) above.
   5. The Owner shall take acceptance tests to verify that the work meets specifications.

3.12 PAVEMENT SMOOTHNESS

A. Utility Structures: The joint between the pavement and the top surface of utility structures, such as manhole covers and valve boxes located in the traveled way, shall meet the pavement surface tolerances.

B. Tolerance: The surface of the finished pavement shall be within 0.02 foot of the specified line, grade, and cross section.

C. Texture: The completed surface of all courses of the mixture shall closely parallel that specified for the top surface of the finished pavement and shall be smooth, uniform on texture and conform to the specified crown and grade.

D. Job control testing shall be performed with a 10 foot straightedge furnished and operated by the Contractor. The Engineer may observe this testing, or the Engineer may require additional testing to be performed under the Engineer's supervision. Operations to eliminate the unacceptable pavement shall be corrected by the Contractor using a method or methods listed below and approved by the Engineer.

E. Roughness: When tests show the pavement is not within the above tolerances, the Contractor shall take immediate action to correct equipment or procedures in the paving operations to eliminate the unacceptable pavement roughness.

F. Method of Correction: Any surface irregularities exceeding the above tolerances shall be corrected by the Contractor using a method or methods listed below and approved by the Engineer.

3.13 FIELD QUALITY CONTROL

A. Refer to Section 01 4500 for responsibilities for arranging, supervising, and payment of field quality control requirements.

B. Field Tests:
   1. Base rock compaction testing.
   2. Asphaltic concrete pavement compaction testing.
   3. Asphaltic concrete pavement gradation testing.

C. Field Inspections: Notify Engineer prior to paving operations.

3.14 CORRECTIVE ACTION

A. Corrective Measures: The Engineer shall require one or more of the following corrective measure be performed on the deficient areas:
   1. Remove and replace the surface course.
   2. Place an overlay of a thickness approved by the Engineer.
   3. Grind the pavement surface utilizing diamond blades up to a maximum depth of 0.3 inch and apply an emulsion fog coat as directed by the Engineer.

B. Additional Corrective Work: After completion of the corrective work, if the Engineer finds it is still not satisfactory, the Contractor shall perform additional corrective work on areas still not meeting the above tolerances.

C. Expense: All corrective work, including furnishing of materials, shall be performed at the Contractor's expense and no adjustment in contract time will be made for corrective action work.

D. Localized Surface Irregularities: Where surface irregularities are localized or where the Engineer determines corrective work would not be in the Owner's best interests, the Engineer may deduct from payment due the Contractor amounts equivalent to the Engineer's estimate of work costs had the corrective work been done.

3.15 STRUCTURE ADJUSTMENT

A. Prior to placement of wearing course, locate and adjust to finished pavement grade all catch basins and other structures and appurtenances within the pavement area.

3.16 CLEANING

A. Trim and remove excess asphalt concrete accumulations from abutting structures such as curbs, manholes, catch basins, and other structure.

B. Including work of other sections, clean, repair and touch-up, or replace when directed, products which have been soiled, discolored, or damaged by work of this section. Remove excess spilled material and debris from project site upon work completion or sooner, if directed.

C. Upon completion of the work of this section promptly remove from the working area all scraps, debris, and surplus material.

3.17 PROTECTION

A. In addition to other required provisions for traffic, the following shall apply to pavement construction: No traffic or equipment shall come in contact with the compacted mixture until it has cooled and set sufficiently to prevent marking; edges shall be protected from being broken down; and edge drop-off(s) one inch or more in height shall be marked with approved reflectorized and/or flashing warning devices visible by day and night to the traveling public, and placed at spacings as specified by the Engineer.

B. Protect all work installed under this section.

C. Replace at no additional cost to Owner, any damaged work of this section.

END OF SECTION