SOUTH EUGENE HIGH SCHOOL
TENNIS COURT RELOCATION

• • •

EUGENE SCHOOL DISTRICT 4J
EUGENE, OREGON
C.I.P. # 410.566.001

SEPTEMBER 3rd, 2014

EUGENE SCHOOL DISTRICT 4J • 715 WEST 4TH AVENUE
EUGENE, OREGON 97402

PROJECT MANUAL No._____

CAMERON MCCARTHY LANDSCAPE ARCHITECTURE AND PLANNING LLP
160 EAST BROADWAY, EUGENE, OREGON 97401 (541) 485-7385 • FAX (541) 485-7389

DOCUMENT 00 01 01
TITLE PAGE

PROJECT MANUAL:

South Eugene High School
Tennis Court Relocation

Eugene Public School District 4J
Eugene, Oregon
C.I.P. Project No. 410.566.001

OWNER:
Eugene School District 4J
715 West 4th Ave.
Eugene, Oregon 97402
CONTACT:
Project Manager, Kirk Gebb
(541) 790-7417 Office
(541) 790-7420 FAX
Email: Gebb@4j.lane.edu

LANDSCAPE ARCHITECT:
Cameron McCarthy Landscape Architecture and Planning LLP
160 E. Broadway
Eugene, OR 97401
Project Landscape Architect: Larry Gilbert
Email: Larry@cameronmccarthy.com
(541) 485-7385 Office
(541) 485-7389 FAX

CIVIL ENGINEER:
KPFF Consulting Engineers
1201 Oak Street, Suite 100
Eugene, OR 97401
Project Engineer: Matthew Keenan P.E
(541) 684-4902 Office
(541) 684-4909 FAX

STRUCTURAL ENGINEER:
KPFF Consulting Engineers
1201 Oak Street, Suite 100
Eugene, OR 97401
Project Engineer: Mark Tobin, S.E.
(541) 684-4902 Office
(541) 684-4909 FAX

DATE: September 3, 2014

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South Eugene High School Tennis Court Relocation
C.I.P. Project No. 410.566.001
September 3rd, 2014

The following is a list of all Divisions, Sections, and Drawings included in the Project Manual

DOCUMENT 00 11 13
INVITATION TO BID

Sealed bids will be received by Kathi Hernandez, Facilities Management Assistant, for the South Eugene High School Tennis Court Relocation project on Tuesday, September 16, 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 is described as South Eugene High School Tennis Court Relocation including concrete paving, asphalt paving, fencing, tennis court furnishings, shot put improvements, and lawn repair.

Beginning Wednesday, September 3, 2014, Prime Bidders, 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.

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
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 97302
Willamette Valley Bid Center, 33862 SE Eastgate Circle, Corvallis, OR 97333
Or, the office of the office of Cameron McCarthy Landscape Architecture and Planning LLP

It shall be the responsibility of all Prime Bidders, Sub-bidders, and Suppliers to obtain Bidding Documents and any and all Addenda from the hyperlink.

A non-mandatory pre-bid conference and walk-through has been scheduled for Monday, September 8 , 2014 at 10:00 am. The location of the conference will be at the South Eugene High School, 1997 Amazon Parkway, Eugene, Oregon 97405, at the south end of the track facility along 24th Avenue. 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 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.

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:	September 3, 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 97402

DOCUMENT 00 21 13
INSTRUCTIONS TO BIDDERS

PART 1 GENERAL

STANDARD FORM

Instructions to Bidders - AIA Document A701, 1997 Edition. Copies are available for review at the office of Facilities Management, School District 4J or online at http://documentsondemand.aia.org/

END OF DOCUMENT 00 21 13

DOCUMENT 00 22 13
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 Bidders are required to attend any mandatory pre-bid conferences or tours as stated in the Advertisement for Bids. Bidders not attending this pre-bid conference and tour shall be disqualified from bidding. Bidders will be required to sign in at the project site prior to the conference or tour.

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:

2.1.5The 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.

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 a 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 Where asbestos abatement is required, Contractor or appropriate subcontractor shall be licensed by the Department of Environmental Quality to perform "asbestos abatement work", per OAR 340-248-0120, Adopted 1/25/90, and meet requirements of AHERA as specified in the Federal Register, 40 CFR part 763. Bidder shall submit evidence of licensing to Owner.

1.5 ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

A. 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.

B. 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 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 31 00
AVAILABLE PROJECT INFORMATION

PART 1 GENERAL

1.01 EXISTING CONDITIONS

A. Geotechnical Report: Geotechnical Investigation by Foundation Engineering, Inc., dated July 16, 2014. Included at the end of the Project Manual.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

DOCUMENT 00 41 13
BID FORM

BID FOR:	South Eugene High School Tennis Court Relocation	CIP Number 410.566.001	
Submitted to:	Facilities Management Eugene School District 4J 715 West Fourth Avenue Eugene, Oregon 97402	Bid Deadline:	2:00 PM September 16, 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 price indicated below with completion occurring on or prior to the dates indicated:

BASE BID

Bid: _____ $ _____
(Words) (Figures)

The undersigned agrees, if awarded the Contract, to substantially complete all Base Bid work on or before the dates specified in Section 01 11 00.

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, expect 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 _____, 20

_____
(Notary Public for Oregon)

My Commission Expires: _____

END OF BID FORM

DOCUMENT 00 45 22
FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM

PROJECT: South Eugene High School Tennis Court Relocation
CIP NUMBER: 410.566.001

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

BID SUBMISSION DEADLINE:
Date: September 16th, 2014
Time: **2:00 PM**

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

DOCUMENT 00 52 13

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. Copies are available for review at the office of Facilities Management, School District 4J or online at http://documentsondemand.aia.org/

END OF DOCUMENT 00 52 13

DOCUMENT 00 72 13
GENERAL CONDITIONS

PART 1 GENERAL

STANDARD FORM

General Conditions of the Contract for Construction AIA Document A-201, 2007 edition. Copies are available for review at the office of Facilities Management, School District 4J or online at http://documentsondemand.aia.org/

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

DOCUMENT 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 Kirk Gebb (541-790-7417), 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 5 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.

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:

   Cameron McCarthy Landscape Architecture and Planning LLP
   160 E. Broadway
   Eugene, OR 97401
   Phone (541) 485-7385

A. 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:	$100 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 net 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 1.25. 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 $500.00 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 $3,000,000 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.

.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. 11.4 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:

Kirk Gebb
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.

C. 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 BOLI 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

DOCUMENT 00 73 43

PREVAILING WAGE RATES

PART 1 GENERAL

The Prevailing Wage Rates dated July 1, 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 11 00
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: Project consists of tennis court relocation including concrete paving, asphalt paving, fencing, tennis court furnishings, shot put improvements, and lawn repair.

1. Project Location: South Eugene High School, 1997 Amazon Parkway, Eugene, Oregon, 97405.
2. Owner: Eugene School District 4J, 715 West Fourth Avenue, Eugene, OR 97402.

B. Landscape Architect Identification: Cameron McCarthy Landscape Architecture and Planning LLP; 160 E. Broadway, Eugene Oregon 97401

C. Project Manager: Kirk Gebb has been appointed by Owner to serve as Project Coordinator.

1.03 CONTRACT

A. Project will be constructed under a general construction contract.

1. South Eugene High School Tennis Court Relocation; CIP NO. 410.566.001.

1.04 WORK SEQUENCE

A. Do not commence Work until after execution of Agreement and receipt of Notice-to-Proceed from Owner and until September 22, 2014.

B. Perform work in order to achieve Substantial Completion by November 15, 2014.

C. Achieve Final Completion within seven (7) days following the date of Substantial Completion.

1.05 USE OF PREMISES

A. Work Area Access: 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 site.

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: Utilize space within project limit.

E. Contractor Staging Areas: Limit staging to areas indicated on Drawings.

F. Construction Operations: Limited to areas adjacent to work.

1.06 FUTURE WORK

A. None.

1.07 PRODUCTS ORDERED IN ADVANCE

A. None

1.08 OWNER-FURNISHED CONTRACTOR INSTALLED PRODUCTS

A. Discus cage.

1.09 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 when an unsecured work area is vacated.
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. POTENTIALLY HAZARDOUE 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.

G. ASBESTOS CONTAINING MATERIALS WARNING

1. 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.
2. 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.

1.10 PART 2 PRODUCTS (Not Used)

1.11 PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 01 25 00

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 11 13 “Supplementary Conditions” for allowable percentages for Contractors’ Overhead and Profit.
4. Division 1 Section 01 33 00 “Submittal Procedures” for Schedule of Values requirements.
5. Division 1 Section 01 60 00 "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.
6. 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 (CONSTRUCTION CHANGE DIRECTIVE)

A. Architect or Owner may issue a Change Request/Proceed Order on form included at end of Part 3.

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 Section 3.

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

3.01 Use attached form.

END OF SECTION

CHANGE REQUEST/PROCEED ORDER

1992-2017 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 29 00
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 32 00 "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.
3. 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.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 31 00
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

3.01 See sample pre-construction conference agenda on next page.

END OF SECTION

PRECONSTRUCTION CONFERENCE AGENDA (SAMPLE)

Eugene School District 4J
South Eugene High School Tennis Court Relocation
CIP NO. 410.566.001

Date: _____

AGENDA

1. ( ) Introduction of Persons Present
   - ( ) District 4J
   - ( ) Consultants
   - ( ) Contractor (including job foreman)
   - ( ) Subcontractors

2. ( ) Availability of Contract Documents

3. ( ) Building Permit Status
   - ( ) Plan check and Building Permit paid by District
   - ( ) Pick up Permit at City of Eugene by Contractor
   - ( ) Location of site stored approved contract documents
   - ( ) Utility permits
   - ( ) LRAPA Permit

4. ( ) Prevailing Wage Requirements
   - ( ) Submittal schedule
   - ( ) Conformance with requirements

5. ( ) Communications
   - ( ) Notification of problems

6. ( ) Role of District's representative
   - ( ) Limits of authority
   - ( ) Visitation schedules

7. ( ) Work Description and Schedule
   - ( ) General work description
   - ( ) Proposed start date: _____
   - ( ) Proposed completion date: _____
   - ( ) Proposed project schedule and phasing
   - ( ) Progress schedule updates
   - ( ) Methods to be employed to maintain schedule
   - ( ) Work requiring Shop Drawings or submittals shall not commence until review is complete.

8. ( ) Submittals Required per Contract Documents
   - ( ) MSDS Information
   - ( ) Written proof of Asbestos Worker Certification
   - ( ) Name, Experience and Qualifications of Asbestos Supervisor
   - ( ) Copy of Contractor's Asbestos Abatement License
   - ( ) Other information as required by Section 01 31 00.
   - ( ) Schedule of values

( ) List of subcontractors including name of contact person, telephone number, and address

9. ( ) Construction
   - ( ) Working hours
   - ( ) Use of premises/set up locations
   - ( ) Protection of existing facilities
   - ( ) Traffic and protection
   - ( ) Excavation and clean-up
   - ( ) Weather restrictions
   - ( ) Deviation from details and/or specifications

10. ( ) Correction of Defects
    - ( ) Daily and/or as observed

11. ( ) Weekly On-Site Progress Meetings
    - ( ) Establish day and time: Day _____Time _____
    - ( ) Provide updated project schedules
    - ( ) Discuss project progress, problems, etc.
    - ( ) Review applications for payment
    - ( ) Required attendance
    - ( ) Observation report distribution

12. ( ) Change Order Requests and Change Order Procedures
    - ( ) Written Change Order requests required
    - ( ) Supporting back-up will be required for all Change Orders
    - ( ) Mark-up limitations on Change Orders
      - ( ) Contractor - 15 percent
      - ( ) Subcontractors - 10 percent
    - ( ) Progressive requests and Change Orders
    - ( ) Processing time required

13. ( ) Applications for Payment
    - ( ) Use AIA documents G702 and G703 latest edition
    - ( ) Provide 5 signed and notarized copies
    - ( ) Wage certifications to be attached

14. ( ) Safety and Emergency Procedures

15. ( ) Clean-up Daily
    - ( ) Project completion

16. ( ) Project Closeout
    - ( ) Inspections for
      - ( ) Air Clearance
      - ( ) AHERA Close Out Requirements
      - ( ) Substantial completion
        - ( ) Contractor provided list of items to be completed
        - ( ) Inspection with job foreman
      - ( ) Final Acceptance
        - ( ) Written notice from Contractor that all work is done and ready for inspection
        - ( ) Inspection with job foreman
    - ( ) Responsibility for cost of additional inspections
    - ( ) Submittals for Closeout

( ) Final application for payment
( ) Final set of wage certifications
( ) Release of liens from all Subcontractors and general Contractor

17. ( ) Tour of Project Sites to Examine and Document Existing Conditions

18. ( ) 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:

SECTION 01 32 00

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, GENERAL

A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Final Completion.

B. Activities: Treat each floor or separate area as a separately numbered activity for each principal element of the Work

C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

D. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Division 1 Section 01 11 00 "Summary of Work." Delivery dates indicated stipulate the earliest possible delivery date.

E. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Division 1 Section 01 11 00 "Summary of Work." Delivery dates indicated stipulate the earliest possible delivery date.

F. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion.

G. Cost Correlation: At the head of schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests.

2.03 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Submit preliminary horizontal bar-chart-type construction schedule within 10 days of date established for the Notice to Proceed.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

PART 3 EXECUTION

3.01 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At two week 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 33 00
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 that requires Architect's responsive action.

B. Informational Submittals: Written information that does not require Architect's responsive action. Submittals may be rejected for not complying with requirements.

1.04 SUBMITTAL PROCEDURES

A. 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.

B. 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.

C. 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.

D. 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.

E. Deviations: Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals.

F. 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.

G. 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 “No exception Taken.”

H. 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.

I. Use for Construction: Use only final submittals with mark indicating "No exception Taken" taken by Architect.

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. Compliance with specified referenced standards.
    g. Testing by recognized testing agency.
    h. Application of testing agency labels and seals.
    i. Notation of coordination requirements.
    j. 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. Schedules.
    d. Design calculations.
    e. Compliance with specified standards.
    f. Notation of coordination requirements.
    g. Notation of dimensions established by field measurement.
    h. Relationship to adjoining construction clearly indicated.
    i. 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.

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:

1. No Exception Taken
2. Make correction Notes
3. Revise and Resubmit
4. Not Required for Review
5. Submit Noted Items

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 40 00
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.

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:

B. <List Special Inspections Here>

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 50 00
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. 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.

2.02 TEMPORARY FACILITIES

A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

B. Common-Use Field Office: Of sufficient size to accommodate needs of construction personnel. Keep office clean and orderly. Furnish and equip offices as follows:

1. Furniture required for Project-site documents including file cabinets, plan tables, plan racks, and bookcases.
2. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F (20 to 22 deg C).
3. Lighting fixtures capable of maintaining average illumination of 20 fc (215 lx) at desk height.

C. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

1. Store combustible materials apart from building.

2.03 EQUIPMENT

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

B. Heating Equipment: Unless Owner authorizes use of permanent heating system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.

1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
2. Heating Units: Listed and labeled for type of fuel being consumed, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

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. Water Service: Use of Owner's existing water service facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

C. 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.

D. 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. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
   3. Install lighting for Project identification sign.

E. Telephone Service: 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: Provide dust-control treatment that is nonpolluting and nontracking.

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.

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. 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 Erosion Control Section 31 25 00 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. Tree and Plant Protection: Comply with requirements specified in Temporary Tree and Plant Protection Section 01 56 39.

E. 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.

F. 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.

G. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

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.

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 56 39
TEMPORARY TREE AND PLANT PROTECTION

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Protection of existing trees from damage.

1.02 RELATED SECTIONS
A. Section 02 41 00 - Demolition
B. Section 31 23 00 - Earthwork
C. Section 32 80 00 Irrigation.
D. Section 32 90 00 Planting.

1.03 DEFINITIONS
A. Designated Trees: Existing Trees to Remain as indicated on Drawings.
B. Critical Root Zone (CRZ): The CRZ for trees 4 inches in caliper or smaller shall be an area with a radius at least 5 feet from the trunk. The CRZ for trees over 4 inches in caliper shall be an area with a radius of at least 1 foot 6 inches from the trunk for every 1 inch of caliper size.
C. Zone of Protection: As indicated on Drawings.

1.04 NOTICE
A. Notify all workers, including subcontractors, of the requirements to protect Designated Trees.

1.05 PROTECTIVE FENCING
A. Install protective fencing around Designated Trees, where shown on Drawings, prior to commencement of any work. Fencing to be a minimum 6 foot chain link, with fence posts securely anchored. Maintain during construction. Adjustments to fence locations are to be approved by the Owner's Representative prior to performing any work within the Zone of Protection.

1.06 CONSTRUCTION STAGING
A. No construction activities are permitted within the protective fencing without prior approval of the Owner’s Representative

1.07 TRENCHING AND EXCAVATION
A. All trenching and excavation within the Zone of Protection is to be performed with the use of an air spade or by hand. Obtain Owner’s Representative approval of trenching and excavation locations and methods prior to performing any work.

1.08 ROOT PRUNING
A. Prune roots encountered during construction with an approved root-pruning device. Make clean, vertical cuts. Do not leave split or frayed ends. Obtain Owner’s Representative approval prior to cutting roots larger than 1 1/2 inches in diameter. Backfill exposed roots with specified Planting Soil as soon as practical.

1.09 WATERING

A. Water trees if it is judged root removal is necessary for construction and threatens the survival of the tree. Use a slow drip or soaker hose to provide one-inch water per week until completion of construction.

1.10 PROHIBITED ACTIVITIES

A. Cutting of roots larger than 1 1/2 inch diameter or larger without approval.

B. Damaging tree bark, branches.

C. Removal of protective fencing or notice posted on trees prior to approval of Owner's Representative.

D. Activities prohibited within the Critical Root Zone (without prior approval) are, but not limited to: construction, operation of machinery, storage of materials, paving, grading, cutting, filling, travel within, dumping, disposal of liquids, and parking of vehicles and equipment.

1.11 DAMAGE

A. Actual tree damage such as trunk scoring and broken limbs or damaged roots inside the Zone of Protection will be assessed according to the percentage of loss of tree value. Percentage of tree value will be determined by the Owner's Representative. Tree value will be determined from "Evaluation of Landscape Trees, Shrubs, and Other Landscape Plants" by International Society of Arboriculture.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 60 00
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 23 00 "Alternates" for products selected under an alternate.
2. Division 1 Section 01 77 00 "Closeout Procedures" for submitting warranties for Contract closeout.
3. 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.
1. Substitution Request Form: Use form provided at end of Section.
2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
    a. Statement indicating why specified material or product cannot be provided.
    b. 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.
    c. 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.
    d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
    e. Provide MSDS information to confirm that the product is no more harmful that he products specified.
    f. Samples, where applicable or requested.
    g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
    h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
    i. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
    j. 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.
    k. Cost information, including a proposal of change, if any, in the Contract Sum.

l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.

m. 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.

3. 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)

END OF SECTION

SUBSTITUTION REQUEST FORM

TO: Cameron McCarthy
160 E Broadway
Eugene, OR 97401

DEADLINE: September 10, 2014

PROJECT: South Eugene High School Tennis Court Relocation
CIP # 410.566.001
Eugene School District 4J

SPECIFIED ITEM: _____ _____ _____
Section No. Paragraph Description

The Undersigned requests consideration of the following substitution:

_____

The Undersigned states that the following paragraphs are true, except where noted otherwise:

1. The function, appearance and quality of the proposed substitution are equivalent or superior to the specified item;
2. The proposed substitution does not affect dimensions shown on the Drawings;
3. The Undersigned will pay for changes to the building design, including engineering and design services, detailing and construction costs caused by the requested substitution;
4. The proposed substitution will have no adverse effect on other trades, the construction schedule, or specified warranty requirements;
5. Maintenance and service parts will be locally available for the proposed substitution;
6. The Undersigned has attached data concerning the proposed substitution, including: Manufacturers product description, specifications, drawings, photographs, performance and test data, adequate for evaluation of the request, with applicable portions of the data clearly indicated. Attachments also include description of changes to Contract Documents which the proposed substitution will require for its proper installation.

Submitted by: _____ Signature: _____ Firm: _____ Address:_____ _____ Date: _____ Tel: _____ Fax: _____ Attachments: _____	For use by Architect: ☐ Approved ☐ Approved as noted. ☐ Not Approved ☐ Received too late By: _____ Date: _____ _____ For use by 4J Project Manager: ☐ Approved ☐ Approved as noted. ☐ Not Approved ☐ Received too late By: _____ Date: _____

SECTION 01 73 00
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.

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. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

B. 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. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
5. 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.

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.

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. 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 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.

3.07 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.

3.08 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 73 29
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 "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. 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.

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 77 00
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. Inspection 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 inspection 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. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect and Owner's Project Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

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

1.04 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection 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 inspection 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. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect and Owner's Project Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

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

2. Cost of additional re-inspections 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 inspection for certification of Substantial Completion for entire Project or for a portion of Project:
    a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    e. 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.
    f. Sweep concrete floors broom clean in unoccupied spaces.
    g. Remove labels that are not permanent.
    h. 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.
    i. Replace parts subject to unusual operating conditions.
    j. 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 78 39
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 Drawings.
   2. Record Specifications.
   3. 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 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).

B. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications.

C. 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.

PART 2 PRODUCTS

2.01 RECORD DRAWINGS

A. 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. Dimensional changes to Drawings.

b. Revisions to details shown on Drawings.

c. Locations and depths of underground utilities.

d. Revisions to routing of piping and conduits.

e. Revisions to electrical circuitry.

f. Actual equipment locations.

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.

6. Note Alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.

2. 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 11 68 33.33
TENNIS EQUIPMENT

PART 1 GENERAL

1.01 DELIVERY, STORAGE AND HANDLING

A. Protection: Use all means necessary to protect materials of this Section before, during and after installation and to protect installed work and materials of all other trades.

B. Replacement: In event of damage, immediately make all repairs and replacements necessary to approval of Project Engineer.

C. Storage: Store and handle materials in accordance with manufacturer's recommendations.

1.02 COORDINATION

A. Coordinate with other trades affecting and affected by work of this Section.

1.03 RELATED REQUIREMENTS

A. Section 01 60 00 - Product Requirements.

B. Section 01 70 00 - Execution and Closeout Requirements.

C. Section 32 18 23.53 - Tennis Court Surfacing.

1.04 REFERENCE STANDARDS

A. Manufacturer's installation procedures.

B. National Federation of State High School Associations (NFHS) current rules for tennis.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Submit manufacturer’s installation instructions.

C. Action Submittals:

1. Product Data: For all manufactured equipment provide manufacturer's product data showing materials of construction, compliance with specified standards, and installation procedures.
2. Shop Drawings: Detailed scale drawings showing dimensions and installation procedures for in ground track and field equipment.

D. Informational Submittals:

1. Maintenance Data: Provide manufacturer's recommended maintenance instructions and list of replaceable parts for each equipment item, with address and phone number of source of supply.
2. Manufacturer's Field Report.
3. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

PART 2 PRODUCTS

2.01 TENNIS NET POSTS

A. Materials:

1. 2 posts per court; 3" square, 11 gauge steel; fitted: aluminum caps with stainless steel fixing pins, lacing rods; (1) post equipped with internal brass winder, 3¼" brass pulley, and removable handle; (1) post with welded hooks for net cable anchoring.
2. Finish: Powder coat black.
3. Ground Sleeve: Include ground sleeves.

B. Approved Products:

1. Edwards Wimbledon Square Tennis Net Posts, or approved.

2.02 TENNIS NET CENTER STRAP / GROUND ANCHOR

A. Materials:

1. Anchor materials: Ground anchor pipe; 10" minimum length; non-corrosive metal; 1 5/8" o.d. minimum; non-corrosive ¼" o.d. ground anchor pin centered 3/8" below pipe opening.
2. Center strap materials: Canvas or synthetic; 2" width; color: white; with height adjusting buckle and non-corrosive spring loaded anchor pin hook.

B. Approved Products:

1. Edwards Tennis Net Ground Anchor Socket, or approved.
2. Edwards Tennis Net Center Strap, or approved.

2.03 TENNIS COURT NET

A. Materials:

1. Net body: 1 ¾" synthetic twine square mesh netting with 275 lbs. tensile strength; synthetic bindings and tapes, UV / mildew resistant, white, side tapes grommeted; multi-strand galvanized steel cable, 5/32" core diam., 46' min. length, 2000 lbs. minimum tensile strength; 5/8" x 40" metal dowels; tie strings and lacing twine, synthetic, black, UV stabile, lengths and qtys. as required.
2. Center strap materials: Canvas or synthetic; 2" width; color: white; with height adjusting buckle and non-corrosive spring loaded anchor pin hook.

B. Approved Products:

1. Edwards 30LS Tennis Net, or approved.

PART 3 EXECUTION

3.01 GENERAL

A. Inspection: Prior to installation of the work of this Section, carefully inspect the installed work of others and verify that all such work is complete to the point where this installation may properly commence.

B. Discrepancies: Do not install work of this Section until all unsatisfactory conditions have been corrected. Commencing work denotes acceptance of existing conditions.

3.02 INSTALLATION

A. Install where shown and as indicated on Drawings.

B. Install all products true and level.

C. Install all products as Detailed. Follow manufacturer's recommendations.

D. Secure as specified or as recommended by manufacturer.

3.03 CLEANING

A. Restore adjacent existing areas that have been damaged from the construction.

B. Upon completion of work of this Section promptly remove from the working area all scraps, debris and surplus material of this Section.

3.04 PROTECTION

A. Protect installed products until Substantial Completion.

B. Replace damaged products before Substantial Completion.

END OF SECTION

SECTION 11 68 33.43
TRACK AND FIELD EQUIPMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. In ground track and field equipment.

B. Above ground track and field equipment.

C. Shot put landing area cinders.

1.02 REFERENCE STANDARDS

A. NFHS - National Federation of State High School Associations, current edition

1. Track and Field Rules and Interpretations

B. Manufacturer's installation procedures.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene a meeting one week before starting improvements related to track and field equipment for coordination.

1. Include representatives of Contractor, concrete contractor, and equipment supplier.
2. Notify Owner's Representative at least 2 weeks prior to meeting.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Action Submittals:

1. Product Data: For all manufactured equipment provide manufacturer's product data showing materials of construction, compliance with specified standards, and installation procedures.
2. Shop Drawings: Detailed scale drawings showing dimensions and installation procedures for in ground track and field equipment.
3. Samples: Submit 2 quart sample of shot put landing area cinders.

C. Informational Submittals:

1. Maintenance Data: Provide manufacturer's recommended maintenance instructions and list of replaceable parts for each equipment item, with address and phone number of source of supply.
2. Manufacturer's Field Report.
3. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver, handle, and store equipment to project site in accordance with manufacturer's recommendations.

B. Store materials in a dry, covered area, elevated above grade.

C. Prevent contamination of shot put landing cinder material.

PART 2 PRODUCTS

2.01 TRACK AND FIELD EQUIPMENT

A. All track and field equipment shall meet, at a minimum, current NFHS specifications.

B. Discus

1. Discus Circle: Aluminum or steel discus circle with cross bracing, designed to form a depressed circle.
   a. Model No. 367 by Gill Athletics.
   b. Model No. 725-2530 by UCS.
2. Discus Cage: Owner Furnished Contractor Installed. Aluminum net poles with ground sleeves and weather treated nylon net.
   a. Model No. 73220 by Gill Athletics.
3. See Section 016000 - Product Requirements for substitutions.

C. Shot Put

1. Shot Put Circle: Aluminum or steel shot circle with cross bracing, designed to form a depressed circle.
   a. Model No. 366 by Gill Athletics.
   b. Model No. 725-2540 by UCS.
2. Shot Put Toe Board: Cast aluminum toeboard, powder coated white, designed for use with a depressed shot circle.
   a. Model No. 363 by Gill Athletics.
   b. Model No. 716-1630 by UCS.
3. See Section 016000 - Product Requirements for substitutions.

D. Shot Put Landing Area Cinders: 1/4 inch minus crushed red cinder sand.

1. Track Sand by Lane Forest Products; www.laneforestproducts.com, or approved.

PART 3 EXECUTION

3.01 LAYING OUT THE WORK

A. Stake the location of all track and field equipment for review by Architect and Owner's Authorized Representative.

3.02 EXAMINATION

A. Verify existing conditions. Allow for compliance with manufacturer's installation instructions.

B. Notify Architect of conflicts between manufacturer's installation instructions and Drawings/Details prior to beginning installation.

3.03 INSTALLATION

A. Install track and field equipment following manufacturer's installation instructions.

B. Install track and field equipment at locations shown on drawings.

3.04 INSTALLATION OF SHOT PUT LANDING AREA CINDERS

A. Remove concrete, clods, debris, and other foreign material from landing area.

B. Install geotextile fabric as Detailed.

C. Install cinders in lifts no greater than 6 inches deep to elevations shown on Drawings. Compact to minimum 95 percent of maximum dry density.

D. Tolerances for flatness at cinders: maximum variation of 1/4 inch measured with a 10 foot straight edge and within 1/4 inch of design elevation.

3.05 FIELD QUALITY CONTROL

A. Obtain the services of the equipment manufacturer's field representative to review the finished installation for compliance with specified requirements and with design criteria to the extent known to the Contractor; submit report of field review.

B. Repair or replace rejected work until compliance is achieved.

3.06 CLEANING

A. Restore adjacent existing areas that have been damaged from the construction.

B. Remove excess and waste material and dispose of off-site in accordance with requirements of authorities having jurisdiction.

C. Remove debris and excess material from inside in-ground equipment.

3.07 PROTECTION

A. Protect installed products until Substantial Completion.

B. Replace damaged products before Substantial Completion.

END OF SECTION

SECTION 12 93 00
SITE FURNISHINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Bicycle racks.

B. Bollards.

1.02 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods and details.
4. Maintenance and cleaning recommendations.
5. Warranty information.

C. Shop Drawings: Indicate size, shape, and dimensions, including clearances from adjacent obstructions.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Handle furnishings with sufficient care to prevent scratches and other damage to the finish.

PART 2 PRODUCTS

2.01 BIKE RACKS

A. Material: Hoop Rack: 2-3/8" OD Schedule 40 steel pipe.

B. Base Rail: 3" x 3/8" flat bar with 10 holes for mounting 9/16" in diameter.

C. Size: 18" wide x 36" tall. 78 inches long for 4 hoop racks; 54" long for 3 hoop racks.

D. Finish: Powder coat black.

2.02 BOLLARD

A. Powder coated steel pipe bollard with cap.

1. Finish: Powder coat black.
2. Mounting: Embed.

B. Approved product: 2190-E Domed Top Metal Bollard by Columbia Cascade.

2.03 REMOVABLE BOLLARD

A. Powder coated steel pipe bollard with cap and ground sleeve to allow for removing.

1. Finish: Powder coat black.
2. Mounting: Removable.

B. Approved product: 2190-R Domed Top Metal Bollard by Columbia Cascade.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine surfaces to receive furnishings.

B. If substrate preparation is the responsibility of another installer, notify Owner's Representative of unsatisfactory preparation before proceeding.

C. Do not begin installation until unsatisfactory substrates have been properly repaired.

3.02 PREPARATION

A. Ensure surfaces to receive site furnishings are clean, flat, and level.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install furnishings level, plumb, square, and correctly located as indicated on the drawings.

3.04 CLEANING

A. Clean installed work to like-new condition. Do not use cleaning materials or methods that could damage finish.

3.05 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 31 10 00
SITE CLEARING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Clearing and protection of vegetation.

B. Selective demolition of built site elements.

C. Removal of existing debris.

1.02 RELATED REQUIREMENTS

A. Section 01 50 00 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.

B. Section 01 56 39 - Temporary Tree and Plant Protection.

C. Section 01 73 29 - Cutting and patching.

1.03 SUBMITTALS

A. See Section 01 31 00 - Administrative Requirements, for submittal procedures.

B. Site Plan: Showing:

1. Vegetation removal limits.
2. Vegetation to be protected.
3. Areas for temporary construction and field offices.
4. Areas for temporary and permanent placement of removed materials.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 SITE CLEARING

A. Comply with other requirements specified in Section 01 70 00.

B. Minimize production of dust due to clearing operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

3.02 EXISTING UTILITIES AND BUILT ELEMENTS

A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Protect existing structures and other elements that are not to be removed.

E. Remove paving and curbs as required to accomplish new work.

F. Remove fences and gates, including footings shown to be removed on Drawings.

G. Remove other items indicated for salvage and removal.

3.03 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with applicable codes and regulations for demolition and safety of adjacent structures and the public.
   1. Obtain required permits.
   2. Use of explosives is not permitted.
   3. Provide, erect, and maintain temporary barriers and security devices.
   4. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
   5. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   6. Do not close or obstruct roadway or sidewalks without permit.
   7. 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.

B. Do not begin removal until receipt of notification to proceed from Owner.

C. Do not begin removal until built elements to be salvaged or relocated have been removed.

D. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

E. If hazardous materials are discovered during removal operations, stop work and notify Owner's Representative and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.

F. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface.

3.04 VEGETATION

A. Scope: Remove trees, shrubs, brush, and stumps in areas to be covered by building structure, paving, playing fields, lawns, and planting beds.

B. Do not begin clearing until vegetation to be relocated has been removed.

C. Do not remove or damage vegetation beyond the following limits:
   1. 40 feet outside the building perimeter.
   2. 10 feet each side of surface walkways, patios, surface parking, and utility lines less than 12 inches in diameter.
   3. 15 feet each side of roadway curbs and main utility trenches.
   4. 25 feet outside perimeter of pervious paving areas that must not be compacted by construction traffic.
   5. Exception: Specific trees and vegetation indicated on drawings to be removed.
   6. Exception: Selective thinning of undergrowth specified elsewhere.

D. Install substantial, highly visible fences at least 3 feet high to prevent inadvertent damage to vegetation to remain:
   1. At vegetation removal limits.
   2. Around trees to remain within vegetation removal limits; locate no closer to tree than at the drip line.
   3. Around other vegetation to remain within vegetation removal limits.
   4. See Section 01 50 00 for fence construction requirements.

E. In areas where vegetation must be removed but no construction will occur other than pervious paving, remove vegetation with minimum disturbance of the subsoil.

F. Vegetation Removed: Do not burn, bury, landfill, or leave on site, except as indicated.

1. Chip, grind, crush, or shred vegetation for mulching, composting, or other purposes; preference should be given to on-site uses.
2. Trees: Sell if marketable; if not, treat as specified for other vegetation removed; remove stumps and roots to depth of 18 inches.
3. Existing Stumps: Treat as specified for other vegetation removed; remove stumps and roots to depth of 18 inches.
4. Sod: Re-use on site if possible; otherwise sell if marketable, and if not, treat as specified for other vegetation removed.
5. Fill holes left by removal of stumps and roots, using suitable fill material, with top surface neat in appearance and smooth enough not to constitute a hazard to pedestrians.

G. Dead Wood: Remove all dead trees (standing or down), limbs, and dry brush on entire site; treat as specified for vegetation removed.

H. Restoration: If vegetation outside removal limits or within specified protective fences is damaged or destroyed due to subsequent construction operations, replace at no cost to Owner.

3.05 EXISTING UTILITIES

A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

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.

3.06 DEBRIS

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.

END OF SECTION

SECTION 31 20 00
EARTH MOVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Preparing subgrades
   2. Base course for concrete walks and pavement.
   3. Base course for asphalt paving.
   4. Excavating and backfilling for utility trenches.
   5. Drainage fill for drainage facilities.

1.2 SUBMITTALS

A. Product Data.

B. Aggregate Sieve Analysis.

C. Growing media: (at least 14 days in advance of construction).
   1. Documentation for the two analyses described in article 2.1.N.1 and 2.1.N.2 of this specification (particle gradation with calculated coefficient of uniformity; and pH) shall be performed by an accredited laboratory with certification maintained current. The date of the analyses shall be no more than 90 calendar days prior to the date of the submittal. The report shall include the following information:
      a. Name and address of the laboratory.
      b. Phone contact and e-mail address for the laboratory.
      c. Test data, including the date and name of the test procedure.
   2. A compost technical data sheet from the compost vendor. The analysis and report must conform to the sampling and reporting requirements of the US composting Council Seal of Testing Assurance (STA) program. The analysis shall be performed and reported by an approved independent STA program laboratory and be no more than 90 calendar days prior to the date of submittal.
   3. Two gallon-sized bags of the blended material.
   4. A description of the location, equipment, and method proposed to mix the material.

D. Infiltration test results.

1.3 DEFINITIONS

A. Backfill: Soil material used to fill an excavation.
   1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
   2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Base Course: Course placed between the subbase course, or subgrade, and concrete, or hot-mix asphalt paving.

C. Bedding Course: Course placed over the excavated subgrade in a trench before laying pipe.

D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

E. Drainage Course: Course supporting the slab-on-grade that also minimizes upward capillary flow of pore water. Called Select Fill in Geotechnical Report.

F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, shall be without additional compensation.

G. Fill: Soil materials used to raise existing grades.

H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

I. Subgrade: Surface or elevation remaining after completing excavation, or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.

J. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

K. Drainage Fill: Free draining, open-graded aggregate course used to support pervious pavement or in drainage zones in flow-through planters, vegetated stormwater facilities and infiltration galleries.

L. Growing media: Non-native soil mixture made up of sand, loam, and compost; used on surface stormwater facilities.

M. Unified Soil Classification System:

1. GW: Well-graded gravels; gravel/sand mixtures with little or no fines.
2. GP: Poorly-graded gravels; gravel/sand mixtures with little or no fines.
3. GM: Silty gravels; poorly-graded gravel/sand/silt mixtures.
4. GC: Clayey gravels; poorly-graded gravel/sand/clay mixtures.
5. SW: Well-graded sands' gravelly sands with little or no fines.
6. SP: Poorly-graded sands; gravelly sands with little or no fines.
7. SM: Silty sands; poorly, graded- sand/gravel/silt mixtures.
8. SC: Clayey sands; poorly-graded sand/gravel/clay mixtures.
9. ML: Inorganic silts; sandy, gravelly, or clayey silts.
10. CL: Lean clays; inorganic, gravelly, sandy, or silty, low to medium-plasticity clays.
11. OL: Organic, low-plasticity clays and silts.
12. MH: Inorganic, elastic silts; sandy, gravelly or clayey elastic silts
13. CH: Fat clays; high-plasticity, inorganic clays.
14. OH: Organic, medium to high-plasticity clays and silts
15. PT: Peat, humus, hydric soils with high organic content.

1.4 PROJECT CONDITIONS

A. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth moving operations.

B. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Architect and then only after arranging to provide temporary utility services according to requirements indicated.

C. Site Information: Research public utility records and verify existing utility locations prior to ordering any material. Notify the Architect immediately if any discrepancies are found in the project survey.

D. See Geotechnical report titled Supplemental Geotechnical Investigation by Foundation Engineering, Inc. dated July 16, 2014 for additional information and requirements.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.

B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D 2487, or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.

C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487, or a combination of these groups.

1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.

D. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve or use Oregon Standard Specifications for Construction 3/4-inch-0" BASE AGGREGATE.

E. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 3-inch sieve and not more than 12 percent passing a No. 200 sieve.

F. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve or use Oregon Standard Specifications for Construction ¾-inch—0-inch BASE AGGREGATE.

G. Drainage Course: Well-graded mixture of washed, crushed stone or gravel; with 100 percent passing a 1-inch sieve and 0 to 5 percent passing a No. 200 sieve. Called "Select Fill" in Geotechnical Report.

H. Backfill and Fill:

1. Satisfactory soil materials
2. Initial trench backfill: Use OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION 3/4-inch – 0-inch base aggregate.

I. Drainage Fill: Angular, granular material with a maximum particle size of 2 inches and shall meet Oregon Standard Specification 00430.11. The material shall be free of roots, organic material, and other unsuitable materials; have less than 2 percent passing the No. 200 sieve (washed analysis); and have at least two mechanically fractured faces.

J. Clay Check Dam: Cohesive Clay compacted to 95% of maximum dry density. The material must be free of roots and rocks over 3"; with a minimum of 70% passing a ¾" sieve and a minimum of 25% passing No. 200 sieve. Native soil may be acceptable with engineer's approval.

K. Growing Media: A loose and friable material blend of loamy soil, sand and compost that is 30-40 percent compost (by volume) and meets the following other criteria:

1. Particle Gradation: A sieve analysis of the complete blended material shall be conducted per ASTM C117/C136, AASHTO T11/T27, or ASTM D422/D140 and meet the following gradation criteria:

Sieve Size	Percent Passing
1-inch	100
#4	75-100
#10	40-100
#40	15-50
#100	5-25
#200	5-15

   The blend shall have a coefficient of uniformity (D60/D10) equal to or greater than 6 to ensure it is well graded.

2. Acidity: pH of the blended material shall be tested and be between 6 and 8.
3. Compost: The compost shall be derived from plant material and provided by a member of the US Composting Council Seal of Testing Assurance (STA) program. See www.compostingcouncil.org for a list of local providers. The compost shall be a result of biological degradation and transformation of plant-derived materials under conditions designed to promote aerobic decomposition. The material shall be well composted, free of viable weed seeds, and stable with regard to oxygen consumption and carbon dioxide generation. The compost shall have no visible free water and produce no dust when handled. It shall meet the following criteria, as reported by the US Composting Council STA Compost Technical Data Sheet provided by the vendor.
   a. 100 percent of the material must pass through a ½ inch screen.
   b. The pH of the material shall be between 6 and 8.
   c. Manufactured inert material (plastic, concrete, ceramics, metal, etc.) shall be less than 1.0 percent by weight.
   d. The organic matter content shall be between 30 and 70 percent (dry weight basis).
   e. Soluble salt content shall be less than 6.0 mmhos/cm.
   f. Maturity indicator shall be greater than 80 percent for Germination and Vigor.
   g. Stability shall be 'Stable' to 'Very Stable'.
   h. Carbon/Nitrogen (C/N) ratio shall be less than 25:1.
   i. Trace metals test result= 'Pass.'
4. Blend: The material shall be well mixed and homogenous. It shall be free of wood pieces, plastics, and other foreign matter. There shall be no visible free water.
5. Infiltration: The blended material shall have a minimum infiltration rate of 2 inches per hour. Contractor shall provide the Engineer with a 2 quart sample for initial testing.

2.2 ACCESSORIES

A. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored to comply with local practice or requirements of authorities having jurisdiction or as follows:

1. Red: electric.

2. Yellow: Gas, oil, steam, and dangerous materials.
3. Orange: telephone and other communications.
4. Blue: Water systems.
5. Green: Sewer systems.

B. Tracer Wire: 12 AWG minimum solid copper insulated High Molecular Weight Polyethylene (HMW PE) tracer wire or approved equal. The tracer wire insulation shall be green for sewer pipe and blue for waterlines and be a minimum of 45 mil. thick. Joints or splices shall be waterproof. The wire shall be rated for 30 Volt.

C. Drainage Fabric: Nonwoven geotextile, specifically manufactured as a drainage geotextile; made from polyolefins, polyesters, or polyamides; and with the following minimum properties determined according to ASTM D 4759 and referenced standard test methods:

1. Grab Tensile Strength: 110 lbf; ASTM D 4632.
2. Tear Strength: 40 lbf; ASTM D 4533.
3. Puncture Strength: 220 lbf; ASTM D 4833.
4. Apparent Opening Size: No. 40; ASTM D 4751.
5. Permativity (minimum): .5 sec^{-1}; ASTM D 4491.

D. Separation Fabric: Woven geotextile, specifically manufactured as a separation geotextile; made from polyolefins, polyesters, or polyamides; and with the following minimum properties determined according to AASHTO M 288-06 for Class 2 woven geotextile and referenced standard test methods:

1. MARV: AASHTO M 288-06 for Class 2 woven geotextile.
2. Apparent opening size: 0.25 mm maximum.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations. Provide protective insulating materials as necessary.

B. Protect and maintain erosion and sedimentation controls, which are specified in the permitted Erosion and Sediment Control Plans during earth moving operations.

C. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

D. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

E. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.

F. Protect all areas designated to receive pervious pavers or pervious pavement from excessive compaction.

3.2 EXPLOSIVES

1. Explosives: Do not use explosives.

3.3 EXCAVATION

A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil

materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions without prior approval by the Architect.

1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

B. Follow the site preparation and excavation requirements found in the Geotechnical Report, which are as follows:

1. Strip the existing ground 2 inches, or as required to remove most roots and sod. Dispose of all strippings outside of the construction area.
2. Overexcavate all test pits that extend under the tennis court area. Replace the test pit backfill with compacted Select Fill (Drainage Course).
3. Moisture condition and compact the subgrade using a pad-foot roller to 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 to confirm adequate compaction. Cover the prepared and tested subgrade with a Separation Geotextile.
4. Immediately cover the prepared subgrade and Separation Geotextile with Select Fill (Drainage Course). A minimum base rock thickness of 12 inches is recommended to mitigate the presence of the plastic clay located below the topsoil. If practical, increase the base rock thickness to at least 18 inches. The base rock should extend at least 5 feet beyond the limits of the new tennis courts.
5. Compact and test the Select Fill (Drainage Course) to 95% relative compaction.

3.4 EXCAVATION FOR STRUCTURES

A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.

1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.

3.5 EXCAVATION FOR WALKS AND PAVEMENTS

A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.6 EXCAVATION FOR UTILITY TRENCHES

A. Excavate trenches to indicated gradients, lines, depths, and elevations.

B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit unless otherwise indicated.

1. Clearance: 6 inches each side of pipe or conduit.

C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade and bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.

1. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material, 4 inches deeper elsewhere, to allow for bedding course. Hand excavate for bell of pipes.

2. Excavate utility structures to provide 6 inches clearance (enlarge as needed) to allow for compaction of backfill material.

3.7 EXCAVATION FOR STORMWATER FACILITIES

A. Excavate facilities to the indicated gradients, lines, depths, and elevations. All excavations shall be performed with the lightest practical excavation equipment. Excavation equipment shall not be operated within the limits of the facility.

B. To help prevent subgrade soil contamination and clogging by sediment, facility construction shall be delayed until all other construction within its drainage basin is completed and the drainage area stabilized. Provide additional sediment control measures such as diversion berms around the facility as needed. Additional excavation and backfill required to restore any infiltration rate lost due to clogging or over-compaction during construction shall be performed by the contractor at no cost to the owner.

3.8 SUBGRADE INSPECTION

A. Proof-roll subgrade with a pneumatic-tired dump truck to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades. Do not proof-roll subgrade in infiltration facilities.

B. Soft pockets and areas of excess yielding that have been identified shall be scarified and moistened or aerated, or removed and replaced with suitable soil materials to the depth required. Re-compact and retest until specified compaction is obtained.

C. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Architect, without additional compensation.

3.9 UNAUTHORIZED EXCAVATION

A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Architect.

1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Architect.

3.10 STORAGE OF SOIL MATERIALS

A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.11 BACKFILLS AND FILLS

A. Backfill: Place and compact backfill in excavations promptly, but not before completing the following:

1. Construction below finish grade including, where applicable, dampproofing, waterproofing, and perimeter insulation.
2. Surveying locations of underground utilities for record documents.
3. Inspecting and testing underground utilities.
4. Removing concrete formwork.
5. Removing trash and debris.
6. Removing temporary shoring and bracing, and sheeting.

7. Installing permanent or temporary horizontal bracing on horizontally supported walls.

3.12 UTILITY TRENCH BEDDING

A. Place bedding on subgrades free of mud, frost, snow, or ice.

B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

3.13 UTILITY TRENCH BACKFILL

A. Trenches under Footings: Backfill trenches excavated under footings with satisfactory soil or approved backfill to within 18 inches from the bottom of footings elevation; fill remaining trench excavation with concrete up to the elevation of bottom of footings. Concrete is specified in "Cast-in-Place Concrete."

B. Place and compact initial trench backfill material, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the pipe or conduit.

1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.

C. Place and compact final backfill of satisfactory soil to final subgrade elevation.

D. Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

E. Install tracer wire in a continuous fashion above the utility in such a manner as to be able to properly trace utility lines without loss or deterioration of signal or without the transmitted signal migrating off the tracer wire. Bring tracer wire to the surface at every box, vault, drainage structure, or manhole.

3.14 DRAINAGE FILL

A. Compaction of the native soil subgrade should be limited in order to prevent a reduction in the permeability of the soil.

1. Where erosion of subgrade has caused accumulation of fine materials and/or surface ponding, this material shall be removed with light equipment and underlying soils scarified to a minimum depth of 3 inches with a York rake or equivalent and light tractor.
2. Where subgrade has been compacted due to construction traffic, subgrade shall be scarified or removed to a depth sufficient to match the naturally occurring insitu state. Add additional base course material to meet design grades at no cost to the owner.
3. Bring subgrade of base course to line, grade, and elevations indicated. Fill and lightly re-grade any areas damaged by erosion, ponding, or traffic compaction before the placing of stone.

B. Place drainage geotextile over prepared subgrade, overlapping ends and edges at least 12 inches. Secure in place to prevent wrinkling.

C. Place drainage fill and compact by tamping with a plate vibrator, and screed to depth indicated. For drainage fill that exceeds 8 inches in compacted thickness, place fill in layers of equal thickness, with no compacted layer more than 8 inches or less than 4 inches thick.

D. Place drainage geotextile over compacted drainage fill, overlapping ends and edges at least 12 inches.

3.15 SOIL FILL

A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.

B. Place and compact fill material in layers to required elevations as follows:

1. Under grass and planted areas, use satisfactory soil material.
2. Under walks and pavements, use base rock.
3. Under steps and ramps, use base rock.
4. Under tennis courts, use drainage course.
5. Under footings and foundations, use drainage course.
6. Under and around utility structures, use engineered fill.

3.16 STORMWATER FACILITY FILL

A. Growing media shall be placed in loose lifts, not to exceed 8 inches each.

B. Placement of the growing media will not be allowed when the weather is too wet as determined by the owner's representative.

3.17 SOIL MOISTURE CONTROL

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.

1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 3 percent and is too wet to compact to specified dry unit weight.

3.18 COMPACTION OF SOIL BACKFILLS AND FILLS

A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.

C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698:

1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 95 percent.
2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 92 percent.
3. Under turf or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 85 percent.
4. For utility trenches, compact each layer of initial and final backfill soil material at 95 percent.

D. Growing media shall be compacted with a water-filled landscape roller. It shall not otherwise be mechanically compacted.

3.19 GRADING

A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.

B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:

1. Turf or Unpaved Areas: Plus or minus 1 inch.
2. Walks: Plus or minus 1/2 inch.
3. Pavements: Plus or minus 1/2 inch.

3.20 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS

A. Place base course on subgrades free of mud, frost, snow, or ice.

B. On prepared subgrade, place base course or drainage course under pavements and walks as follows:

1. Shape to required crown elevations and cross-slope grades.
2. Place base course or drainage course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
3. Compact base course or drainage course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 698.

3.21 FIELD QUALITY CONTROL

A. Testing Agency: Contractor will engage a qualified geotechnical engineering testing agency to perform tests and inspections.

B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.

C. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Architect.

D. Testing Agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies:

1. Paved and building slab areas: At subgrade and at each compacted fill and backfill layer, at least one test for every 2000 sq. ft. or less of paved area or building slab, but in no case fewer than three tests.
2. Trench Backfill: At each compacted initial and final backfill layer, at least one test for each 150 feet or less of trench length, but no fewer than two tests.

E. With the approval of the Engineer, proof-roll testing of subgrade and/or aggregate base may be substituted for other compaction testing.

F. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

3.22 PROTECTION

A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.

C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

D. Weather permitting and as approved, stormwater infiltration facility plants shall be installed as soon as possible after placing and grading the growing media in order to minimize erosion and further compaction.

3.23 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION

SECTION 32 13 13
CONCRETE PAVING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concrete sidewalks, footings, headers, and mowstrips.

1.02 RELATED REQUIREMENTS

A. Section 32 31 13 - Chain Link Fences and Gates

1.03 REFERENCE STANDARDS

A. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; American Concrete Institute International; 1991 (Reapproved 2002).

B. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; American Concrete Institute International; 2000.

C. ACI 305R - Hot Weather Concreting; American Concrete Institute International; 1999.

D. ACI 306R - Cold Weather Concreting; American Concrete Institute International; 1988 (Reapproved 2002).

E. ACI 347 - Guide to Formwork for Concrete; American Concrete Institute International; 2004.

F. ASTM A 615/A 615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement; 2009b.

G. ASTM C 33 - Standard Specification for Concrete Aggregates; 2008.

H. ASTM C 39/C 39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2009a.

I. ASTM C 94/C 94M - Standard Specification for Ready-Mixed Concrete; 2009a.

J. ASTM C 150 - Standard Specification for Portland Cement; 2007.

K. ASTM C 173/C 173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2009.

L. ASTM C 260 - Standard Specification for Air-Entraining Admixtures for Concrete; 2006.

M. ASTM C 494/C 494M - Standard Specification for Chemical Admixtures for Concrete; 2008a.

N. ASTM D 1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (nonextruding and Resilient Bituminous Types); 2004 (Reapproved 2008).

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Submit plant mix design.

C. Product Data: Submit manufacturer's data on manufactured products showing compliance with specified requirements.

D. Submit delivery tickets for ready-mixed concrete which include the following information:

1. Supplier's name, delivery date, and mixing time.
2. Quantities of cement, water, and aggregate
3. Type and quantity of admixtures

1.05 COORDINATION

A. Coordinate with other trades affecting or affected by Work of this Section.

B. Ensure base aggregate has been installed and compacted in accordance with Specifications.

C. At Concrete to Receive Tennis Court Surfacing: Coordinate installation with surfacing installer. Review products and installation procedures to ensure finished concrete is compatible with tennis court surface material.

1.06 MOCK UP

A. Construct sample of typical exterior concrete slab showing thickness, joint construction, and finish.

1. Panel Size: 16 square feet.
2. Locate where directed by Owner's Representative.

B. Construct sample of typical exterior concrete slab at discus/shot put circle showing thickness and finish.

1. Panel Size: 2 feet x 2 feet.
2. Locate where directed by Owner's Representative.

C. Accepted mock-up is considered basis of quality for the finished work. Keep mock-up exposed to view for duration of concrete work.

D. Mock-up may remain as part of the Work.

1.07 TESTS

A. Sampling and testing will be done by an independent testing laboratory selected and paid for by the Owner. Cooperate fully in taking of test samples.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Conform to ASTM C-94.

1.09 WEATHER REQUIREMENTS

A. Cold Weather:

1. Follow Standard Specification for Cold Weather Concreting, ACI 306.1
2. Do not place concrete during cold weather until protection materials and equipment are at or near Project Site.
3. Place no concrete on frozen subgrade.
4. Remove ice and snow from reinforcing, forms, embedded items and other work surfaces.
5. Raise and maintain temperatures of all surfaces in contact with concrete above 40 degrees Fahrenheit prior to placing concrete.
6. Salts or chemical admixtures are not permitted.
7. Terminate any water curing at least 24 hours before any anticipated freezing temperatures.
8. Following protection period, allow concrete to cool gradually.
9. Assume responsibility, including costs of all suspected frozen concrete.
10. Remove and replace freeze-damaged concrete at Contractor’s expense.

B. Warm Weather: When air temperature exceeds 85 degrees Fahrenheit or when wind exceeds 10 mph place concrete in accordance with the following requirements:

1. Maximum temperature of concrete at time of placement: 70 degrees Fahrenheit.
2. Mix concrete minimum possible time, and place as soon as possible thereafter.
3. Apply cool water to forms, reinforcing, embedded items, and subgrade immediately prior to placing concrete.
4. Protect unstripped forms and exposed concrete surfaces with water spray or other approved method.
5. Assume responsibility, including costs of all suspected damaged concrete.
6. Remove and replace heat or wind damaged concrete at Contractor's expense.

1.10 REVIEWS

A. Notify Owner's Representative at least 48 hours in advance for review of all formwork prior to placing concrete. Mark score joint locations on the formwork.

PART 2 PRODUCTS

2.01 FORM MATERIALS

A. Form Materials: Conform to ACI 347.

B. Footing and Flatwork Perimeter Planks: Wood form material, profiled to suit conditions, consisting of Douglas Fir species with no loose knots and smooth face texture.

C. Curbs and Gutters, Walks, and Steps: Non-warped plywood or straight planks which are smooth and of sufficient strength to allow for placement and vibration of concrete.

D. Curbs and Gutters: Reusable steel forms fabricated to provide profiles indicated on Details.

2.02 FORMWORK ACCESSORIES

A. Form Release Agent: Colorless, mineral oil or vegetable based agent which will not discolor the concrete or adversely impact the installation of the tennis court surface material.

2.03 REINFORCEMENT

A. Reinforcing Steel: ASTM A 615/A 615M Grade 60 (420); deformed billet steel bars; unfinished finish.

B. Dowels: ASTM A 615/A 615M Grade 60 (420); deformed billet steel bars; unfinished finish.

2.04 REINFORCEMENT ACCESSORIES

A. Reinforcement Accessories:

1. Tie Wire: Annealed, minimum 16 gage.
2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.

2.05 CONCRETE MATERIALS

A. Cement: ASTM C 150 Normal - Type I portland type, grey color.

B. Fine and Coarse Mix Aggregates: ASTM C 3w3, washed clean, free of deleterious substances; maximum size 1-1/2 inch and not larger than 1/5 of narrowest space between forms, 1/3 depth, nor 3/4 of minimum clear space between reinforcing bars.

C. Fly Ash: ASTM C 618, Class C or F.

D. Calcined Pozzolan: ASTM C 618, Class N.

E. Water: Clean, and not detrimental to concrete.

F. Air Entrainment Admixture: ASTM C 260.

G. Chemical Admixtures: ASTM C 494/C 494M, Type A - Water Reducing.

1. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.

2.06 ACCESSORIES

A. Underslab Vapor Retarder: Multi-layer, fabric-, cord-, grid-, or aluminum-reinforced polyethylene or equivalent, complying with ASTM E 1745, Class A; stated by manufacturer as suitable for installation in contact with soil or granular fill under concrete slabs. Single ply polyethylene is prohibited.

1. Accessory Products: Vapor retarder manufacturer's recommended tape, adhesive, mastic, prefabricated boots, etc., for sealing seams and penetrations in vapor retarder.

2. Acceptable Products:

a. Griffolyn Type 105 by REEF Industries.

b. Substitutions: See Section 01 60 00 - Product Requirements.

B. Chemical Hardener: Fluosilicate solution designed for densification of cured concrete slabs.

C. Non-Shrink Grout: ASTM C 1107/C 1107M; premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents.

1. Minimum Compressive Strength at 48 Hours: 2,400 psi.

2. Minimum Compressive Strength at 28 Days: 7,000 psi.

D. Liquid Curing Compound: ASTM C 309, Type 1, clear or translucent. Do not apply curing compound to concrete which is to receive tennis court surface material.

E. Rubber Cushion: 23-3/4 x 23-3/4x3/4 inch thick rubber cushion; black; with compatible adhesive.

1. Acceptable Products:

a. Cushion Walk Paver by Dinoflex MFG. Ltd.

b. Substitutions: See Section 01 60 00 - Product Requirements.

2.07 BONDING AND JOINTING PRODUCTS

A. Epoxy Bonding System: Complying with ASTM C 881/C 881M and of Type required for specific application.

B. Joint Filler: Nonextruding, resilient asphalt impregnated fiberboard or felt, complying with ASTM D 1751, 1/4 inch thick and full depth of slab less 1/2 inch .

C. Construction Joints: Preformed tongue and groove joint; 24 gage steel installed in the longest pieces possible.

2.08 CONCRETE MIX DESIGN

A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.

B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301.

C. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended by manufacturer.

D. Concrete Properties:

1. Compressive Strength, when tested in accordance with ASTM C 39/C 39M at 28 days: 3500 psi.
2. Fly Ash Content: Maximum 15 percent of cementitious materials by weight.
3. Calcined Pozzolan Content: Maximum 10 percent of cementitious materials by weight.
4. Water-Cement Ratio: Maximum 45 percent by weight.
5. Total Air Content: 5% - 6.5%, determined in accordance with ASTM C 173/C 173M.
6. Maximum Slump: 3 inches for flat work; 4 inches for all other.
7. Maximum Aggregate Size: 1-1/2 inch.

2.09 MIXING

A. Transit Mixers: Comply with ASTM C 94/C 94M.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify compacted granular base is acceptable and ready to support paving and imposed loads.

B. Verify gradients and elevations of base are correct.

C. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

A. Moisten base to minimize absorption of water from fresh concrete.

B. Notify Owner's Representative minimum 24 hours prior to commencement of concreting operations.

C. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.

D. Verify that forms are clean and free of rust before applying release agent.

E. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.

F. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.

1. Use epoxy bonding system for bonding to damp surfaces, for structural load-bearing applications, and where curing under humid conditions is required.

G. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.

H. Concrete slabs under tennis court surfacing and slabs where in ground athletic equipment is installed: Install vapor retarder under interior slabs on grade. Lap joints minimum 6 inches. Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.

3.03 FORMING

A. Place and secure forms to correct location, dimension, profile, and gradient.

B. Assemble formwork to permit easy stripping and dismantling without damaging concrete.

C. Place joint filler vertical in position, in straight lines. Secure to formwork during concrete placement.

3.04 REINFORCEMENT

A. Place reinforcement at midheight of slabs-on-grade.

B. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.

C. Install reinforcing bars where shown on Drawings in as long pieces as practical. Provide standard reinforcement splices by lapping ends, placing bars in contact and tightly wiring. Lap bars 24 inches minimum. Support with chairs, runners, bolsters, spacers, and hangers as required.

3.05 COLD AND HOT WEATHER CONCRETING

A. Follow recommendations of ACI 305R when concreting during hot weather.

B. Follow recommendations of ACI 306R when concreting during cold weather.

C. Do not place concrete when base surface temperature is less than 40 degrees F, or surface is wet or frozen.

3.06 VAPOR BARRIER INSTALLATION

A. Install a vapor barrier beneath concrete to receive tennis court surfacing.

3.07 PLACING CONCRETE

A. Place concrete in accordance with ACI 304R.

B. Ensure reinforcement, inserts, embedded parts, formed joints are not disturbed during concrete placement.

C. Repair underslab vapor retarder damaged during placement of concrete reinforcing. Repair with vapor retarder material; lap over damaged areas minimum 6 inches and seal watertight.

D. Place concrete continuously over the full width of the panel and between predetermined construction joints. Do not break or interrupt successive pours such that cold joints occur.

E. Separate slabs on grade from vertical surfaces with joint filler.

F. Place joint filler in floor slab pattern placement sequence. Set top to required elevations. Secure to resist movement by wet concrete.

G. Install joint devices in accordance with manufacturer's instructions.

H. Install construction joint devices in coordination with floor slab pattern placement sequence. Set top to required elevations. Secure to resist movement by wet concrete.

I. Apply sealants in joint devices in accordance with Section 07 90 05.

J. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.

K. Place concrete continuously between predetermined expansion, control, and construction joints.

L. Do not interrupt successive placement; do not permit cold joints to occur.

M. Saw cut joints within 24 hours after placing. Use 3/16 inch thick blade, cut into 1/4 depth of slab thickness.

N. Hand tool joints during placement of concrete.

3.08 JOINTS

A. Align curb, gutter, and sidewalk joints.

B. Cold Contact Joint: Place as shown on Drawings within tennis court.

C. Expansion Joints: Place 3/8 inch wide expansion joints at 50 foot intervals and to separate paving from vertical surfaces and other components and in pattern indicated.

1. Install where new concrete work abuts existing concrete to remain.
2. Do not place within tennis courts.

D. Construction Joints: Install as Detailed where shown on Drawings; at a maximum 20 feet intervals; and between all separate pours.

E. Score Joints: Install as Detailed where shown on Drawings. Saw cut or score to a minimum of 1/3 depth of slab. Remove trowel marks.

3.09 FINISHING

A. Sidewalk Paving: Light broom, texture perpendicular to direction of travel with troweled and radiused edge 1/4 inch radius.

B. Concrete Throw Circle Slabs: Finish inside of throwing circle for track and field events as follows:

1. Review mock-up with Owner's Representative for approval.
2. Provide rubber trowel finish; smooth; free of trowel marks.

C. Finish at Tennis Courts: Hard trowel; free of trowel marks.

3.10 TOLERANCES

A. Maximum Variation of Surface Flatness: 1/4 inch in 10 ft.

B. Maximum Variation From True Position: 1/4 inch.

3.11 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00.

1. Provide free access to concrete operations at project site and cooperate with appointed firm.
2. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.

B. Compressive Strength Tests: ASTM C 39/C 39M. For each test, mold and cure three concrete test cylinders. Obtain test samples for every 100 cu yd or less of each class of concrete placed.

1. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.
2. Perform one slump test for each set of test cylinders taken.

C. Provide air entrainment tests.

D. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

3.12 PROTECTION

A. Immediately after placement, protect pavement from premature drying, excessive hot or cold temperatures, and mechanical injury.

B. Do not permit pedestrian traffic over pavement until 75 percent design strength of concrete has been achieved.

END OF SECTION

SECTION 32 18 23.53
TENNIS COURT SURFACING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Placing multiple layer resilient, all-weather tennis court surfacing.

B. Tennis court line striping and graphics.

C. Furnishing labor, materials, equipment and supplies necessary for the installation of products specified herein.

1.02 RELATED REQUIREMENTS

A. Section 01 60 00 - Product Requirements.

B. Section 01 70 00 - Execution and Closeout Requirements.

C. Section 11 68 33.33 - Tennis Equipment.

D. Section 32 13 13 - Concrete Paving.

1.03 REFERENCE STANDARDS

A. National Federation of State High School Associations Court and Field Diagram Guide, latest edition.

B. American Sports Builders Association (ASBA).

C. United States Tennis Association (USTA).

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to start of Work of this section; require attendance by all affected installers.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Action Submittals:

1. Product Data: Submit product data for tennis court surfacing and line paint.
2. Shop Drawings: Submit shop drawings of tennis court line layout and School graphics.
3. Samples:
    a. Submit color and texture sample of tennis court acrylic surfacing with a 2-inch wide court line.
    b. Furnish color samples of tennis court and border area finish coat colors 30 days prior to application of court surfacing to Owner’s representative. Color approval by Owner.
    c. When requested by Owner's Representative, submit chemical analysis and one-quart sample of each proposed coating product.

C. Quality Assurance Submittal:

1. Submit one copy of current Standards for Tennis Court Construction by US Tennis Court & Track Builders Association.
2. Authorized applicator certificate from the surface system manufacturer.

D. Informational Submittals:
   1. Manufacturer's Installation Instructions: Submit copies of manufacturer's written installation instructions and other recommendations
   2. Maintenance Data.
   3. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.06 QUALITY ASSURANCE

A. Regulatory Requirements:
   1. Comply with standards for tennis court construction published by US Tennis Court & Track Builders Association.
   2. Surfacing contractor must be an authorized applicator of the approved products specified herein.
B. Installer Qualifications: Minimum five successful installations.
C. Surfacing shall conform to the guidelines of the ASBA for planarity.
D. All surface coatings products shall be supplied by a single manufacturer.
E. The installer shall be an authorized applicator of the specified system and a member of the ASBA.

1.07 DELIVERY STORAGE AND HANDLING

A. Protection: Use all means necessary to protect materials of this Section before, during and after installation and to protect installed work and materials of all other trades.
B. Replacement: In event of damage, immediately make all repairs and replacements necessary to approval of Owner's Representative.
C. Storage: Store and handle materials in accordance with manufacturer's recommendations.

1.08 COORDINATION

A. Coordinate with other trades affecting and affected by work of this Section.

PART 2 PRODUCTS

2.01 MATERIALS

2.02 TENNIS COURT SURFACING SYSTEMS

A. Textured acrylic surfacing for tennis courts constructed of concrete.
B. Approved Manufacturers, Products, and Installers:
   1. Plexipave Acrylic Latex Tennis Court System:
      a. Manufacturer: California Products Corp., Andover MA 01810.
      b. Installer: Beynon Sports Surfaces.
      c. Contact: Michael Thompson @ 360-601-5402.
   2. DecoColor Acrylic Latex Tennis Court System:
      a. Manufacturer: California Products Corp., Andover MA 01810.
      b. Installer: Renegade Sports Surfacing.
      c. Contact: Rick Hardin @ 503-443-4714.

3. Submit substitutions following guidelines in Section 01 60 00 - Product Requirements.

2.03 MATERIALS

A. All materials to follow manufacturer's specifications based on the Tennis Court Surfacing System.

B. Patching Mix: For use in patching cracks, holes, depressions and other surface imperfections.
   1. Approved Product: California Court Patch Binder.

C. Crack Filler: For use in filling fine cracks.
   1. Approved Product: California or PlexiPave Crack Filler.

D. Concrete Prepared: Specially formulated acid heat for use in neutralizing the concrete in preparation for tennis court paving system.
   1. Approved Product: As recommended by manufacturer.

E. Adhesion Primer: Two component water based epoxy primer for uncoated concrete surfaces.
   1. Approved Product: California TiCoat.

F. Acrylic Filler Course: For use as a filler for new or existing surfaces. The 100% acrylic filler shall be blended with approved silica sand at the job site.
   1. Approved Product: California Acrylic Resurfacer.

G. Acrylic Color Playing Surface: For use as the finish color and texture.
   1. Approved Product: DecoColor MP/DecoBase I and Plexichrome/Plexipave Color Base, or approved.

H. Line Paint: For use as the line marking on the court surface.
   1. Approved Product: California Line Paint.

I. Water: For use in dilution/mixing shall be clean and potable.

2.04 MATERIAL SPECIFICATIONS

A. Follow manufacturer's specifications.

B. All surfacing materials shall be non-flammable and have a VOC content of less than 100g./ltr. Measured by EPA method 24.

C. Local sands are not acceptable in the color playing surface. Sands must be incorporated at the manufacturing location to insure quality and stability.

PART 3 EXECUTION

3.01 GENERAL

A. Inspection: Prior to installation of the work of this Section, carefully inspect the installed work of others and verify that all such work is complete to the point where this installation may properly commence.

B. Discrepancies: Do not install work of this Section until all unsatisfactory conditions have been corrected. Commencing work denotes acceptance of existing conditions.

3.02 SITE CONDITIONS

A. General:
   1. Comply with manufacturer's recommendations.

B. Temperature and Moisture Requirements:

1. Do not install when rainfall is imminent or extremely high humidity prevents drying.
2. Do not apply unless surface and air temperatures are 50 degrees Farenheit and rising.
3. Do not apply if surface temperature is in excess of 140 degrees Farenheit.

3.03 SURFACE PREPARATION

A. Comply with manufacturer's installation instructions.

B. Allow concrete to cure a minimum of 28 days.

C. Remove oil, grease, clay, dust, loose aggregate, dirt, debris and sand.

D. Flood tennis court paving area with water and allow to drain.

E. Identify and fill all paving areas which hold water deeper than a nickel. Correct depressions following manufacturer's instructions.

F. Install acid treatment on concrete surfaces following manufacturer's installation instructions.

G. Obtain Owner's review and approval of paving / substrate conditions prior to commencing surface application.

3.04 SCHEDULE OF TENNIS COURT COLORS

A. Tennis Court Colors:

1. Synthetic Court Color A (in-court surfaces): Pro Purple (Plexipave color) or Tour Purple (DecoColor color).
2. Synthetic Court Color B (border surfaces): Cape Gray (Plexipave color) or Stone Gray (DecoColor color).

3.05 SURFACE INSTALLATION

A. Follow manufacturer's installation instructions.

B. Prior to applying any surface treatment obtain Owner's Representative's approval.

C. Slope finished court surfaces uniformly in directions indicated on Drawings.

3.06 APPLICATION OF COURT LINES

A. Follow manufacturer's installation instructions.

B. Locate and mark court lines in accordance with the rules of the United States Tennis Association and American Sports Builders Association.

C. Court Line Widths:

1. Base lines: Three inch.
2. Singles and Doubles Court Lines: Two Inch.

3.07 CORRECTIVE WORK

A. Repair variations of tennis court surface of more than 1/8 inch in 10 feet.

B. Repair any defective edges to court lines and graphics.

3.08 CLEANING

A. Upon completion of work of this Section promptly remove from the working area all scraps, debris and surplus material of this Section.

B. Repair any defective edges to court lines and graphics.

C. Remove all containers, surplus materials, and debris. Dispose of materials in accordance with local, state, and Federal regulations.

D. Leave site in a clean and orderly condition.

3.09 PROTECTION

A. Protect all surrounding site improvements from damage by surfacing work.

B. Protect installed surfacing from damage during the balance of construction activity.

END OF SECTION

SECTION 32 31 13
CHAIN LINK FENCES AND GATES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fence framework, fabric, and accessories.

B. Excavation for post bases; concrete foundation for posts.

C. Manual gates and related hardware.

1.02 RELATED REQUIREMENTS

A. Section 03 30 00 - Cast-in-Place Concrete: Concrete anchorage for posts.

B. Section 32 13 13 - Concrete Paving.

1.03 REFERENCE STANDARDS

A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2013.

B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.

C. ASTM A392 - Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric; 2011a.

D. ASTM A428/A428M - Standard Test Method for Weight (Mass) of Coating on Aluminum-Coated Iron or Steel Articles; 2010.

E. ASTM F567 - Standard Practice for Installation of Chain-Link Fence; 2011.

F. ASTM F1043 - Standard Specification for Strength and Protective Coatings on Steel Industrial Chain Link Fence Framework; 2012.

G. ASTM F1083 - Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures; 2010.

1.04 SUBMITTALS

A. Action Submittals:

1. Product Data: Provide data on fabric, posts, accessories, fittings and hardware.
2. Shop Drawings: Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, and schedule of components.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

PART 2 PRODUCTS

2.01 MATERIALS

A. General: Provide all fabric, posts, rails, rods, bars, fittings, and hardware as required to make a complete installation.

B. Posts, Rails, and Frames: ASTM F1083 Schedule 40 hot-dipped galvanized steel pipe, welded construction, minimum yield strength of 30 ksi.

C. Wire Fabric: ASTM A 392 zinc coated steel chain link fabric.

D. Concrete: Type specified in Section 321313.

2.02 COMPONENTS

A. Line Posts: 2-7/8 inch outside diameter.

B. Gate, Corner, and Terminal Posts: 4 inch outside diameter.

C. Top, Bottom, and Brace Rail: 1.66 inch outside diameter, plain end, sleeve coupled.

D. Gate Frame: 1.66 inch diameter for welded fabrication.

E. Fabric: 2 inch diamond mesh interwoven wire, 9 gage thick, top selvage knuckle end closed, bottom selvage knuckle end closed.

F. Tension Bars: 3/16 inch x 3/4 inch x fabric height less 2 inches.

G. Tension Wire, Bands, and Straps: 6 gage thick steel, single strand.

H. Tie Wire: Aluminum alloy steel wire, 7 gauge minimum.

I. Truss Rods: 5/16 inch outside diameter minimum.

2.03 ACCESSORIES

A. Caps: Cast steel galvanized; sized to post diameter, set screw retainer.

B. Fittings: Sleeves, bands, clips, rail ends, tension bars, fasteners and fittings; galvanised steel.

C. Hardware for Single Swinging Gates: 180 degree hinges, 2 for gates up to 60 inches high, 3 for taller gates; fork latch with gravity drop and padlock hasp; keeper to hold gate in fully open position.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install framework, fabric, accessories and gates in accordance with ASTM F 567.

B. Place fabric on inside of posts and rails, unless indicated otherwise.

C. Set intermediate posts plumb, in concrete footings with top of footing 6 inches below finish grade.

D. Brace each gate and corner post to adjacent line post with horizontal center brace rail . Install brace rail one bay from end and gate posts.

E. Provide top rail through line post tops and splice with 6 inch long rail sleeves.

F. Install center brace rail on corner gate leaves.

G. Do not stretch fabric until concrete foundation has cured 28 days.

H. Stretch fabric between terminal posts or at intervals of 100 feet maximum, whichever is less.

I. Position bottom of fabric 1 inches above finished grade.

J. Fasten fabric to top rail, line posts, braces, and bottom rail with tie wire at maximum 15 inches on centers.

K. Attach fabric to end, corner, and gate posts with tension bars and tension bar clips.

L. Install gate with fabric to match fence. Install hardware.

M. Provide concrete center drop to footing depth and drop rod retainers at center of double gate openings.

3.02 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch.

B. Maximum Offset From True Position: 1 inch.

END OF SECTION

SECTION 32 90 00
PLANTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preparation of subsoil.

B. Soil Material placement.

C. Lawn Repair.

1.02 RELATED REQUIREMENTS

A. Section 01 56 39 - Temporary Tree and Plant Protection.

B. Section 01 60 00 - Product Requirements.

C. Section 01 70 00 - Execution and Closeout Requirements.

1.03 DEFINITIONS

A. Weeds: Any plant life not specified or scheduled. Includes seeds and roots.

1.04 Protection

A. Protect existing improvements and growth in areas to remain undisturbed until completion of project. Leave in similar condition as found.

B. Maintain benchmarks, monuments, and other reference points. Replace if disturbed or destroyed.

C. Contact local utility companies for verification of the location of underground utilities within the project area prior to starting excavation. Protect utilities and maintain in continuous operation or in operational condition during work. Repair damage to known utilities or related facilities in an approved manner at Contractor's expense.

D. Protect drainage inlets and underground drain lines from infiltration or clogging by soils and mulch during construction until Final Completion.

E. Protect materials of this Section before, during, and after installation. Protect installed work and materials of other trades. In the event of damage immediately make repairs or replacements as directed by Landscape Architect.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Submit manufacturer's printed data for products and a list of suppliers.

C. Sample: Submit a 2 quart sample of Soil Material with supplier's name and specific location of source. Approval of Soil Material by Landscape Architect is required prior to delivery to the site.

1.06 QUALITY ASSURANCE

A. Valid Oregon Landscape Contractor's license.

B. Valid Oregon Landscape Business license.

C. Herbicide applicators must have valid State of Oregon Herbicide Applicator's license.

1.07 COORDINATION

A. Coordinate with other trades affecting and affected by Work of this Section.

B. Pre-Installation Conference: Attend conference to coordinate Work of this Section and other related Sections.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

B. Deliver products in original unopened packaging with legible manufacturer's identification.

C. Seed containers shall show manufacturer's guaranteed analysis of seed mixture, percentage of purity, year of production, date and location of packaging, name and trademark, and conformance with governing regulations.

1.09 ENVIRONMENTAL CONDITIONS

A. Do not install seed when ambient temperatures is below 32 degrees F or above 90 degrees F.

B. Do not install seed when wind velocity exceeds 30 mph.

C. Do not install seed when soil becomes saturated.

D. Planting Seasons:

1. Seeding: Permitted between April 15 and October 15 unless otherwise approved.

1.10 Reviews

A. Request the following reviews by the Landscape Architect 2 days in advance:

1. Soil Material placement
2. Finish grading
3. Completion

B. Coordinate all reviews to coincide with regular progress meetings where possible.

1.11 WARRANTY

A. Provide one year warranty following Final Completion or one full growing season following Final Completion, whichever is later.

B. Inspection: Visit work at least once a month during warranty period. Notify Landscape Architect and Owner in writing of any observed conditions requiring attention. Failure to provide such notification renders any deficiencies the Contractor's responsibility to rectify.

C. At the end of the warranty period, as directed by Landscape Architect and at no additional cost to the Owner:

1. Replace work not surviving, in poor condition, or not exhibiting satisfactory growth.
2. Lawns must be healthy, dense, uniform, well sodded, and reasonably weed free as judged by the Landscape Architect
3. Provide noxious weed eradication from imported Soil Material, if required and as specified herein.
4. Complete warranty work within 30 days of warranty review.

D. Contractor is not responsible for plant loss or damage to work during warranty period which is caused by unusually extreme weather, vandalism, or Owner's lack of maintenance.

PART 2 PRODUCTS

2.01 SOIL MATERIALS

A. Loam: Imported, natural, fertile, friable; free of rock, clay, subsoil, clods, plants, roots, sticks, weeds, seeds, and other deleterious material. Shall conform to USDA soil texture class "loam", with at least 10% humus.

2.02 SOIL AMENDMENT MATERIALS

A. Lawn Installation Fertilizer: Uniform composition, dry, and free flowing of proportion necessary to eliminate any deficiencies of topsoil, to the following proportions:.
   1. Nitrogen: 16 percent. (source of Nitrogen to be methyl-urea based)
   2. Phosphoric Acid: 16 percent.
   3. Soluble Potash: 16 percent.
   4. Do not use within 50 feet of water.

B. Lawn Maintenance Fertilizer: Uniform composition, dry, and free flowing of proportion necessary to eliminate any deficiencies of topsoil, to the following proportions:.
   1. Nitrogen: 25 percent. (30% Nitrogen from slow release)
   2. Phosphoric Acid: 5 percent.
   3. Soluble Potash: 10 percent.
   4. Do not use within 50 feet of water.

C. Water: Clean, fresh, and free of substances or matter that could inhibit vigorous growth of plants.

2.03 GRASS SEED

A. Certified Oregon Blue Tag Free of Weed seed with dealer's statement analysis guarantee.

B. Current or latest season's crop labeled in conformance with State and US Department of Agriculture laws and regulations:
   1. Purity: 98% by weight
   2. Germination: 90%

C. Products:
   1. Lawn Seed:
      a. Natural Knit by Ledeboer Seed LLC, 503-678-7333, Aurora, Oregon, or approved.

2.04 HERBICIDE

A. No herbicide use allowed.

2.05 SOURCE QUALITY CONTROL

A. Provide testing of imported Soil Material to identify USDA soil classification texture.

PART 3 EXECUTION

3.01 EXAMINATION

A. Prior to installation of Work of this Section, carefully inspect the work of others and verify that such work is complete to the point where this installation may properly commence.

B. Verify that materials and surfaces to receive work specified herein are accurately sized, shaped, and located; sound, secure, true, complete, and otherwise properly prepared.

C. Do not install Work of this Section until all unsatisfactory conditions have been corrected. Beginning Work of this Section signifies acceptance of existing conditions.

3.02 TOLERANCES

A. Perform earthwork true to lines and grades, and to prevent ponding of water, with maximum variation in elevations of +/- 1/2 inch at subgrades and +/- 1/4 inch at finish grades.

B. Compacted thickness of materials within 1/4 inch of specified thickness.

3.03 PREPARATION OF SUBGRADE

A. Prepare subsoil to eliminate uneven areas or low spots. Maintain profiles and contours. Make changes in grade gradual. Blend slopes into level areas.

B. Remove foreign materials, weeds and undesirable plants and their roots, stones, rock, and dirt clods. Remove contaminated subsoil.

C. Notify Landscape Architect for Subgrade Preparation Review prior to placing Soil Material.

3.04 PLACING SOIL MATERIAL

A. Soil Placement Schedule:

1. At Lawns: 9 inches inches minimum depth.
2. At Lawn Repair Areas: Place additional Soil Material as required to establish finish grades shown on drawings and to fill in depressions, blend grades, and produce positive drainage.

B. Place topsoil during dry weather and on dry unfrozen subgrade. Suspend Soil Material placement if subgrade or Soil Material become saturated.

C. Phase Soil Material placement so that equipment does not travel over Soil Material already installed.

D. Place Soil Material in a relatively dry state to depths specified at locations shown on Drawings:

1. Remove stones, roots, grass, weeds, debris, and foreign material while spreading.
2. Manually spread around existing trees, paving, and other structures to prevent damage.
3. Establish levels, profiles, slopes, contours, and uniform gradients between given grade points as shown on Drawings.
4. Eliminate uneven or low spots at lawns and plant beds.
5. Fine grade Soil Material within specified tolerances.

E. Notify Landscape Architect for Soil Material Placement Review prior to proceeding with Work.

3.05 INITIAL WEED CONTROL

A. Inspect lawns for the presence of weeds. If weeds are present manually remove.

3.06 SOIL PREPARATION AND FINISH GRADING

A. Remove debris, sticks, roots, clods, stones, and soils contaminated by petroleum products at lawns. Rake smooth, eliminate uneven areas or low spots in Soil Material, and set grades for positive drainage.

B. At lawns:

1. Manually remove weeds as described in Initial Weed Control.
2. Spread Lawn Installation Fertilizer at the rate of 15 lbs per 1000 square feet. If a Terraseeding method is used for lawn installation do not apply Lawn Installation Fertilizer.
3. Rototill to a minimum depth of 4 inches, except within 10 feet of existing trees and Tree Protection zones.
4. Set finish grades to ensure that finish grade of lawn will be flush with surrounding surfaces.
5. Establish a friable, fine textured seed bed free of bumps and depressions immediately before seeding.
6. Firm seed bed with a lawn roller making passes in 2 directions.

C. At lawn repair areas:

1. Manually remove weeds as described in Initial Weed Control.
2. Place additional Soil Material as necessary to fill in depressions and blend grades with surrounding lawns, plant beds, and paving.
3. Set finish grades to ensure that finish grade of lawn will be flush with surrounding surfaces.
4. Establish a friable, fine textured seed bed free of bumps and depressions immediately before seeding.
5. Firm seed bed with a lawn roller making passes in 2 directions.
6. Spread Lawn Installation Fertilizer at the rate of 15 lbs per 1000 square feet. If a Terraseeding method is used for lawn installation do not apply Lawn Installation Fertilizer.

D. Notify Landscape Architect for Finish Grading Review prior to proceeding with Work.

3.07 SECOND WEED CONTROL

A. After completion of Soil Preparation and finish grading commence irrigation of all lawns. If weeds are present manually remove.

B. Wait ten days minimum and inspect all plant beds and lawn areas for the presence of any additional weeds.

3.08 LAWN INSTALLATION

A. Install lawns using one of the following methods, except do not use sod at reinforced paving areas and Terraseeding is required at Renovated Lawns in no rototilling zones.

1. Hydroseeding:
    a. Mix components are the following rates and apply uniformly and completely:
        1) Seed: 8 lbs per 1000 square feet
        2) Lawn Installation Fertilizer: 15 lbs per 1000 square feet
        3) Sufficient hydromulch to keep areas moist during germination and protect seed from wind erosion.
    b. Ensure all equipment, including hoses, is clean and contains only the specified seed.

B. Apply water with fine spray immediately after each area is sown.

C. Provide a temporary barrier at the limits of newly planted lawns.

3.09 MAINTENANCE

A. At lawns during period between installation and Final Completion:

1. Water, weed, mow, reseed, top dress, and fertilize as necessary to establish a healthy, dense, uniform, weed free stand of grass; maintain at 2 inches high. This includes unirrigated lawns, unless otherwise noted on drawings.
2. Conduct first mowing after grass is firmly rooted and secure. Mow grass when it exceeds 2 inches in height, cutting no more than 1/3 of the grass height at a time. Remove all clippings.
3. Maintain surfaces and supply additional Soil Material and Seed where necessary.
4. After first mowing apply Lawn Maintenance Fertilizer at a rate of 8 lbs per 1000 square feet. Thoroughly water after application.
5. Manually remove weeds.

3.10 CLEANING

A. Remove excess materials from site. Protect drain inlets and underground piping as necessary and clean improvements soiled by Work of this Section.

3.11 COMPLETION REVIEW

A. Notify Landscape Architect for Completion Review when Work of this Section is complete.

END OF SECTION

SECTION 33 41 00
STORM UTILITY DRAINAGE PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes gravity-flow nonpressure storm drainage outside the building, with the following components:
   1. Pipe and fittings.
   2. Cleanouts.
   3. Nonpressure transition couplings.
   4. Catch basins.
   5. Stormwater inlets.
   6. Pipe outlets.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.
   1. Backwater valves.
   2. Cleanouts.
   3. Inlets.
   4. Pipe.
   5. Fittings.
   6. Drains.

B. Shop Drawings:
   1. Precast Concrete Manholes: Include plans, elevations, sections, details, frames, and covers.
   2. Catch basins and stormwater inlets. Include plans, elevations, sections, details, frames, covers, and grates.
   3. Cast-in-place concrete manholes, including frames and covers.
   4. Pre-cast concrete structures, including frames and covers.

C. Field quality-control reports.

1.3 PROJECT CONDITIONS

A. Interruption of Existing Storm Drainage Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:
   1. Notify Architect and Owner no fewer than two days in advance of proposed interruption of service.
   2. Do not proceed with interruption of service without Owner's written permission.

B. Site Information: Research public utility records, and verify existing utility locations prior to ordering any materials. Notify Architect immediately if any discrepancies are found in the project Survey.

PART 2 - PRODUCTS

2.1 Refer to Part 3 "Piping Applications" for applications of pipe, fitting, and joining materials.

2.2 DUCTILE-IRON, GRAVITY SEWER PIPE AND FITTINGS

A. Pipe: ASTM A 746, for push-on joints.

B. Standard Fittings: AWWA C110, ductile or gray iron, for push-on joints.

C. Compact Fittings: AWWA C153, for push-on joints.

D. Gaskets: AWWA C111, rubber.

2.3 PE PIPE AND FITTINGS

A. Corrugated PE Drainage Pipe and Fittings NPS 3 to NPS 10: AASHTO M 252M, Type S, with smooth waterway for coupling joints.

1. Soiltight Couplings: AASHTO M 252M, corrugated, matching tube and fittings.

B. Corrugated PE Pipe and Fittings NPS 12 to NPS 60: AASHTO M 294M, Type S, with smooth waterway for coupling joints.

1. Soiltight Couplings: AASHTO M 294M, corrugated, matching pipe and fittings.

2.4 PVC PIPE AND FITTINGS

A. PVC Corrugated Sewer Piping:

1. Pipe: ASTM F 949, PVC, corrugated pipe with bell-and-spigot ends for gasketed joints.
2. Fittings: ASTM F 949, PVC molded or fabricated, socket type.
3. Gaskets: ASTM F 477, elastomeric seals.

B. PVC Sewer Pipe and Fittings, NPS 15 and Smaller: ASTM D 3034, SDR 35 with bell-and-spigot ends for gasketed joints with ASTM F 477, elastomeric seals.

2.5 NONPRESSURE TRANSITION COUPLINGS

A. Comply with ASTM C 1173, elastomeric, sleeve-type, reducing or transition coupling, for joining underground nonpressure piping. Include ends of same sizes as piping to be joined, and corrosion-resistant-metal tension band and tightening mechanism on each end.

B. Sleeve Materials:

1. For Plastic Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.
2. For Dissimilar Pipes: ASTM D 5926, PVC or other material compatible with pipe materials being joined.

C. Unshielded, Flexible Couplings:

1. Description: Elastomeric sleeve with stainless-steel shear ring and corrosion-resistant-metal tension band and tightening mechanism on each end.

D. Shielded, Flexible Couplings:

1. Description: ASTM C 1460, elastomeric or rubber sleeve with full-length, corrosion-resistant outer shield and corrosion-resistant-metal tension band and tightening mechanism on each end.

E. Ring-Type, Flexible Couplings:

1. Description: Elastomeric compression seal with dimensions to fit inside bell of larger pipe and for spigot of smaller pipe to fit inside ring.

2.6 CLEANOUTS

A. Cast-Iron Cleanouts:

1. Description: Cleanouts: At grade cleanouts shall have an adjustable sleeve-type housing, a threaded brass plug with counter sunk slot, and cast iron frame and cover.
2. Top-Loading Classification(s): Light Duty, Medium Duty, and Heavy Duty.
3. Sewer Pipe Fitting and Riser to Cleanout: ASTM A 74, Service class, cast-iron soil pipe and fittings.

B. Plastic Cleanouts:

1. Description: PVC body with PVC threaded plug. Include PVC sewer pipe fitting and riser to cleanout of same material as sewer piping.

2.7 CONCRETE

A. General: Cast-in-place concrete according to ACI 318, ACI 350/350R, and the following:

1. Cement: ASTM C 150, Type II.
2. Fine Aggregate: ASTM C 33, sand.
3. Coarse Aggregate: ASTM C 33, crushed gravel.
4. Water: Potable.

B. Manhole Channels and Benches: Factory or field formed from concrete. Portland cement design mix, 3000 psi minimum, with 0.45 maximum water/cementitious materials ratio. Include channels and benches in manholes.

1. Channels: Concrete invert, formed to same width as connected piping, with height of vertical sides to three-fourths of pipe diameter. Form curved channels with smooth, uniform radius and slope.
   a. Invert Slope: 2 percent through manhole.
2. Benches: Concrete, sloped to drain into channel.
   a. Slope: 4 percent.

C. Ballast and Pipe Supports: Portland cement design mix, 3000 psi minimum, with 0.58 maximum water/cementitious materials ratio.

1. Reinforcing Fabric: ASTM A 185/A 185M, steel, welded wire fabric, plain.
2. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (420 MPa) deformed steel.

2.8 AREA DRAINS AND INLETS

A. Trapped Catch Basins: 1/4-inch steel plate bituminous coated as manufactured by Lynch, Gratemaster, Gibson Steel Basins, or approved equivalent. Reinforced concrete collars shall be installed per the Drawings.

B. PVC Drain Basin as manufactured by Nyloplast.

C. Frames and Grates: ASTM A 536, Grade 60-40-18, ductile iron designed for heavy-duty service H-20, structural loading. Include flat grate with small square or short-slotted drainage openings.

1. Size: As shown on plans.
2. Grate Free Area: Approximately 50 percent unless otherwise indicated.

2.9 DITCH INLETS

A. Ditch Inlets: Made with face opening to match facility side-slopes, of materials and dimensions as shown on the Drawings.

PART 3 - EXECUTION

3.1 EARTHWORK

1. Excavation, trenching, and backfilling are specified in Section 31 20 00 "Earth Moving." Install tracer wire directly over piping and at outside edges of underground structures. See section 31 20 00 “Earth Moving” for tracer wire material requirements.

3.2 PIPING INSTALLATION

A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm drainage piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.

B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements.

C. Install manholes for changes in direction unless fittings are indicated. Use fittings for branch connections unless direct tap into existing sewer is indicated.

D. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.

E. When installing pipe under streets or other obstructions that cannot be disturbed, use pipe-jacking process or microtunneling.

F. Install gravity-flow, nonpressure drainage piping according to the following:

1. Install piping pitched down in direction of flow at a minimum slope of 1 percent, unless otherwise indicated.
2. Install piping with 36-inch minimum cover, unless otherwise indicated.
3. Install ductile-iron piping and special fittings according to AWWA C600 or AWWA M41.
4. Install PE corrugated sewer piping according to ASTM D 2321.
5. Install PVC sewer piping according to ASTM D 2321 and ASTM F 1668.
6. Install piping below frost line.

G. Install corrosion-protection piping encasement over the following underground metal piping according to ASTM A 674 or AWWA C105:

1. Ductile-iron pipe and fittings.

H. Clear interior of piping and manholes of dirt and superfluous material as work progresses.

3.3 PIPE JOINT CONSTRUCTION

A. Basic pipe joint construction is specified in Division 33 Section “Common Work Results for Utilities.” Where specific joint construction is not indicted, follow piping manufacturer’s written instructions.

B. Join gravity-flow, nonpressure drainage piping according to the following:

1. Join ductile-iron culvert piping according to AWWA C600 for push-on joints.
2. Join ductile-iron piping and special fittings according to AWWA C600 or AWWA M41.
3. Join corrugated PE piping according to ASTM D 3212 for push-on joints.
4. Join PVC corrugated sewer piping according to ASTM D 2321 and ASTM D 3034 for elastomeric-seal joints.

5. Join dissimilar pipe materials with nonpressure-type flexible couplings.

3.4 CLEANOUT INSTALLATION

A. Install cleanouts and riser extensions from sewer pipes to cleanouts at grade. Use PVC fittings in sewer pipes at branches for cleanouts and PVC pipe for riser extensions to cleanouts. Install piping so cleanouts open in direction of flow in sewer pipe.
   1. Use Light-Duty, top-loading classification cleanouts in earth or unpaved foot-traffic areas.
   2. Use Medium-Duty, top-loading classification cleanouts in paved foot-traffic areas.
   3. Use Heavy-Duty, top-loading classification cleanouts in vehicle-traffic service areas.
   4. Use Extra-Heavy-Duty, top-loading classification cleanouts in roads.

B. Set cleanout frames and covers in earth in cast-in-place concrete block, as indicated on plans. Set with tops 1 inch above surrounding earth grade.

C. Set cleanout frames and covers in concrete pavement and roads with tops flush with pavement surface.

3.5 MANHOLE INSTALLATION

A. General: Install manholes, complete with appurtenances and accessories indicated.

B. Install precast concrete manhole sections with sealants according to ASTM C 891.

C. Where specific manhole construction is not indicated, follow manhole manufacturer's written instructions.

D. Set tops of frames and covers flush with finished surface of manholes that occur in pavements. Set tops 3 inches above finished surface elsewhere unless otherwise indicated.

3.6 AREA DRAIN AND INLET INSTALLATION

A. Set frames and grates to elevations indicated.

3.7 STORMWATER OUTLET INSTALLATION

A. Construct riprap as indicated.

3.8 CONCRETE PLACEMENT

A. Place cast-in-place concrete according to ACI 318.

3.9 CONNECTIONS

A. Connect nonpressure, gravity-flow drainage piping in building's storm building drains specified in Section 22 14 13 "Facility Storm Drainage Piping."

B. Make connections to existing piping and underground manholes.
   1. Use commercially manufactured wye fittings for piping branch connections. Remove section of existing pipe; install wye fitting into existing piping; and encase entire wye fitting, plus 6-inch overlap, with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
   2. Make branch connections from side into existing piping, NPS 4 to NPS 20. Remove section of existing pipe, install wye fitting into existing piping, and encase entire wye with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
   3. Make branch connections from side into existing piping, NPS 21 or larger, or to underground manholes and structures by cutting into existing unit and creating an opening large enough to allow 3 inches of concrete to be packed around entering

connection. Cut end of connection pipe passing through pipe or structure wall to conform to shape of and be flush with inside wall unless otherwise indicated. On outside of pipe, manhole, or structure wall, encase entering connection in 6 inches of concrete for minimum length of 12 inches to provide additional support of collar from connection to undisturbed ground.

a. Use concrete that will attain a minimum 28-day compressive strength of 3000 psi unless otherwise indicated.

b. Use epoxy-bonding compound as interface between new and existing concrete and piping materials.

4. Protect existing piping, manholes, and structures to prevent concrete or debris from entering while making tap connections. Remove debris or other extraneous material that may accumulate.

C. Pipe couplings and expansion joints with pressure ratings at least equal to piping rating may be used in applications below unless otherwise indicated.

1. Use nonpressure-type flexible couplings where required to join gravity-flow, nonpressure sewer piping unless otherwise indicated.

a. Unshielded or Shielded flexible couplings for same or minor difference OD pipes.

b. Unshielded, increaser/reducer-pattern, flexible couplings for pipes with different OD.

c. Ring-type flexible couplings for piping of different sizes where annular space between smaller piping's OD and larger piping's ID permits installation.

3.10 IDENTIFICATION

A. Install green tracer wire directly over piping and at outside edges of underground structure. See Section 31 20 00 “Earth Moving” for tracer wire material requirements.

3.11 FIELD QUALITY CONTROL

A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.

1. Submit separate reports for each system inspection.

2. Defects requiring correction include the following:

a. Alignment: Less than full diameter of inside of pipe is visible between structures.

b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.

c. Damage: Crushed, broken, cracked, or otherwise damaged piping.

d. Infiltration: Water leakage into piping.

e. Exfiltration: Water leakage from or around piping.

3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.

4. Reinspect and repeat procedure until results are satisfactory.

B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.

1. Do not enclose, cover, or put into service before inspection and approval.

2. Test completed piping systems according to requirements of authorities having jurisdiction.

3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
4. Submit separate report for each test.
5. Gravity-Flow Storm Drainage Piping: Test according to requirements of authorities having jurisdiction, UNI-B-6, and the following:
    a. Option: Test plastic piping according to ASTM F 1417.

C. Leaks and loss in test pressure constitute defects that must be repaired.

D. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

END OF SECTION

Foundation Engineering, Inc.
Professional Geotechnical Services

Date: July 16, 2014

To: Ben Brantley, Project Manager
Eugene School District 4J

From: James Maitland, P.E., G.E.
Matthew Mason, Geotechnical Staff

Subject: Supplemental Geotechnical Investigation

Project: Roosevelt Middle School
Tennis Court Relocation
FEI Project 2141017-101

We have completed the geotechnical investigation for the above-referenced project. This memorandum includes a description of our work, a discussion of site conditions, a summary of laboratory testing and recommendations for site preparation.

BACKGROUND

Eugene School District 4J plans to construct new tennis courts for Roosevelt Middle School. The new courts will be located north of E 24th Avenue and south of South Eugene High School's track. The location is shown on Figure 1A (Appendix A). From correspondence with the architect, we understand the typical court section consists of 2.5 inches of asphaltic concrete (AC) over 10 inches of compacted, ¾-inch minus crushed rock.

Eugene School District 4J is the project owner and Cameron McCarthy is the prime designer. The district retained Foundation Engineering, Inc. (FEI) as the geotechnical consultant. FEI's scope of work was outlined in a proposal dated July 2, 2014, and authorized by a signed Professional/Technical Services Agreement dated July 3, 2014. FEI is also providing geotechnical consultation as part of the design and construction of the new Roosevelt Middle School. Subsurface information from that work was used to supplement the current investigation.

FIELD EXPLORATION

We dug three exploratory test pits on July 11, 2014, using a Ford 555G rubber-tire backhoe. The test pits extended to a maximum depth of ±5 feet. Disturbed soil samples were obtained for possible laboratory testing. Undrained shear strength measurements were completed on the test pit sidewalls using a Field Vane shear device. The soil profiles, sampling depths, and strength measurements are summarized on the appended test pit logs (Appendix B).

The test pits were continuously logged. The final logs were prepared based on a review of the field logs, results of the laboratory tests, and an examination of the soil samples in our office. The approximate test pit locations are shown on Figure 1A (Appendix A). The subsurface conditions are discussed below.

DISCUSSION OF SITE CONDITIONS

Site Topography and Vegetation

Topographic information was not available for the site. However, the proposed tennis courts are located on a relatively flat parcel. The site is covered by short grass and the east end is presently occupied by the shot put and discus facilities.

Subsurface Conditions

A brief discussion of the soil types encountered in the test pits is provided below. A detailed summary of the conditions encountered in each test pit are provided in the appended logs.

Topsoil. Topsoil was encountered in all test pits, extending from the ground surface to depths of ±1.1 to 1.6 feet. The topsoil consists of brown, stiff, low plasticity silt with scattered organics. At TP-1 and TP-3, the topsoil contained trace to some gravel.

Fill. Fill was encountered beneath the topsoil in TP-2, extending to ±2.5 feet. The fill consists of medium dense gravel with some silt and sand.

Clay (alluvium). Alluvial clay was encountered beneath the topsoil in TP-1 and TP-3, and beneath the fill in TP-2. The clay is dark grey, very stiff, and has high plasticity. Field vane measurements completed on the test pit sidewalls within this stratum indicated undrained shear strengths greater than 1 ton/ft^2 (tsf). Similar clay was encountered in the explorations that were completed for the new school facilities south of the proposed tennis courts. In those explorations, the clay typically extended to depths ranging from ±10 to 13 feet below the ground surface.

Ground Water

Ground water was not encountered in our explorations. However, the observed iron-staining of the surficial soils and the presence of high plastic clay suggest a perched water condition develops near the ground surface during wet portions of the year.

LABORATORY TESTING

The laboratory work included natural water contents and one Atterberg limits test to classify the foundation soils, determine their homogeneity and estimate their overall engineering properties. Non-tested samples were visually classified in accordance with ASTM D2488-09a and ASTM D2487-11. The laboratory test results are summarized in Table 1.

Table 1. Natural Water Content and Atterberg Limits

Sample Number	Sample Depth (feet)	Natural Water Content (percent)	LL	PL	PI	USCS Classification
S-1-2	2.0 – 3.0	29.7	74	33	41	CH
S-2-1	0.5 – 1.0	10.8				
S-2-3	2.5 – 3.5	32.5				
S-3-1	1.5 – 2.5	26.4				

DISCUSSION OF EXPANSIVE CLAY AND MITIGATION OPTIONS

High plasticity clay was encountered in the test pits at depths ranging from ±1.1 to 2.5 feet. Laboratory testing indicates the clay has a Liquid Limit (LL) of 74 and a Plasticity Index (PI) of 41. These limits correspond to a CH soil according to the Unified Soil Classification System. Such soils typically have relatively high potential for shrinkage and swelling with changes in moisture content. Swelling or shrinkage of the subgrade can cause movements (e.g., heave or differential displacement) of the tennis court pavements and other deformation-sensitive structures if not properly mitigated.

The natural water content of the clay (±26 to 33%) is close to, or below, the Plastic Limit, which is consistent with the observed stiffness of the soil. These values suggest the risk of swelling (due to an increase in moisture) is greater than the risk of shrinkage (due to drying).

Complete mitigation of the risk of shrinkage or swelling would require excavation and replacement of the clay. However, previous deeper explorations at the planned school replacement site indicate the plastic clay locally extends well below 5 feet. Therefore, complete removal and replacement of the clay is not cost-effective.

The option of soil amendment (with lime or cement) provides partial mitigation, but is not expected to be viable at this location because the plastic clay is covered with topsoil and, in some places, additional fill. Therefore, the clay is likely too deep for conventional soil mixing equipment without first removing the topsoil and fill.

Another option for partial mitigation includes covering the clay with additional non-expansive material. We typically recommend providing ±2 to 3 feet of non-expansive material (e.g., granular fill) to limit the potential for moisture fluctuation in the clay and to provide a relatively rigid cover to attenuate localized differential movement.

Given the depth of the clay, the amount of imported non-expansive fill will depend, in part, on the proposed final grades of the tennis court surface. If the final grade of the tennis court surface remains consistent with the existing surface, we

recommend removing ±3 feet of soil and replacement with a granular subbase. However, based on discussions with Cameron McCarthy, we understand it is possible to raise the site ±1 foot above existing grades. Since the site is already covered with ±1 to 1.5 feet of topsoil (and in some instances additional fill), we believe this is more cost-effective relative to keeping existing grades. Therefore, if possible, we recommend raising the site at least 1.5 feet to provide a minimum of ±2.5 feet of non-expansive material between the top of the clay stratum and the court pavements. The recommendations provided below assume this approach.

CONSTRUCTION RECOMMENDATIONS

We understand the site work will be completed by mid-September, 2014. Therefore, dry weather conditions are assumed for the recommendations provided below. We should be contacted in the event the site work is delayed into wet weather.

General Earthwork and Material Recommendations

1. Select Fill as defined in this report should consist of 1 or ¾-inch minus, clean (i.e., less than 5% passing the #200 U.S. Sieve), well-graded, crushed gravel or rock. A material gradation sheet should be provided to us for approval prior to delivery to the site.

2. The Separation Geotextile should meet the minimum requirements of an AASHTO M 288-06 geotextile for separation and have Mean Average Roll Value (MARV) strength properties meeting the requirements of an AASHTO M 288-06 Class 2 woven geotextile. The maximum Apparent Opening Size (AOS) should be 0.25 mm, or less. We should be provided a specification sheet on the selected geotextile for approval prior to delivery to the site. The geotextile is intended to help reduce moisture loss from the subgrade rather than reinforcement.

   The Separation Geotextile should be laid smooth on the approved subgrade, without wrinkles or folds, in the direction of construction traffic. Overlap adjacent rolls a minimum of 2 feet. Pin fabric overlaps or place the fill in a manner that will not separate the overlap during construction. Seams that have separated will require removal of the fill to establish the required overlap.

3. Compact the stripped topsoil and imported Select Fill to 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 to confirm adequate compaction

Site Preparation

A grading plan was not available at the time this memorandum was prepared. However, Cameron McCarthy indicated the site will be raised ±1 feet above existing grades to provide a minimum of 2 feet of non-expansive material between the top of the clay stratum and the tennis court pavements. If practical, we recommend raising the site at least 1.5 feet above the existing grades to further reduce the risk from expansive clays. We recommend the site grading be completed as follows during dry weather:

4. Strip the existing ground ±2 inches, or as required to remove most roots and sod. Dispose of all strippings outside of the construction area.

5. Overexcavate all test pits that extend under the tennis court area. Replace the test pit backfill with compacted Select Fill. The approximate test pit locations are shown in Figure 1A.

6. Moisture condition and compact the subgrade using a pad-foot roller as specified in Item 3. Cover the prepared subgrade with a Separation Geotextile.

7. Immediately cover the prepared subgrade and Separation Geotextile with Select Fill. A minimum base rock thickness of 12 inches is recommended to mitigate the presence of the plastic clay located below the topsoil. If practical, increase the base rock thickness to at least 18 inches. The base rock should extend at least 5 feet beyond the limits of the new tennis courts.

8. Compact and test the Select Fill as specified in Item 3.

9. Grade the finished ground surface surrounding the courts to promote positive drainage away from the courts.

10. To limit moisture fluctuation of the remaining clay soil under the courts, do not plant vegetation or shrubs that require frequent watering near the perimeter of the tennis courts.

LIMITATIONS AND CONSTRUCTION OBSERVATION

The conclusions and recommendations contained herein assume the subsurface profiles encountered in the test pits are representative of the overall site conditions. The above recommendations assume we will have the opportunity to review final drawings and be present during construction to confirm the assumed subgrade conditions. No changes in the enclosed recommendations should be made without our approval.

We recommend that FEI be present during subgrade preparation to observed the depth of the stripping, subgrade compaction and confirm that no clay is present at the ground surface. 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 Eugene School District 4J for the Roosevelt Middle School – Tennis Court Relocation project in Eugene, Oregon. Information contained herein should not be used for other 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 those services, if needed, have been completed by others.

We trust this information meets your present needs. Please do not hesitate to call if you have questions.

JKM/MDM/zc
Attachments

REFERENCES

AASHTO, 2006, Geotextile Specification for Highway Applications, American Association of State Highway and Transportation Officials (AASHTO), M 288-06, 21 p.

ASTM, 2009, *Description and Identification of Soils (Visual-Manual Procedure):* ASTM International, West Conshohocken, PA, ASTM Standard D2488-09a, DOI: 10.1520/D2488-09A, 11 p., www.astm.org.

ASTM, 2011, *Classification of Soils for Engineering Purposes (Unified Soil Classification System, USCS):* ASTM International, West Conshohocken, PA, ASTM Standard D2487-11, DOI: 10.1520/D2487-11, 11 p., www.astm.org.

Appendix A

Figure

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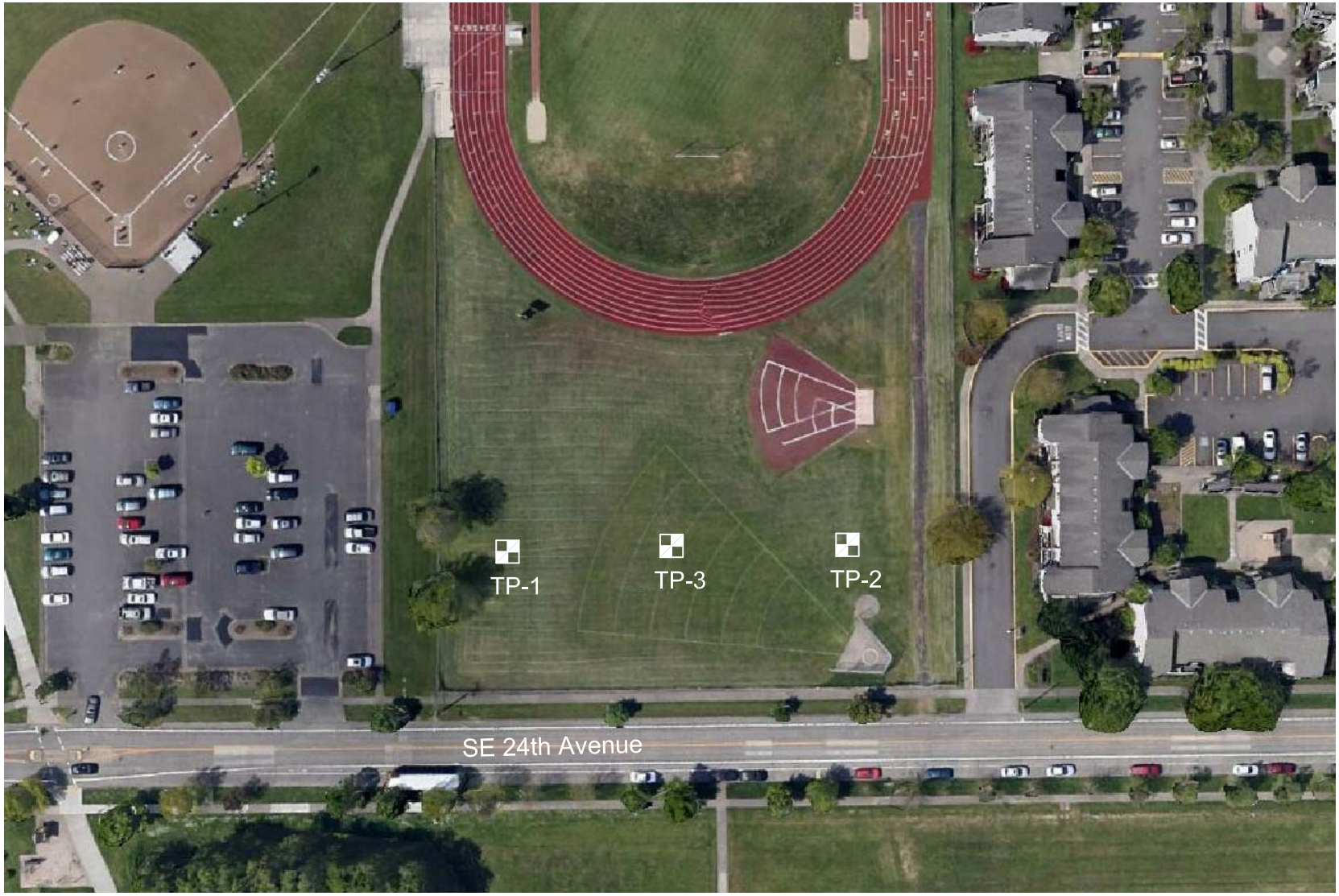

No Scale

NOTES:
1. TEST PIT LOCATIONS ARE APPROXIMATE ONLY.
2. SEE MEMORANDUM FOR A DISCUSSION OF SUBSURFACE CONDITIONS.
3. AERIAL IMAGE OBTAINED FROM GOOGLE EARTH.

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DATE JULY 2014
DWN. mdm
APPR.
REVIS.
PROJECT NO.
2141017-101

TEST PIT LOCATIONS

ROOSEVELT MIDDLE SCHOOL – TENNIS COURT RELOCATION
EUGENE, OREGON

FIGURE NO.
1A

Appendix B

Test Pit Logs

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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.

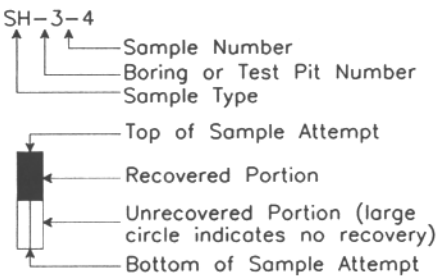
VARIATION IN SOILS BETWEEN TEST PITS AND BORINGS

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 (%).

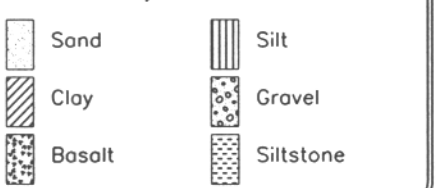
UNIFIED SOIL CLASSIFICATION SYMBOLS

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


Water Table Location

(1/31/00) Date of Measurement


Piezometer Tip Location (if used)

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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

Comments	Depth, Feet	Sample #	Location	Class Symbol	Water Table	C, TSF	Symbol	Soil and Rock Description
Surface: grass.	1	S-1-1						Stiff SILT, trace to some gravel, scattered organics, (ML); brown, dry to damp, low plasticity, fine, subangular to rounded gravel, organics consist of fine roots, (topsoil).
	2	S-1-2				>1 tsf		Very stiff CLAY, (CH); dark grey, iron-stained, damp to moist, high plasticity, (alluvium).
	3							
No seepage or ground water encountered to extent of excavation.	4							BOTTOM OF TEST PIT
	5							
	6							

Project No.: 2141017-101
Surface Elevation: N/A
Date of Test Pit: July 11, 2014

Test Pit Log: TP-1
Roosevelt Middle School
Tennis Court Relocation
Eugene, Oregon

Comments	Depth, Feet	Sample #	Location	Class Symbol	Water Table	C, TSF	Symbol	Soil and Rock Description
Surface: grass.	1	S-2-1						Stiff SILT, scattered organics, (ML); brown, dry to damp, low plasticity, organics consist of fine roots, (topsoil).
	2	S-2-2						Medium dense GRAVEL, some silt and sand, (GP); grey-brown, damp, fine to medium sand, fine to coarse, subrounded to rounded gravel, (fill).
	3	S-2-3				>1 tsf		Very stiff CLAY, (CH); dark grey, iron-stained, damp to moist, high plasticity, (alluvium).
	4							
No seepage or ground water encountered to extent of excavation.	5							BOTTOM OF TEST PIT
	6							

Project No.: 2141017-101
Surface Elevation: N/A
Date of Test Pit: July 11, 2014

Test Pit Log: TP-2
Roosevelt Middle School
Tennis Court Relocation
Eugene, Oregon

Comments	Depth, Feet	Sample #	Location	Class Symbol	Water Table	C, TSF	Symbol	Soil and Rock Description
Surface: grass.	1							Stiff SILT, trace to some gravel, scattered organics, (ML); brown, dry to damp, low plasticity, fine, subangular to rounded gravel, organics consist of fine roots, (topsoil).
	2	S-3-1				>1 tsf		Very stiff CLAY, (CH); dark grey, iron-stained, damp, high plasticity, (alluvium).
No seepage or ground water encountered to extent of excavation.	3							BOTTOM OF TEST PIT
	4							
	5							
	6							

Project No.: 2141017-101

Surface Elevation: N/A

Date of Test Pit: July 11, 2014

Test Pit Log: TP-3

Roosevelt Middle School

Tennis Court Relocation

Eugene, Oregon