

**PROJECT MANUAL  
FOR THE  
BONITA UNIFIED SCHOOL DISTRICT  
FOR  
2 TENNIS COURTS  
AT  
BONITA HIGH SCHOOL  
3102 D St., LaVerne, CA 91750**

**Bid No. 15-16: 007**

**BONITA UNIFIED SCHOOL DISTRICT  
115 W Allen Ave, San Dimas, CA 91773  
(909) 971-8320**

SECTION 01010  
SUMMARY OF WORK

1.1 GENERAL

- A. Project Description: Demo and Installation of 2 New Tennis Courts – Bonita High School, in the Bonita Unified School District. The project is located at 3102 D Street La Verne, CA 91750.
- B. Description of Improvements:  
Place new slab on two tennis courts at Bonita H.S.
- Demo existing asphalt/pavement and haul off to disposal site (asphalt and dirt down to 7")
  - Place 5" of concrete on #4 rebar spaced 16" O.C. each way.
  - Laser screen to achieve 1% slope.
  - Install new posts and nets - 2 sets
  - Power wash tennis court(s) Acid wash and prime
  - Apply Latexite black resurfacer coat, 100% latex acrylic, mixed with #60 silica to smooth out surface and provide a superior base for color coating
  - Apply two coats of Latexite color, 100% latex acrylic, mixed with #90 silica sand for a medium speed of play
  - Stripe to ASBA specs
  - Option for post tension tennis courts
- C. Overall Project Budget: \$135,000.00
- D. Cash Allowance: Not Applicable
- E. Base Bid: The Project consists of one Base Bid.
1. Description of Base Bid:
    - a. Base Bid: This includes all work described in the project plans and specifications (complete).
- F. Basis of Award: The method to determine the lowest bid will be the lowest total of the base bid.
- G. Tentative Project Schedule: The tentative project schedule is subject to change at the sole discretion of the Owner, and is as follows:
1. School Board Award of Construction Contract:
  2. Processing and submittal of bonds, agreements, etc. (including OPSC review of low bid package as needed):
  3. Notice to Proceed issued by the District (See section "H" below):
  4. Start of the on-site formal construction schedule: (42 weeks, 294 consecutive calendar days)
  5. Completion of Construction:

- H. Phase 0 (Prior to formal start of construction): This is an advance phase of work that will occur prior to the construction contract calendar. This phase of work includes administrative items only. No physical on-site construction activities or mobilization will be permitted. This phase of work includes field verification and measuring. The time shall be used for field measuring, submittal of shop drawings, samples, requests for information (RFIs), etc., to facilitate smooth operation in subsequent construction phases. The time will be used to help procure construction materials, particularly those with long lead times (21 consecutive calendar days).
- I. Work Beyond the Project Schedule: If the project is not completed within the contract schedule, the District may terminate the Contract. At District's sole discretion as an alternative, they may allow (or require) the Contractor to continue working toward completion of the project while assessing liquidated damages. It is possible that the District could take beneficial occupancy of all, or part of the facility prior to Substantial Completion.
1. Hours of Work: All work may be required to take place after school hours and on weekends. Work on all days is governed by City ordinances. Work on school days may begin no earlier than 4:30 p.m., and will conclude by midnight the same day.
  2. No utility outages at any site (such as water, power or fire alarm system), may take place during school days. On weekends where utility interruptions are planned, the school and Architect must be given three days prior written notification describing the work taking place, which utilities will be interrupted and the duration of the interruption.
- J. Owner's Use of Site and Premises: Owner reserves the right to occupy and to place and install equipment in completed areas of buildings and site, prior to Substantial Completion, provided that such occupancy does not interfere with completion of the Work. Such placing of equipment and partial occupancy shall not constitute acceptance of the total Work.
1. A Certificate will be executed for each specific portion of the Work to be used by Owner ("beneficial occupancy") prior to obtaining Certificate of Occupancy from authorities having jurisdiction.
  2. Prior to use of portions of the Work by Owner, mechanical and electrical systems shall be fully operational. Required inspections and tests shall have been successfully completed. Unless otherwise agreed, Owner will provide operation and maintenance of mechanical and electrical systems in portions of the building used by Owner.
- K. Contractor's Use of Site and Premises: Limit the use of the premises to construction activities, allow for Owner access.
1. Keep driveways and entrances clear at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize requirements for storage of materials.
  2. Keep all tools and building materials in places where they will not be accessible to unauthorized individuals or to vandals so as to not present a safety or security problem at the campus.

3. Remove all debris, excess materials and demolished items from the site promptly so as not to cause safety or security problems.
- L. Owner-Furnished Products: Owner will furnish, for installation by Contractor, products which are identified on the Drawings and in the Specifications as "OFCI (Owner-Furnished/Contractor-Installed)", "installed by General Contractor," or similar terminology. See Drawings for identification of such products, which include, but are not necessarily limited to standard toilet accessories, paper towel holders, etc.
1. Relationship to Work Under the Contract: Work under the Contract shall include all provisions necessary to fully incorporate such products into the Work, including as necessary fasteners, blocking, backing, supports, piping, conduit, conductors and other such provisions from point of service to point of connection and field finishing as shown on Drawings and specified herein.
- M. Contractors Staging and Storage Area: The District will designate construction staging. This area is intended to accommodate material storage, staging and preparation activities. It should also accommodate the contractor's construction trailer and other temporary facilities. Finally, it should contain parking areas for construction and employee vehicles as designated by the District.

The area must be completely fenced and secured with lockage access gates. Ingress and egress to the staging area shall be regulated for the safety of the students and site occupants. Contractors will not drive above the speed of five miles per hour on school grounds. If the site is occupied by students and staff (site is scheduled to have occupants moved to another location) in and out access may be limited to before and after school, and/or to periods when students are inside classroom spaces at the District's sole discretion. If the staging area provided is not adequate for site based activities, the contractor will make arrangements for additional off-site storage, staging and parking areas as part of the bid pricing.

At the completion of construction, the Contractor will demobilize and remove all fencing, temporary access drives and other temporary facilities.

The bid scope shall include full restoration of this area to its pre-construction condition, including turf repair with sod, plant replacement if needed and irrigation system repairs or replacement. Damaged A.C. paving shall be repaired to match existing paving thickness and base. Re-stripe and slurry contractor's storage and work area.

- N. **Hazard Material Abatement:** The Project includes complete hazardous material abatement services by the District's Contractor. The District's Contractor is responsible for removing and legally disposing of all hazardous materials in accordance with the rules and regulations of all applicable Federal, State and local regulatory bodies so as to protect workers, building occupants and the environment. Refer to the Abatement Specifications prepared directly for the District CF Environmental and AAA Lead Consultants. This is provided for information only. The project Architect and its engineering team did not prepare and are not responsible for the hazardous materials abatement contract documents and abatement.

1. The specified insurance coverages for the designated hazardous material removal contractor will list the School District, Project Architect and all consulting engineers, Project Manager and Prime Contractor (if applicable) as additional insurance for all abatement procedures.
- O. Security: The Contractor will be completely responsible for safety and security at the project site. The Contractor will provide complete temporary perimeter security fencing (the existing fencing is acceptable) around the project work area throughout the entire project. Refer to Section 01500, Construction Facilities and Temporary Controls, for more information.
- P. Where small, miscellaneous work is described and no specification section is included, refer to Section 01120, Alteration Procedures, and notes on drawings and details for basic specification information. Otherwise match existing adjacent surface to remain (in material, texture, color and sheen) as approved by Architect.
- Q. The work also includes all demolition of items described to be removed in the drawings and specifications or needed to install new improvements, even if not indicated. The Contractor shall completely remove all items including connections, piping, electrical switches, conduits and wire. Unless noted otherwise upon the removal of demolished items, the Contractor shall restore all surfaces, elements, etc. to match existing adjacent surfaces and including finished coatings, flashing, etc. as applicable. Any items to be demolished that are reusable or which have a salvage value shall be offered to the Owner to keep for warehousing and use on other projects. Any such items that the Owner declines to accept/retain will be removed from the site by the Contractor immediately.

END OF SECTION

## SECTION 01018

### OWNER-FURNISHED ITEMS

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

This section includes general requirements for Owner-furnished, Contractor-installed materials and equipment, referred to collectively as OFCI items. It also includes description of responsibilities regarding Owner-furnished, Owner-installed items, referred to as OFOI items.

##### 1.02 DEFINITIONS:

- A. OFCI: Owner furnished, Contractor installed.
- B. OFOI: Owner furnished, Owner installed.

##### 1.03 SUBMITTALS:

Obtain all necessary information from Owner as to manufacturer, model, and type of each item to be incorporated in the project. Submit, or obtain from Owner as applicable, shop drawings showing dimensioned rough-in diagrams for each Owner furnished item requiring utility connection, dimensional locations of backing plates required in walls and partitions and details of connections to supports of all items.

##### 1.04 CONDITIONS:

In each case, the Contractor is responsible for correct and properly located installation of the OFCI items in accordance with the various manufacturers' specifications and instructions.

- A. Conflicts: If a conflict occurs between requirements for OFCI items and actual field conditions, Contractor shall not install the affected items until the conflict is resolved. No extra payment will be made to the Contractor for correction of improper installation of OFCI items when reasonably adequate data and instructions for installation were furnished by the Owner or various OFCI item manufacturers.
- B. Installation: Install OFCI items complete in every detail with each item accurately and correctly placed, connected, adjusted and tested.
- C. Delivery: OFCI items will be delivered to site. Contractor shall receive and unload the OFCI items, verify that the items have not been damaged in transit, place in covered storage or enclosed building and be responsible therefore after delivery. OFCI items that are damaged, abused, lost or stolen while in Contractor's custody and control, or damaged or defaced during installation shall be repaired, replaced or otherwise made good to the Owner's satisfaction at the Contractor's expense.
- D. Inspection of New Owner furnished Items: Within 10 working days after delivery of the items, Contractor shall open and uncrate the items for inspection. The Owner's

representative and Contractor shall inspect each item and maintain a written record of all damage, missing parts and other defects disclosed, all of which will be made good by the Owner. After the inspection, Contractor shall be fully responsible for the equipment and items as specified above.

- E. Protection of Existing Owner furnished items: refer to Section 01120.
- F. Additional Information: Contractor may request and receive from the Owner all necessary additional information, specifications, templates and similar items from any of the manufacturers of the OFCI items. The Contractor may request a manufacturer's representative to supervise installation of any OFCI item, but at no additional cost to Owner.
- G. OFOI Items: The Owner will provide and install or have installed by others, certain items, which may or may not be indicated in detail on the drawings. Contractor shall allow the Owner access to spaces and facilities as required to perform the work. Refer to the General Conditions and Supplementary Conditions for provisions for work under separate contracts.

## PART 2 - PRODUCTS

### 2.01 OFCI EQUIPMENT:

- A. List: The list of OFCI items is shown in Section 01010.
- B. Installation Materials: Contractor shall provide attachments, fittings, fasteners, connectors and other ancillary material required for installation which is not usually furnished by the OFCI manufacturers, types as approved.

### 2.02 OFOI ITEMS:

The Owner will provide and install or have installed by others, certain items including movable furniture and other items which may or may not be indicated in detail on the drawings. Contractor shall allow the Owner access to spaces and facilities as required to perform the work. Refer to the General Conditions for provisions for work under separate contracts.

### 2.03 OFOI, CONTRACTOR ROUGHIN AND CONNECT:

The Owner will provide and install, or have the following items and systems installed by others. Contractor shall allow the Owner access to spaces and facilities as required to perform the work. Refer to the General Conditions and Supplementary Conditions for provisions for work under separate contracts. Contractor shall rough in utilities as noted below, together with all other utilities required for each component. Contractor shall provide blocking, supports, anchors, firstopping, sealants, painting and such other ancillary items and work as required for complete and operable installation.

- A. Refrigerators.

### PART 3 - EXECUTION

#### 3.01 INSTALLATION:

Conform to each OFCI item manufacturer's specifications, templates and information including the necessary assembling of components of sub-assemblies.

#### 3.02 TESTS:

Contractor shall operate and test each operable OFCI item when installed and connected. If malfunctions occur through no fault of the Contractor, the Owner will make the defect good; otherwise, the Contractor shall effect all necessary corrections so the OFCI item operates properly and as intended, at the Contractor's expense.

END OF SECTION



## SECTION 01048

### CONTRACTOR'S REQUESTS FOR INFORMATION

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

All other sections of Division 1 apply to this Section. This Section covers the general requirements for Contractor's Requests for Information and pertains to all portions of the contract documents.

A. Related work specified elsewhere:

1. Project meetings
2. Submittals
3. Substitutions

##### 1.02 DEFINITION:

- A. Request for Information: A document submitted by the Contractor requesting clarification of a portion of the contract documents, hereinafter referred to as RFI.

##### 1.03 CONTRACTOR'S REQUESTS FOR INFORMATION:

- A. When the Contractor is unable to determine from the contract documents, the exact material, process or system to be installed, the Architect shall be requested to make a clarification of the indeterminate item. Wherever possible, such clarification shall be requested at the next appropriate project meeting, with the response entered into the meeting minutes. When clarification at the meeting is not possible, either because of the urgency of the need or the complexity of the item, Contractor shall prepare and submit an RFI to the Architect.
- B. Contractor shall endeavor to keep the number of RFI's to a minimum. In the event that the process becomes unwieldy in the opinion of the Architect because of the number and frequency of RFI's submitted, the Architect may require the Contractor to abandon the process and submit all requests as either submittals, substitutions or requests for change.
- C. RFI's shall be submitted on a form provided by or approved by the Architect. Forms shall be completely filled in and if prepared by hand, shall be fully legible after copying by xerographic process. Each page of attachments to RFI's shall bear the RFI number in the lower right corner.
- D. RFI's from subcontractors or material suppliers shall be submitted through, reviewed by, and signed by the Contractor prior to submittal to the Architect.

- E. Contractor shall carefully study the contract documents to assure that the requested information is not available therein. RFI's which request information available in the contract documents will not be answered by the Architect.
- F. In all cases where RFI's are issued to request clarification of coordination issues for example, pipe and duct routing, clearances, specific locations of work shown diagrammatically and similar items, the Contractor shall fully lay out a suggested solution using drawings or sketches drawn to scale, and submit same with the RFI. RFI's which fail to include a suggested solution will not be answered.
- G. RFI's shall not be used for the following purposes:
  - 1. To request approval of submittals.
  - 2. To request approval of substitutions.
  - 3. To request changes which entail additional cost or credit.
  - 4. To request different methods of performing work than those drawn and specified.
- H. In the event the Contractor believes that a clarification by the Architect result in additional cost, Contractor shall not proceed with the work indicated by the RFI until a change order is prepared and approved. Answered RFI's shall not be construed as approval to perform extra work.
- I. Unanswered RFI's will be returned with a stamp or notification: Not Reviewed.
- J. Contractor shall prepare and maintain a log of RFI's and at any time requested by the Architect, Contractor shall furnish copies of the log showing all outstanding RFI's. Contractor shall note all unanswered RFI's in the log.
- K. Contractor shall allow for 14 days review and response time for RFI's.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION

SECTION 01050  
FIELD ENGINEERING

PART 1 - GENERAL

1.01 DESCRIPTION:

Division 1 applies to this Section. Provide field engineering, complete.

- A. Work specified in this Section: Layout of the work.
- B. Related work specified elsewhere: Record drawings.

1.02 LAYOUT OF THE WORK:

Contractor shall lay out the work from the drawings, the benchmarks and the column lines established by the District, and shall establish all additional benchmarks, monuments, lines and levels necessary for the construction covered by the contract.

1.03 UTILITIES SURVEY:

Contractor shall verify and confirm the exact locations of utility services where connections or extensions are required. Where trenches or excavations are required to determine locations, repair surface to match existing undisturbed condition.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION

SECTION 01060  
REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.01 DESCRIPTION:

This Section covers the general requirements for regulatory requirements pertaining to the work and is supplementary to all other regulatory requirements mentioned or referenced elsewhere in the contract documents.

1.02 REQUIREMENTS OF REGULATORY AGENCIES:

All pertaining statutes, ordinances, laws, rules, codes, regulations, standards and the lawful orders of all public authorities having jurisdiction of the work are hereby incorporated into these contract documents the same as if repeated in full herein and such are intended where any reference is made in either the singular or plural to code or building code unless otherwise specified including, without limitation, those in the list below. Contractor shall make available at the site such copies of the listed documents applicable to the work as the Owner may request including mentioned portions of the 2013 California Building Code.

- A. The list of applicable codes is shown on the drawings.
- B. Also comply with other statutes, ordinances, laws, regulations, rules, orders and codes specified in other Sections of the Specifications or bearing on the Work.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION

## SECTION 01091

### SOURCES FOR REFERENCED MATERIAL

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

All other sections of Division 1 apply to this Section. This Section covers the general information for obtaining referenced information, including standards, specifications, catalogs and other printed and electronic material pertaining to the work.

##### 1.02 REFERENCE AND STANDARD SPECIFICATIONS:

- A. Specifying by reference to a reference and standard specification document or to another portion of the contract documents shall be the same as if the referenced document or portion of the contract documents referred to were exactly repeated at the place where such reference is made. In case of a conflict between the requirements of regulatory agencies and the referenced reference and standard specification documents, Contractor shall conform to the most restrictive requirement if such conformance is legal.
- B. Reference or standard specification documents shall be the current issues in effect on the date bids are received, unless otherwise specified or unless codes or statutes make reference to earlier editions. Contractor shall make available at the site such copies of reference or standard specification documents as Architect or Owner may request.

##### 1.03 WEB SITES:

Because of the frequency of changes, web addresses are not given in the specifications. Contractor may contact specified manufacturers and trade associations by accessing 4specs.com (<http://www.4specs.com/>) and following the instructions for reaching the appropriate web site.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION

## SECTION 01092

### SPECIFICATION ABBREVIATIONS

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

This Section covers abbreviations for documents mentioned or referenced elsewhere in the contract documents, and language abbreviations used in the text of the Specifications. Abbreviations in drawings and specifications shall be interpreted according to recognized and well-known technical, industry or trade meanings.

##### 1.02 ORGANIZATION NAME ABBREVIATIONS:

These abbreviations include but are not limited to the following:

AA	The Aluminum Association, Inc.
AABC	Associated Air Balance Council
AAIEE	American Institute of Electrical and Electronics Engineers
AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Traffic Officials
ACI	American Concrete Institute
ADA	Americans with Disabilities Act
ADAAG	Americans with Disabilities Act Accessibility Guidelines
AGA	American Gas Association
AGC	Associated General Contractors
AHA	American Hardwood Association
AI	Asphalt Institute
AIA	American Institute of Architects
AIMA	Acoustical and Insulating Materials Association
AISC	American Institute of Steel Construction, Inc.
AISI	American Iron and Steel Institute
AMCA	Air Moving and Conditioning Association, Inc.
ANSI	American National Standards Institute
APA	APA – The Engineered Wood Association
ARI	Air Conditioning and Refrigeration Institute
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASSE	American Society of Sanitary Engineers
ASTM	ASTM International (formerly American Society for Testing and Materials)
ATBCB	Architectural & Transportation Barriers Compliance Board
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
CBM	Certified Ballast Manufacturers
CCR	California Code of Regulations
CFPA	Certified Forest Products Council
CFR	Code of Federal Regulations
CLFMI	Chain Link Fence Manufacturers Institute

CISPI	Cast-Iron Soil Pipe Institute
CRA	California Redwood Association
CRI	Carpet and Rug Institute
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standard, US Department of Commerce
CSFM	California State Fire Marshal
CSI	Construction Specifications Institute
CTI	Cooling Tower Institute
CTIOA	Ceramic Tile Institute of America
DHI	Door and Hardware Institute
DOD	Department of Defense
DSA	Division of the State Architect, Office of Regulation Services
EIA	Electronic Industries Association
EPA	United States Environmental Protection Agency
ETL	Electrical Testing Laboratories
Fed Spec	Federal Specification or Standard
FIA	Factory Insurance Association
FM	Factory Mutual
FS	Federal Specifications
FSC	Forest Stewardship Council
GA	Gypsum Association
GANA	Glass Association of North America
HMMA	Hollow Metal Manufacturers Association
HPVA	Hardwood Plywood & Veneer Association
IAMPO	International Association of Plumbing and Mechanical Officials
ICBO	International Conference of Building Officials
IEEE	Institute of Electrical and Electronic Engineers
IES	Illuminating Engineering Society
IGMA	Insulating Glass Manufacturers Association
IPCEA	Insulated Power Cable Engineers Association
ISAT	International Seismic Application Technology
ISO	International Organization for Standardization
MFMA	Maple Flooring Manufacturers Association
MIA	Masonry Institute of America
MLMA	Metal Lath Manufacturers Association
MLSFA	Metal Lath/Steel Framing Association
NAAMM	National Association of Architectural Metal Manufacturers
NBFU	National Board of Fire Underwriters
NBS	National Bureau of Standards
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFC	National Fire Code
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health

NIST	National Institute of Standards and Technology
NLMA	National Lumber Manufacturers Association
NPDES	National Pollutant Discharge Elimination System
NRCA	National Roofing Contractors Association
NSF	National Sanitation Foundation
NSWMA	National Solid Wastes Management Association
NUSIG	National Uniform Seismic Installation Guidelines
PCA	Portland Cement Association
PDI	Plumbing and Drainage Institute
PEI	Porcelain Enamel Institute
PS	Product Standard, US Department of Commerce
RIS	Redwood Inspection Service
SAE	Society of Automotive Engineers
SCAQMD	South Coast Air Quality Management District
SDEI	Steel Deck Institute
SDI	Steel Door Institute
SFM	State Fire Marshal
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SPR	Simplified Practice Recommendations, U.S. Dept. of Commerce
SSPC	Steel Structures Painting Council
SWI	Steel Window Institute
TCA	Tile Council of America
UBC	Uniform Building Code
UBPPA	Uni-Bell PVC Pipe Association
UFAS	Uniform Federal Accessibility Standards
UL	Underwriters' Laboratories, Inc.
WCLIB	West Coast Lumber Inspection Bureau
WDMA	Window and Door Manufacturers Association (formerly National Wood Window and Door Association)
WI	Woodwork Institute (formerly Woodwork Institute of California)
WWPA	Western Wood Products Association

### 1.03 TEXT ABBEVIATIONS:

Text abbreviations include but are not limited to the following:

ac	Alternating current
amp	ampere
BTU	British thermal unit
cfh	Cubic feet per hour
cfm	Cubic feet per minute
cm	Centimeter
Co.	Company
COP	Coefficient of performance
Corp.	Corporation
d	Penny



db.	Decibel
DB	Dry bulb
dc	Direct current
EER	Energy efficiency ratio
F	Degrees Fahrenheit
fpm	Feet per minute
ft	Foot or feet
gph	Gallons per hour
gpm	Gallons per minute
HP	Horsepower
HVAC	Heating, ventilating and air conditioning
Hz	Hertz
Inc.	Incorporated
KHz	Kilohertz
Kip	thousand pounds
Ksf	Thousand pounds per square foot
Ksi	Thousand pounds per square inch
Kv	Kilovolt
KVA	Kilovolt amperes
KW	Kilowatt
KWH	Kilowatt hour
LF	Linear foot
MPH	Miles per hour
lb	Pound
LED	Light emitting diode
MBH	1000 BTUs per hour
MHz	Mega hertz
mil	Thousandth of an inch
mm	Millimeter
mph	Miles per hour
oz.	Ounce
PCF	Pounds per cubic foot
pH	Acidity-alkalinity balance
psf	Pounds per square foot
psi	Pounds per square inch
psig	Pounds per square inch, gage
RF	Radio frequency
rpm	Revolutions per minute
SF	Square foot
SY	Square yard
V	Volt
WB	Wet bulb

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION

## SECTION 01094

### DEFINITIONS

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

This Section covers definitions supplementary to those given in the Conditions of the contract.

##### 1.02 DEFINITIONS:

- A. District or Owner: The term "District" or "Owner" refers to BONITA UNIFIED SCHOOL DISTRICT, 115 W. Allen Ave. San Dimas, CA 91773, or their authorized representative. The terms are used interchangeably.
- B. Architect: Not Used in this Project.
- C. References to Drawings: Words such as "shown", "indicated", "detailed", "scheduled", "noted", and words of similar meaning shall mean that reference is made to the information on the drawings unless stated otherwise.
- D. Actions of Architect: Such words as "directed", "designated", "selected", and words of similar meaning shall mean the direction, designation, selection, or similar action of the Architect is intended unless stated otherwise.
- E. Required: The word "required" and words of similar meaning shall mean "as required to complete the Work" and "required by the Architect", as is applicable to the context of the place where used, unless stated otherwise.
- F. Perform: The word "perform" shall mean that Contractor, at Contractor's expense, shall perform all the operations necessary to complete the Work or the mentioned portions of the Work, including furnishing and installing materials as are indicated, specified or required to complete such performance.
- G. Provide: The word "provide" shall mean that Contractor, at Contractor's expense, shall furnish and install the Work and mentioned portion of the Work, complete in place and ready for the intended use. These definitions apply the same to future, present and past tenses except "provided" may mean "contingent upon" where such is the context.
- H. Equal: Words such as "equal", "approved equal", "equivalent", and terms of similar meaning shall be understood to be followed by the phrase "in opinion of the Architect" unless stated otherwise.
- I. Approval: The words "approved", "approval", "acceptable", "acceptance" and other words of similar meaning shall mean that approval or acceptance of Architect, or similar meaning, is intended unless stated otherwise.

- J. Review: The word “review” and words of similar meaning shall mean the review and observation of the Architect is intended unless stated otherwise.
- K. Submit: The words “submit”, “submittal”, “submission”, and other terms of similar meaning shall include the meaning of the phrase “submit to the Architect for approval” unless otherwise stated.
- L. Expense: Such phrases as “at Contractor’s expense”, “at no extra cost to Owner”, “at no additional contract cost”, “with no extra compensation to Contractor”, or phrases of similar meaning shall mean that Contractor shall perform or provide the operation of work without increase in the contract price.
- M. Fees and Charges: District reimburses contractor for utility fees charged by jurisdictional agencies. If applicable DSA fees are paid by District. Contractor is required to pay for all licenses and similar requirements that he must have in effect in order for him to accomplish his work.
- N. Language: Specifications are written in a modified brief style consistent with clarity. Words and phrases requiring an action or performance, such as “perform”, “provide”, “erect”, “install”, “furnish”, “connect”, “test”, “coordinate”, and words and phrases of similar meaning, shall be understood to be preceded by the phrase “The Contractor shall” unless otherwise stated. Requirements indicated and specified apply to all work of the same kind, class and type, even if the word “all” is not stated. The use of the singular number implies the plural, if more than one of an item or unit is required; likewise the use of the plural number implies the singular, if only one of an item or unit is required.
- O. Titling and Arrangement: Article, paragraph and subparagraph titles and other identifications of subject matter in the specifications are intended as an aid in locating and recognizing the various requirements in the specifications. Except where the titling forms a part of the text, such as beginning words of a sentence or where the title establishes the subject, the titles are subordinate to and do not define, limit or restrict the specification text. Underlining or capitalizing of any words in the text does not signify or mean that such words convey special or unique meanings having precedence over any other part of the contract documents. Specification text shall govern over titling and shall be understood to be and interpreted as a whole. The listings of various parts of work to be included or not included under various sections of the specifications are for convenience only and do not control the Contractor in dividing the work among the subcontractors or establish the extent of the work to be performed or provided by any subcontractor or trade. Contractor is solely responsible for providing the complete work without respect to where or how the various parts of the work may be indicated or specified. The sequence of articles, paragraphs, subparagraphs and subsubparagraphs in the specifications text is defined by the sequence 1.01A.1.a.(1)(a).

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION

SECTION 01120  
ALTERATION PROCEDURES

PART 1 - GENERAL

1.01 DESCRIPTION:

The requirements of all other sections of the specifications apply to this section. This Section covers the general requirements for special project procedures pertaining to the alteration of existing construction and is complementary to similar requirements indicated or specified.

A. Work In This Section: Principal items include:

1. Alterations and repairs to existing facilities as required to complete the work.
2. Relocation and reinstallation of existing construction and finish.
3. Storage and protection of existing items to be reinstalled.

1.02 DESIGN INTENT:

The intent of the drawings and specifications is to construct the school building complex in accordance with Title 24, California Code of Regulations. If any conditions develop which are not covered by the contract documents wherein the finished work would not comply with said Title 24, California Code of Regulations, a construction change document detailing and specifying the required work shall be submitted to and approved by DSA before proceeding with the work.

1.03 SUBMITTALS:

- A. Manufacturer's Data: Submit complete product data, test reports and application instructions for floor leveling materials.

1.04 QUALITY ASSURANCE:

- A. Video Documentation: Refer to Division 1. Before starting work of this section, provide one video of existing conditions to be affected by the demolition work. Provide progress videos as the work progresses, at intervals as approved, illustrating substrates, connections, concealed conditions and other conditions which will benefit the Owner's permanent records.

1.05 JOB CONDITIONS:

- A. General: Coordinate work of other sections and with the Owner to assure the correct sequence, limits, methods and times of performance. Arrange the work to impose minimum of hardship on operation and use of the facilities. Install protection for existing facilities, contents and new work against dust, dirt, weather, damage and vandalism, and maintain and relocate as work progresses.

- B. Access: Confine entrance and exit operations to access routes designated by the Owner.
- C. Existing Portable Items: Owner will remove portable equipment, furniture and supplies from involved existing areas prior to start of work therein. Cover and protect remaining items to remain.
- D. Verification of Conditions: Perform a detailed survey of existing site and building conditions pertaining to the work before starting work. Report to Architect discrepancies or conflicts between the drawings and actual conditions in writing for clarification and instructions and do not perform work where such discrepancies or conflicts occur prior to receipt of Architect's instructions.
- E. Building Security: Secure building entrances and exists with locking or another approved method in accordance with the Owner's instructions.
- F. Safeguarding of Owner's Property: Contractor shall assume care, custody and responsibility for safeguarding all of the Owner's property of every kind, whether fixed or portable, remaining in rooms and spaces vacated and turned over to the Contractor by the Owner for his exclusive use in performance of the work until the work therein or related thereto is completed and the rooms or spaces are reoccupied by Owner. Furnish all forms of security and protection necessary to protect the Owner's property. Regardless of cause, Contractor shall repair, replace or otherwise acceptably make good all of the Owner's property under the Contractor's care, custody and safeguarding that is damaged, injured, missing, lost or stolen from time each such room or space is turned over to the Contractor for the work until re-occupied by Owner, at Contractor's expense and as directed by Owner.
- G. Welding: Conform to following requirements where welding is performed in or on existing facilities:
  - 1. Protection During Welding: Conform to Title 8, CCR. Further protect occupants and the public with portable solid vision barricades around locations where welding is performed plus signs warning against looking at welding without proper eye protection, or equivalent.
  - 2. Fire Extinguishers: Maintain a fully charged UL-labeled minimum 4A/60BC fire extinguisher at every location where welding is performed within or on the facilities.
  - 3. Welding Smoke Control: Verify locations of existing smoke detectors. Perform welding operations by methods that produce the minimum feasible smoke and fumes. Furnish portable type smoke collection and ventilating equipment as required to prevent smoke and fume nuisances. Notify Owner at least 48 hours in advance if temporary deactivation of any smoke detector is required to prevent false alarms from the welding operations. The Owner's personnel will deactivate detectors only for the time welding is actually in progress.
  - 4. Fire Prevention: Before welding, examine existing construction and backing for all combustible materials and finishes and for conditions where heat conduction in metals may bring adjoining materials to ignition temperature. Use positive fire

prevention measures including temporary removal and reinstallation of combustible materials, installation of temporary shields and/or heat sinks, and other necessary means. When actual field conditions are such that positive fire prevention measures cannot be achieved, notify Architect and to not proceed with the involved work until receipt of Architect's instructions.

- H. Protection of Floors: Use care to protect all floor surfaces and coverings from damage. Equip mobile equipment with pneumatic tires.

#### 1.06 EXISTING CONDITIONS:

The intent of the drawings is to show existing site and building conditions with information developed from the original construction documents, field surveys and Owner's records, and to generally show the amount and types of demolition and removals required to prepare existing areas for new work. Contractor shall make a detailed survey of existing conditions pertaining to the work before commencing demolition. Report discrepancies between drawings and actual conditions to the Architect for instructions and do not perform any removal work where such discrepancies occur prior to receipt of the Architect's instructions.

PART 2 – PRODUCTS – Not applicable to this Section.

#### PART 3 – EXECUTION

##### 3.01 CUTTING AND PATCHING:

Execute cutting, including excavation, fitting and patching of work required to make the several parts fit properly, to remove and replace defective work, to remove and replace work not conforming to requirements of the contract documents, and to install specified work in existing construction.

- A. When directed by Architect, uncover work to provide for Architect's observation of covered work, remove samples of installed materials for testing and remove work to provide for alteration of existing work.
- B. Do not damage work by cutting or altering any part of it.
- C. Do not cut or alter work of separate contractors without written consent of Architect.
- D. If it is necessary to cut work which affects the structural safety of the project, or which affects the work of a separate contractor, submit written notice to Architect requesting consent to proceed with cutting. The request shall include the following items:
  - 1. Description of affected work and necessity for cutting it.
  - 2. Effect on other work and on the structural integrity of project.
  - 3. Description of proposed work, including scope of cutting and patching, trades which will execute the work, products and materials to be used, and refinishing methods and extent.

4. Alternative methods, if any, to accomplish the work without cutting and patching.
  5. Cost estimate, if additional cost is anticipated.
  6. Notification of interruption of services, if applicable.
- E. If conditions of work or schedule indicate a change of materials or methods, submit written commendations to Architect, stating the conditions which affect the change, recommendations for alternative materials or methods. Provide submittals as specified for substitutions for all materials and methods proposed to be changed.
  - F. Inspect all existing conditions of work, including elements subject to movement or damage during cutting and patching and during excavation and backfilling.
  - G. Provide shoring, bracing and coverings as required to maintain structural integrity to provide protection of project and surrounding improvements.
  - H. After uncovering work, inspect conditions affecting installation of new materials and products.
  - I. Restore work which has been cut or removed, install new products to provide completed work in accordance with the contract documents.
  - J. Refinish patched, new and existing surfaces to match adjacent, undisturbed construction. Where repainting is necessary, the painting shall be carried to natural breaks or natural terminations, as approved.
  - K. Repair and patch offsite paving, concrete, landscaping and related work where disturbed by installation of utilities, and where damaged by the work of the contract.

### 3.02 ALTERATIONS AND REPAIRS:

- A. Basic Requirement: Restore and refinish all new and existing construction and improvements that are cut into, altered, damaged, relocated, reinstalled or left unfinished by removals to original condition or to match adjoining work and finishes unless otherwise shown, specified, directed or required. Workmanship and materials shall conform to applicable provisions of other Sections. Provide new fasteners, connectors, adhesives and other accessory materials as required to fully complete approved reinstallations and restorations. Where restorations and refinishing are defective or are otherwise not acceptable to Owner, remove all the defective or rejected materials and provide new acceptable materials and finish at no extra cost to Owner.
- B. Patching, Repairing and Finishing:
  1. Concrete: Dampen cut edges damp for 24 hours, then scrub with a neat Portland cement mortar just before new concrete is placed, epoxy adhesive may be used in lieu of cement mortar. Finish new concrete to match existing. Provide 3,000 psi concrete for repairs and slabs on grade. At cut concrete edges to remain exposed,

- apply adhesive and restore with minimum 3/4" thick cement mortar finished to match adjoining surfaces.
2. Openings to be Closed: Trim edges square and straight, and dampen and grout scrub or treat with an adhesive as specified above for cut concrete edges. Provide 3,000 psi concrete. Provide reinforcement as required to match existing concrete. Where installation of concrete is impracticable, fill openings with dry-packed non-shrink grout. Finish to match adjoining surfaces.
  3. Metal Items: Grind cut edges to remain exposed smooth and rounded.
  4. Landscaping and Planting: Where trenches are cut through existing planted or landscaped areas, and where new construction damages existing planting and landscaping, repair the surfaces, prepare surfaces for planting and replace planting and landscaping with new materials to match existing. Provide all required soil preparation, soil amendments, fertilizers and plant materials necessary to accomplish this.
  5. It is the Contractor's responsibility to verify the condition of utilities prior to accomplishing the work above and below grade. Exploration and sensing devices are required. Contractor is responsible for all utility coordination (new and existing), depths required and correct inverts for a complete and operative system.

### 3.03 PREPARATION OF EXISTING WORK:

- A. Holes: Drill holes through existing concrete or masonry for new conduit and/or piping and do not jack-hammer.
- B. Beadblasting: Work includes beadblasting of existing surfaces to receive materials secured by cementitious, adhesive or chemical bond (such as concrete, toppings, elastomeric coatings, plaster, mortar, etc.) and the beadblasting of other surfaces as shown, specified, directed or required for proper preparation of surfaces. Completely remove existing finishes, stains, oil, grease, bitumen, penetrated mastics and adhesives including primers and substances deleterious to bond or connection of new materials and expose clean sound surfaces. Employ wet beadblasting for interior surfaces, and for exterior surfaces where directed or necessary to prevent creation of a dust nuisance or required by code.
- C. Filling, Patching and Grinding: Where existing surfaces are shown or required to receive new finish materials, and where such surfaces have cracks, holes, depressions, ridges, foreign materials or other conditions which preclude proper installation of the new finish materials, the existing surfaces shall be reconditioned. Holes, cracks and depressions shall be filled with patching compounds of suitable types compatible with new materials. Ridges and "high spots" shall be ground down. Areas of different planes shall be feathered out. Foreign materials shall be removed by use of solvents where approved, or by sandblasting as specified above. Any other reconditioning as may be required shall be performed to enable existing surfaces to receive new finish materials.

### 3.04 CONCRETE SLAB LEVELING:



All existing and new concrete slabs which are out of level by 1/8" in 10' or more shall be treated as specified herein.

A. Material for Concrete Floor Leveling: Self-leveling, self-smoothing, cementitious, factory mixed compound requiring only addition of water at the site. Materials shall be manufactured by Ardex Inc., 630 Stoops Ferry Road, Coraopolis, PA 15108, (412) 264-4240, types as listed below. Equivalent products, Level-Right Plus and related materials manufactured by Maxxon, 920 Hamel Road, Hamel, MN 55340 (612) 478-9600 FAX (612) 478-2431 may be submitted for approval for leveling 0" to 1-1/2".

1. Primer for porous (concrete) surfaces: Ardex P-51.
2. Primer for non-porous surfaces, such as sealed concrete, ceramic and quarry tile, wood, etc.: Ardex P-82 Ultra Prime.
3. Leveling compound for surfaces to be covered for other materials, Ardex K-15 having the properties indicated in the following table.

Physical property, units	Test Method	Acceptable value
Initial set, minutes	ASTM C191	30, at 70 degrees F.
Final set, hours	ASTM C191	2, at 70 degrees F.
Compressive strength, psi: After 24 hours After 28 days	ASTM C109	2,630 4,100
Flexural strength, psi After 24 hours After 28 days	ASTM C348	770 1,000
Flammability Flame spread Smoke developed Fuel contributed	ASTM E84	0 0 0

4. Leveling compound for surfaces to remain exposed: Ardex K-500 Self-Leveling Fast Track Concrete Topping. Minimum properties shall be not less than those specified above.

B. Mixing: Leveling compound shall be mixed 1 bag of compound to not over 7 quarts of water. Where depth of leveling compound will exceed 1/2", fine gravel (1/8"-1/4" gradation) may be added. Mix approximately 2 minutes until material is smooth and lump free.

C. Test Area: Prior to application of floor leveling compound, provide primer and leveling compound on a test area of not less than 4 feet square to assure the suitability of the material for the intended use.

- D. Preparation: Floors shall be inspected and all uneven areas shall be treated by grinding to remove high spots, and with floor leveling compound to eliminate low areas. Floors shall be clean and free from oil, grease, wax, latex compounds, curing compounds dust and foreign matter. Floors shall be primed with appropriate primer for each type of surface.
  
- E. Mix the material in accordance with manufacturer's instructions and apply and smooth the material over the floor. Where pumping of the material is feasible, use manufacturer's recommended equipment and methods. Featheredge at edges. Where gravel is incorporated into the mix, apply to slightly below final elevation, then apply a thin layer of neat material over the first layer before the first layer has set. Finished surfaces shall be level to within 1/8" in 10 feet in any direction, non-accumulative. Texture of finish shall match adjacent floors.

END OF SECTION

## SECTION 01150

### ENVIRONMENTAL PROTECTION

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

All other sections of Division 1 apply to this Section, and the requirements of this Section apply to all sections where the work involves the protection of the environment. During the progress of the work, the Contractor shall protect the environment, both on-site and off-site, throughout and upon completion of the construction project.

A. Related work specified in other sections:

1. Cleaning.
2. Field engineering.

##### 1.02 MITIGATION OF CONSTRUCTION IMPACTS:

A. Requirements: The Contractor's operations shall comply with all federal, state and local regulations pertaining to water, air, solid waste and noise pollution.

B. Definitions of Contaminants:

1. Sediment: Soil and other debris that has been eroded and transported by storm or well production runoff water.
2. Solid Waste: Rubbish, debris, garbage, vegetation and other discarded solid materials resulting from construction activities.
3. Chemical Waste: Includes petroleum products, bituminous materials, salts, acids, alkalies, herbicides, pesticides, organic chemicals and inorganic wastes.
4. Sanitary Wastes:
  - a. Sewage: That which is considered as domestic sanitary sewage.
  - b. Garbage: Refuse and scraps resulting from preparation, cooking, dispensing and consumption of food.

C. Contractor is to protect existing water system during construction from contamination. Water is to be tested as required for purity during construction. It is the Contractor's responsibility to provide a testing policy for the full duration of the project.

##### 1.03 PROTECTION OF NATURAL RESOURCES:

A. General: It is intended that the natural resources within the project boundaries and outside the limits of permanent work performed under this Contract be preserved in their

existing condition or be restored to an equivalent or improved condition upon completion of the work. The Contractor shall confine the construction activities to areas defined by the public roads, easements and work area limits shown on the drawings.

- B. Temporary Construction: Remove all signs of temporary construction facilities such as haul roads, work areas, structures, foundations of temporary structures, stockpiles of excess or waste materials, or any other vestiges of construction as directed by the Architect. Level all temporary roads, parking areas and any other areas that have become compacted or shaped. Any unpaved areas where vehicles are operated shall receive a suitable surface treatment or shall be periodically wetted down to prevent construction operations from producing dust damage and nuisance to persons and property, at no additional cost to the Owner. Keep haul roads clear at all times of any object which creates an unsafe condition. Promptly remove any contaminants or construction materials dropped from construction vehicles. Do not drop mud and debris from construction equipment on public streets. Sweep clean turning areas and pavement entrances as necessary.
- C. Land Resources: Do not remove, cut, deface, injure or destroy trees or shrubs outside the work area limits. Do not remove deface, injure or destroy trees within the work area without permission from the Architect. Such improvements shall be removed and replaced, if required, by the Contractor at his own expense.
  - 1. Protection: Protect trees that are located near the limits of the Contractor's work areas which may possibly be defaced, bruised or injured or otherwise damaged by the Contractor's operations. No ropes, cables or guys shall be fastened to or be attached to any existing nearby trees or shrubs for anchorages. No vehicles or equipment shall be parked within the extents of the canopy of any tree.
  - 2. Repair or Restoration: Repair or replace any trees or other landscape feature scarred or damaged by equipment or construction operations as specified below. The repair and/or restoration plan shall be reviewed and approved by the Architect prior to its initiation.
- D. Water Resources: Contractor shall investigate and comply with all applicable Federal, state and local regulations concerning the discharge (direct or indirect) of pollutants to the underground and natural waters. All work under this contract shall be performed in such a manner that any adverse environmental impacts are reduced to a level that is acceptable to the Owner and regulatory agencies.
  - 1. Oily substances: At all times, special measures shall be taken to prevent oily or other hazardous substances from entering the ground, drainage areas or local bodies of water in such quantities as to affect normal use, aesthetics or produce a measurable ecological impact on the area.
  - 2. Mosquito Abatement: Construction activities shall be conducted such that ponding of stagnant water conducive to mosquito breeding habitat will not occur at any time.
- E. Dust Control, Air Pollution and Odor Control: Take measures to avoid the creation of dust, air pollution and odors.

1. Unpaved areas where vehicles are operated shall be periodically wetted down or given an equivalent form of treatment to eliminate dust formation.
2. All volatile liquids, including fuels or solvents, shall be stored in closed containers.
3. No open burning of debris, lumber or other scrap will be permitted.
4. Equipment shall be properly maintained or reduce gaseous pollutant emissions.

#### 1.04 NOISE CONTROL:

Perform demolition and construction operations to minimize noise. Perform noise producing work in less sensitive hours of the day or week as directed by the Architect.

- A. Repetitive, high level impact noise will be permitted only between the hours of 8:00 AM and 6:00 PM, Monday through Friday. Repetitive impact noise on the property shall not exceed the following limitations:

Sound level (dB)	Duration of impact noise
70	12 minutes per hour
80	3 minutes per hour

- B. Provide equipment, sound-deadening devices and take noise abatement measures that are necessary to comply with these requirements.
- C. Maximum permissible construction equipment noise levels at 50 feet:
- |        |  |
|--------|--|
| 80 dB: | Scrapers, stationary pavers, rock drills, pneumatic tools. |
| 75 dB: | All other construction equipment.                          |
- D. Whenever work is being performed which exceeds 55 dB noise level, measure the sound level every 5 days to determine noise exposure to the construction. Use the A weighing network of a general purpose sound level meter at slow response. Take measurements not less than six feet in front of building faces. Submit records to Architect.

#### 1.05 CONSTRUCTION STORAGE AREAS:

Storage of construction equipment and materials shall be limited to designated work areas. Store and service equipment at the designated areas where oil wastes shall be collected. Oily wastes shall not be allowed to flow on to the ground or to enter surface waters.

#### 1.06 DISPOSAL OPERATIONS:

- A. Solid Waste Management: Supply storage containers. Remove daily all debris, such as spent air filters, oil cartridges, cans, bottles, combustibles and litter. Convey contents only to a favorably reviewed sanitary landfill. Care shall be taken to prevent papers from blowing onto adjacent property. Personnel shall be encouraged to use refuse containers.

- B. Chemical Waste Management: Supply containers to store spent chemicals used during construction operations. Chemicals shall be disposed of in a favorably reviewed sanitary landfill.
- C. Garbage: Garbage shall be stored in covered containers, picked up daily and disposed of a favorably reviewed sanitary landfill.

#### 1.07 PRESERVATION OF MONUMENTS AND EXISTING FEATURES:

All monuments, bench marks or property line stakes disturbed by construction operations shall be promptly re-established by a registered land surveyor or civil engineer.

#### 1.08 SAFETY:

Comply with all rules and regulations of NIOSH, CAL/OSHA and local authorities concerning jobsite safety.

#### 1.09 EXISTING UTILITIES:

The Contractor shall coordinate construction activities with the government agencies, land owners and utility companies, and operations shall be planned to allow access to all property and utility owners.

#### 1.10 PROTECTION OF WORK:

The Contractor shall be responsible for the care of all work until its completion and final acceptance. Replace damaged or lost material and repair damaged parts of the work at no additional contract cost.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION

SECTION 01200  
PROJECT MEETINGS

PART 1 - GENERAL

1.01 DESCRIPTION:

This Section covers the general requirements for the project meetings.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION

3.01 PROJECT MEETINGS:

- A. Attendees: Unless otherwise specified or required by the District, meetings shall be attended by the District, Contractor, Contractor's Superintendent and the Inspector of Record. Subcontractors may attend the meetings when involved in matters to be discussed or resolved but only when requested by the District, Architect or Contractor.
- B. Meeting Records: The Contractor will record minutes of each meeting and furnish copies within a reasonable time thereafter to the District, Contractor, Inspector of Record and other attendees. Unless written objection to contents of the meeting minutes is received by Contractor within 3 days after presentation, it shall be understood and agreed that the minutes are a true and complete record of the meeting.
- C. Meeting Schedule: Dates, times and locations for various meetings shall be agreed upon and recorded at pre-construction meeting. Thereafter, changes to the meeting schedule shall be agreed between the District and the Contractor, with appropriate written notice to all parties involved.

3.02 PRE-CONSTRUCTION MEETING:

- A. General: Before issuance of Notice to Proceed, a pre-construction meeting shall be held at the location, date and time designated by District. In addition to attendees named herein, this meeting shall be attended by representatives of the regulatory agencies having jurisdiction, if required, and such other persons the District may designate.
- B. Agenda: The matters to be discussed or resolved and the instructions and information to be furnished to or given by the Contractor at the preconstruction conference include:
  - 1. Schedule of progress meetings.
  - 2. Progress schedule and schedule of values submitted by Contractor.
  - 3. Communication procedures between the parties.
  - 4. Names and titles of all persons authorized by Contractor to represent and execute documents for Contractor, with samples of all authorized signatures.
  - 5. The names, addresses and telephone numbers of all those authorized to act for the Contractor in emergencies.

6. Construction permit requirements, procedures and posting.
7. Public notice of starting Work.
8. Forms and procedures for Contractor's submittals.
9. Change Order forms and procedures.
10. Payment application forms and procedures and revised progress schedule reports to accompany the applications.
11. Contractor's designation of his organization's accident prevention member and his qualifications if other than the Superintendent.
12. Contractor's provisions for barricades, traffic control, utilities, sanitary facilities and other temporary facilities and controls.
13. Consultants and professionals employed by District and their duties.
14. Construction surveyor and initiation of surveying services.
15. Testing Laboratory or Agency and testing procedures.
16. Procedures for payroll and labor cost reporting by the Contractor.
17. Procedures to ensure nondiscrimination in employment.
18. Warranties and guarantees.
19. Long lead item status.
20. Other administrative and general matters as needed.

### 3.03 CONSTRUCTION PROGRESS MEETINGS:

Progress meetings shall be held according to the agreed schedule. All matters bearing on progress and performance of the Work since preceding progress meeting shall be discussed and resolved including, without limitation, any previously unresolved matters, deficiencies in the work or methods being employed for the work and problems, difficulties or delays which may be encountered.

### 3.04 PROGRESS MEETINGS:

Conduct progress meetings at the project site at regularly scheduled intervals. Notify the District of scheduled meeting dates. Coordinate dates of meetings with preparation of the payment request.

- A. Attendees: In addition to representatives of the District each subcontractor, supplier or other entity concerned with current progress or involved in planning, coordination or performance of future activities shall be represented at these meetings by personnel familiar with the project and authorized to conclude matters relating to progress.
- B. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the current status of the project.
- C. Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's construction schedule, whether on time or ahead or behind 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. Provide a 2 week "look ahead" schedule at each construction progress meeting.



- D. Review the present and future needs of each entity present, including such items as interface requirements, time, sequences, deliveries, off-site fabrication problems, access, site utilization, temporary facilities and services, hours of work, hazards and risks, housekeeping, quality and work standards, change orders, documentation of information for payment requests.
- E. Reporting: No later than 5 days after each progress meeting date, distribute copies of minutes of the meeting to each party present and to other parties who should have been present. Include a brief summary of progress since the previous meeting and report.
- F. Schedule Updating: Revise the construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.

### 3.05 SPECIAL MEETINGS:

After notice to other parties, special meetings may be called by the District or Contractor. Special meetings shall be held where and when designated by the District. Other special meetings, such as the pre-grading conference, shall be conducted as specified in the various sections of the specifications.

### 3.06 POST-CONSTRUCTION MEETING:

This meeting shall be held prior to the final inspection of the work to discuss and resolve all unsettled matters. Bonds and insurance to remain in force and the other documents required to be submitted by the Contractor will be reviewed and any deficiencies determined. Schedule and procedures for the final inspection and for final correction of defects and deficiencies shall be agreed.

END OF SECTION

## SECTION 01400

### TESTS AND INSPECTIONS

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

This Section covers testing and inspection procedures.

##### A. Requirements not in this Section:

1. Specific test requirements are specified in each section where they occur.
2. Verification of conditions.
3. Tolerances nomenclature.

##### 1.02 PAYMENT FOR TESTING:

##### A. District will employ and pay for services of an independent testing laboratory approved by DSA to perform specified inspection and testing, including required continuous inspection. Contractor shall reimburse the District for excessive inspection costs incurred by the District because of the following:

1. Contractor's failure to complete entire work within the contract time stated in Agreement, and any previously authorized extensions thereof.
2. Claims between separate contractors.
3. Covering of work before required inspections or tests are performed.
4. Extra inspections for Contractor's correction of defective work.
5. Overtime costs for acceleration of work for Contractor's convenience.

##### B. Contractor shall pay cost of the following:

1. Additional tests necessitated if materials fail to meet contract requirements.
2. Tests required by District to substantiate proposed substitutions.
3. Tests required to determine code compliance.
4. Costs of concrete mix designs.

##### 1.03 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY:

##### A. Laboratory is not authorized to:

1. Release, revoke, alter or enlarge on the requirements of the contract documents.
2. Approve or accept portion of the work.
3. Perform any duties of the Contractor.
4. Stop work.

##### B. Work of the testing laboratory shall in no way limit Contractor's quality control procedures or relieve Contractor of his obligation to perform work in accordance with the contract documents.

1.04 ADDITIONAL TESTING:

- A. If the District determines that any work requires additional inspection, testing or approval, District will direct the Contractor to order such special inspection, testing or approval.
- B. If special inspection, testing or approval reveals a failure of the work to comply with the contract documents, the Contractor shall reimburse the District for the costs, including additional services made necessary by such failure.
- C. If special inspection, testing or approval indicates that the work complies with the contract documents, the District will bear the costs.

1.05 GENERAL QUALITY CONTROL REQUIREMENTS:

- A. General Test Requirements: Materials to be furnished under the Contract are subject to testing and inspection for compliance with the requirements of drawings and inspections.
- B. Testing laboratory: The licensed testing laboratory certified as meeting requirements of ASTM D3666, D3740, E329, E543 and E548, as applicable to work involved and approved by District, referred to hereafter as the testing laboratory. Perform testing under the supervision and control of a California registered professional engineer employed by testing laboratory.
- C. Disqualified Material: Material shipped or delivered to the site by Contractor from the source of supply prior to having satisfactorily passed the required testing and inspection, or prior to the receipt of a notice from the District that such testing and inspection will not be required, shall not be incorporated in the work.
- D. Notification of Field Tests: The District reserves the right to be present at field testing as required by the contract documents. Contractor shall notify the District and Inspector not less than 24 hours in advance of field testing.
- E. Disqualified Work: Work in place which fails to conform to test requirements shall be removed and replaced without cost to the District. Where feasible, and subject to the approval of the District, disqualified work may be repaired, strengthened or otherwise modified to bring it into conformance with test requirements.

1.06 TEST PROCEDURES:

- A. Materials to be furnished under the Contract shall be subject to testing for compliance with the contract documents. Tests will be made in accordance with the applicable standard methods of the ASTM, AASHTO or procedure herein specified.
- B. Materials so specified herein, including such others as the District may direct, shall be tested. The Contractor shall furnish samples of the materials prepared for tests as required to the testing laboratory providing adequate time for testing before need at the project. The materials represented by samples under tests shall not be incorporated in the work without the approval of the District.

- C. Test Procedures: Testing laboratory shall perform tests according to ASTM or other methods of test specified for various materials in other sections. If no procedure or test method is specified, testing shall conform to the material specification referenced except as otherwise directed. Testing laboratory shall tag, seal, label, record or otherwise adequately identify materials for testing and no such materials, shall be used or installed in the work until test result reports are submitted and approved, excepting only those materials specified to be placed or installed prior to testing.
- D. Test Repeating: Repeat applicable tests at specified intervals, whenever source of supply is changed, or whenever the characteristics of materials change or vary in the opinion of District or Architect.

#### 1.07 COORDINATION AND COOPERATION:

The Contractor shall initiate and coordinate testing and inspections required by the contract documents and public authorities having jurisdiction of the work. Notify the testing laboratory sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include but not limited to:

- A. Providing access to the work and furnishing incidental labor and facilities necessary for inspections and tests.
- B. Taking adequate quantities of representative samples of materials that require testing or assisting the agency in taking samples.
- C. Providing facilities for storage and curing of test samples and delivery of samples to testing laboratories.
- D. Providing testing laboratory with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
- E. Security and protection of samples and test equipment at the project site.
- D. Furnish copies of mill test reports.

#### 1.08 TEST REPORTS:

- A. Reports shall be provided of tests. Such reports shall include tests made, regardless of whether such tests indicate that the material is satisfactory or unsatisfactory. Samples taken but not tested shall also be reported. Records of special sampling operations as required shall also be reported. The reports shall show that the material or materials were sampled and tested in accordance with the requirements of CBC and with the approved specifications. Test reports shall show the specified design strength. They shall also state definitely whether or not the material or materials tested comply with requirements.
- B. Furnish and deliver copies of each test report, signed and certified by the testing laboratory professional engineer, as follows:

No. of Copies:

- |   |                         |
|---|-------------------------|
| 1 | District                |
| 1 | DSA Inspector or Record |

- C. Promptly notify the District of observed irregularities or deficiencies in the work or in products to be used in the work.
- D. Each report shall include:
1. Date issued.
  2. District, Project title and number.
  3. Testing laboratory name, address and telephone number.
  4. Name and signature of laboratory inspector.
  5. Date and time of sampling or inspection.
  6. Record of temperature and weather conditions.
  7. Date of test.
  8. Identification of product and specification section.
  9. Location of sample or test in the project.
  10. Type of inspection or test.
  11. Results of tests and compliance with contract documents.
  12. Interpretation of test results, when requested.
  13. DSA application number.

1.09 VERIFICATION OF TEST REPORTS:

Each testing agency shall submit to the District a verified report in duplicate covering the tests which are required to be made by that agency during the progress of the project. Such report shall be furnished each time that work on the project is suspended, covering the tests up to that time, and at the completion of the project, covering the tests.

1.10 REPORTING TEST FAILURES:

Immediately upon determination of a test failure, the laboratory will telephone the results of the test to the District. On the same day, the laboratory will send written test results to those named on the above distribution list.

1.11 AVAILABILITY OF SAMPLES:

- A. Contractor shall make materials available to the laboratory and assist in acquiring these materials as directed by the District's Inspector. The samples shall be taken under the immediate direction and supervision of the testing laboratory or inspector.
- B. If work which is required to be tested or inspected is covered up without prior notice or approval, such work may be uncovered at the discretion of the District at no additional cost to the District.
- C. Unless otherwise specified, the Contractor shall notify the testing laboratory a minimum to 10 working days in advance of required tests and a minimum of 2 working days in

advance of required inspections. Extra laboratory expenses resulting from a failure to notify the laboratory will be paid by the District and reimbursed by the Contractor.

- D. The Contractor shall give sufficient advance notice to the testing laboratory in the event of cancellation or time extension of a scheduled test or inspection. Charges due to insufficient advance notice of cancellations or time extension will be paid for by the District and reimbursed by the Contractor.

#### 1.12 REMOVAL OF MATERIALS:

Unless otherwise directed, materials not conforming to the requirements of the contract documents shall be promptly removed from the site.

#### 1.13 DISTRICT'S INSPECTOR:

- A. The District will furnish inspection of the work at not cost to the Contractor except as otherwise provided herein and except for those inspections required to be furnished and paid for by the Contractor elsewhere in the contract documents. Perform and construct work under inspection of the District's Inspector unless waived in writing by the District in each case or exempted wholly or in part from inspection elsewhere in the contract documents. Any work requiring such inspection that is performed or constructed during the absence of the District's Inspector is considered defective and is subject to rejection. The Contractor shall give written notice to District at least 2 working days in advance of performance of any part of the work requiring special inspection by someone other than District's Inspector and shall state probable duration of the required special inspection.
- B. The inspection of any material or equipment at the factory or shop will not constitute an acceptance. The District's Inspector will advise the District to suspend any part or all of the work, by notice to the Contractor confirmed in writing, whenever a question arises as to whether materials or equipment being installed or the methods or workmanship being employed comply with the contract documents until such question is decided upon by District.
- C. The District's Inspector is not authorized to accept or reject any work, to modify any contract document requirement, to advise or instruct Contractor or his employees as to prosecution of the work, or to perform any duty or service for the Contractor. Inspection of the work will not relieve the Contractor of the obligation to fulfill requirements of the contract documents.

#### 1.14 INSPECTOR – DISTRICT'S:

- A. An inspector employed by the District in accordance with the requirements of 2013 CBC will be assigned to the work. His duties are specifically defined in 2013 CBC.
- B. The work of construction shall be subject to the personal continuous observation of the Inspector. He shall have free access to any or all parts of the work at any time. The Contractor shall furnish the Inspector reasonable facilities for obtaining such information as may be necessary to keep him fully informed respecting the progress and manner of the work and the character of the materials. Inspection of the work shall not relieve the Contractor from any obligation to fulfill this Contract.

1.15 INSPECTOR – DISTRICT – FIELD OFFICE:

Not Used.

1.16 CONTINUOUS INSPECTIONS

- A. Inspections: Continuous inspections shall be performed by registered special inspectors (hereinafter referred to as inspector) as required by the contract documents and building code. During course of work under inspection, inspector shall submit detailed reports relative to the progress and condition of work including variances from contract documents and stipulating dates, hours and locations of the inspections.

1.17 REQUIRED TESTS AND INSPECTIONS:

Tests and inspections, as set forth in the 2001 California Building Code (CBC) of the following will be required.

TITLE 24, PART 2 (2013 CBC) VOLUME 2

TESTS AND INSPECTION REQUIREMENTS

CBC SECTION

A. SOILS: Chapter 17A

1. Earth Fill Compaction

Refer to Section 02210  
and Contract Documents.

2. Inspection:

Compaction  
Soils

Table 1705A.6  
1705A.6

B. FOUNDATIONS and RETAINING WALLS: Chapter 18A

1. Inspection:

a. Piles

1705A.7

b. Pier foundations

1705A.8

C. CONCRETE: Chapter 17A & 19A

1. Materials:

a. Portland Cement

1705A3.1; 1913A.1

b. Concrete Aggregates

1705A3.1; 1903A.4

c. Shotcrete Aggregates

1910A.3

d. Reinforcing Bars

1705A3.1; 1913A.2

e. Prestressing Steel and Anchorage

1705A.3.1; 1913A.3

2. Quality:
  - a. Proportions of Concrete ACI 318-11, SEC. 5.2, 5.3, & 5.4
  - b. Strength Tests of Concrete 1905A.1.1; ACI 318-11, SEC. 5.6
  - c. Shotcrete Proportions 1910A.2
  - d. Shotcrete Cores 1910A.5
  - e. Composite Construction Cores 1913A.4
  - f. Gypsum Concrete Strength Test 1911A; 1913A.6

3. Inspection:
  - a. Job Site ACI 318-11, SEC. 5.7
  - b. Batch Plant 1705A.3.2
  - c. Waiver of Batch Plant 1905A.3.3
  - d. Prestressed Concrete 1705A.3.4
  - e. Shotcrete 1705A.18; 1910A
  - f. Reinforcing Bar Welding 1903A.8; Table 1705A.2.1
  - g. Post-Installed Anchors in Concrete 1913A.7

D. MASONRY: Chapter 21A

1. Materials:
  - a. Masonry Units 2103A.1
  - b. Portland Cement, Lime 2103A
  - c. Mortar and Grout Aggregates 2103A.9; 2103A.13; 2103A.13.3
  - d. Reinforcing Bars 2103A.14

2. Quality:
  - a. Portland Cement Tests 1913A.1
  - b. Mortar and Grout Tests 2105A.2.2.1.4
  - c. Masonry Prism Tests 2105A.2.2.2
  - d. Masonry Core Tests 2105A.4
  - e. Masonry Unit Tests 2105A.2.2.1
  - f. Reinforcing Bar Tests 1913A.2

3. Inspection:
  - a. Reinforced Masonry 1705A.4
  - b. Reinforced Bar Welding 1705A.2.2.1.2; 1903A.8

E. WOOD: Chapter 23

1. Materials:



- a. Lumber and Plywood 2303.1
- b. Glue Laminated Members 2303.1.3
  
- 2. Inspection:
  - a. Glued Laminated Fabrication 1705A.5.4; 2303.1.3
  - b. Timber Connectors 1705A.5.6
  - c. Manufactured Trusses 1705A.5.2; 1705.5.3;  
2303.4.7
  
- 5. Grounding Rod Tests Article 250, 2013 CEC

PART 2 – PRODUCTS – Not applicable.

PART 3 – EXECUTION – Not applicable.

END OF SECTION

## SECTION 01410

### QUALITY ASSURANCE/QUALITY CONTROL

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

The requirements of this Section apply to, and are a component part of each section, of the specifications.

##### 1.02 DEFINITIONS:

- A. Quality Control: Activities performed by the Contractor to assure compliance with the contract documents.
- B. Quality Assurance: Activities performed by the Owner, or persons or firms employed and paid by them to assure compliance with the contract documents.

##### 1.03 SUBMITTALS:

The following shall be submitted in accordance with Section 01300, in sufficient detail to show full compliance with the specification:

- A. Certificates: Submit qualifications of Contractor's Quality Control Representative and required special certifications.
- B. Contractor's Quality Control Plan: Describe the Contractor's Quality Control (QC) plan and procedures that will be implemented to meet the project quality requirements of the specifications. The system shall address:
  - 1. Management and organization.
  - 2. Identification and data retrieval.
  - 3. Procurement and subcontract.
  - 4. Quality control.
  - 5. Nonconformance control.
  - 6. Drawings and change control.
  - 7. Control of field services.
  - 8. Quality records.
  - 9. Handling and storage.
- C. Records: Records shall include all quality control data; factory tests of manufacturer's certifications, quality control coordinating actions, quality training/certifications, concrete pour records and records of inspections and tests.

##### 1.04 QUALITY CONTROL PLAN:

The Contractor shall establish a quality control plan which shall include procedures to assure that the construction, and all components thereof, conform to the contract documents. The

Contractor shall assign competent personnel as Contractor Quality Control Representative (CQCR) to provide the inspection and direction to ensure the implementation of the Contractor's quality control plan.

- A. The Contractor's quality system shall encompass management and supervisory actions required to ensure the quality of the completed construction work.
- B. The CQCR shall report to the Contractor's management and shall have the necessary authority to discharge contractual responsibilities.
- C. Contractor shall be responsible for ensuring that the activities and work of its suppliers and subcontractors meet contractual quality requirements.
- D. The Contractor shall be responsible for controlling procurement and subcontracts to ensure that the quality requirements of the project are properly specified. The CQCR shall maintain a site receiving inspection system that ensures procured materials and equipment are inspected and tested. Records of site receiving inspection shall be maintained by the Contractor and made available to the District for review. Records shall show the results of inspections and tests, including defects, discrepancies and waivers.
- E. Quality Control Records shall be maintained at the site. Maintenance of quality records shall not relieve the Contractor from submitting samples, test data, detail drawings, material certificates, or other information required by each section in the specification. Contractor shall ensure that each record is identified and traceable to specific requirements in the specification and drawings.
- F. Nonconformance Control: Control nonconformances discovered by the CQCR, the Contractor, Subcontractors or District's quality representatives to prevent their use and to correct deficient operations. Monitor and correct deficient operations.
- G. Quality Audits: The Architect may verify the Contractor's implementation of the Quality Control plan at any time during the performance of the work.
- H. Contractor Responsibilities: The Contractor shall be responsible for:
  - 1. Maintaining a site receiving inspection system that ensures procured materials and equipment are inspected and tested;
  - 2. Ensuring that any nonconformance identified is documented and controlled;
  - 3. Notifying the District of the completion of work or activities identified in the QA/QC Plan as hold or witness points;
  - 4. Maintaining the calibration of measuring and test equipment used for the performance of the work within the required accuracy;
  - 5. Maintaining results of any inspection and tests performed by the Contractor and making them available to the District for review;

6. Generating monthly summary report of all quality system activities, including inspections and tests, nonconformances, discrepancies and corrective action taken; and
7. Maintaining quality records.

#### 1.05 QUALITY ASSURANCE:

- A. The owner will provide testing and inspection as the Owner may required to assure that the construction, and the Contractor's quality control efforts are sufficient to protect the interests of the Owner under the contract. In addition, as described in Section 01400, the Owner will provide for testing laboratory services to perform tests as required by the specifications.
- B. Inspections and tests performed by or for the Owner are for the sole benefit of the Owner and do not:
  1. Relieve the Contractor the responsibility for providing adequate quality control measures;
  2. Relieve the Contractor of responsibility for damage to or loss of the material before acceptance;
  3. Constitute or imply acceptance; or
  4. Affect the continuing right of the Owner after acceptance of the completed work under paragraph I below.
- C. The Architect has the right to observe and evaluate the work performed or being performed under the contract, and the premises where the work is being performed, at all reasonable times and in a manner that will not unduly delay the work. If the Architect performs observation or evaluation on the premises of the Contractor or a subcontractor, Contractor shall furnish and shall require subcontractors to furnish all reasonable facilities and assistance for the safe and convenient performance of these duties.

#### 1.06 VERIFICATION OF CONDITIONS:

Prior to installing any portion of the work, inspect the work in place to receive the work to be installed and arrange for correction of defects in the existing workmanship, material or conditions that may adversely affect work to be installed. Such inspections shall include test applications of the materials to be installed as required to establish the correct condition of surfaces involved. Installation of materials on work in place constitutes acceptance of such work in place as being in proper condition to receive the materials to be applied and waiver of claim that the work in place is defective as pertains to warranty requirements, excluding unascertainable or concealed conditions. Where the specifications require a material to be installed under the supervision or inspection of the material manufacturer or his representative, the manufacturer or his representative also shall inspect the work in place and issue a letter of approval to Architect.

#### 1.07 TOLERANCES NOMENCLATURE:

- A. Tolerance of Numbers: Unless other tolerances are indicated or specified elsewhere, specified numbers such as gauges, weights, temperatures and similar references, but specifically not including dimensions and time, will be acceptable if within formally established, written and recognized commercial tolerances established for the affected trade. In the absence of formally written and recognized commercial tolerances, plus or minus 1 percent will be acceptable. If a specified number cannot be obtained, the number shall be interpreted as the next larger, provided it meets other requirements of the contract documents including sufficient space being available as indicated on the drawings.
- B. Tolerances of Specified Words: Unless otherwise specified, the following words shall have the following meanings. Construction executed within these tolerances will be considered acceptable.
1. "Straight": Allowed deviations from an absolutely straight line of sight shall be plus or minus 1/16" in one foot, plus or minus 1/8" in 10 feet, and plus or minus 1/4" for the entire length of a particular construction. These deviations shall be non-accumulative. Straight lines or planes on drawings shall conform to these tolerances.
  2. "Flat": Allowed deviations from an absolutely flat plane shall be plus or minus 1/1000 inch in one square inch, within plus or minus 1/16 inch in one square foot, within plus or minus 1/8 inch in an area ten feet by ten feet, and within plus or minus 1/4 inch for the entire area of a particular construction item. Flat planes on drawings shall conform to these tolerances.
  3. "Level": Allowed deviation from an absolutely horizontal plane shall be 1/2 degree of angle. Horizontal lines or planes on drawings shall conform to this tolerance.
  4. "Plumb": Allowed deviation from an absolutely vertical plane of plus or minus 1/2 degree of angle. Vertical lines or planes on drawings shall conform to this tolerance.

END OF SECTION

## SECTION 01500

### TEMPORARY FACILITIES AND CONTROLS

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

Provide temporary facilities and controls, complete.

PART 2 – PRODUCTS – Not applicable to this Section.

#### PART 3 – EXECUTION

##### 3.01 TEMPORARY UTILITIES:

Except as otherwise specified below, District will furnish electrical power, water and gas from existing outlets designated by the District without charge to Contractor for quantities used for the work. Provide all temporary piping, fittings, wiring and lighting necessary to supply utilities in sufficient quantities at locations required by the work. Contractor shall carefully conserve utilities, and if, in the opinion of the District, the usage is excessive, Contractor may be required to provide separate services from serving utility companies.

- A. Electrical Power for in the Building: Characteristics of current furnished by the District is limited to that existing and available; if current of other characteristics or quantity is required by Contractor, the Contractor shall supply the power as necessary at no extra cost to the District. Power for small tools and lighting may be taken from the existing 120-volt 60 Hz 1-phase convenience receptacles provided there is no disturbance to occupants and functions, cables and conductors do not prevent or interfere with closing of fire-labeled doors, and load connected to any single or duplex outlet does not exceed 12 amperes. Total load connected to any circuit shall not exceed 25% of circuit capacity as labeled in panelboard. Contractor shall repair and make good damage to existing electrical facilities caused by his use, as directed and approved, at no extra cost of the District.
  - 1. Electrical Power for the Project Offices and Trailers: Contractor shall arrange for service with serving utility and pay all costs directly.
  - 2. Temporary Lighting: Provide lighting and outlets wherever necessary for proper performance and inspection of work. If operations are performed during hours of darkness and whenever natural lighting is deemed insufficient by Architect, provide adequate floodlights, clusters and spot illumination, as required to facilitate reading of drawings and specifications.
- B. Water:
  - 1. Construction Water: District will furnish water from such existing outlets as do not interfere with the normal operation of the facilities. In general, obtain water from outlets in janitor, mechanical and similar utility rooms. If used, do not run water

hoses down corridors or across doorways in use by occupants. Provide temporary backflow prevention devices as required by Code or directed by the District.

2. Drinking Water: Maintain on the site at all times, adequate supply of drinking water. Provide bottled water, dispenser and disposable cups. Keep the equipment and the area around the equipment clean and dry at all times.

- C. Gas: Limit quantity used to the amount that causes no interference to existing gas-fired devices and equipment.

### 3.02 TEMPORARY HEAT AND VENTILATION:

Not Applicable.

### 3.03 TEMPORARY TELEPHONE SERVICE:

Provide, maintain and pay for duration of work, telephone service for the construction site personnel. Cellular communication devices will be acceptable.

### 3.04 TEMPORARY SANITARY FACILITIES:

Provide and maintain temporary portable chemical toilet facilities and wash sink for duration and operation. Properly proportion number of units for number of workers employed. Provide weather-tight and floored structures, maintained in clean and sanitary condition acceptable to Owner and Architect.

### 3.05 TEMPORARY FIRE PROTECTION AND SAFETY REQUIREMENTS:

- A. The Contractor shall take necessary precautions to guard against and eliminate fire hazards and to prevent damage to construction work, building materials, equipment, temporary field offices, storage sheds and public and private property. The Contractor shall be responsible for providing, maintaining and enforcing the following conditions and requirements during the entire construction period. Comply with 2013 CFC Article 87 during all phases of the project.
  1. Fire Inspection: The Contractor's Superintendent shall inspect the entire project at least once each week to make certain that the conditions and requirements are being adhered to.
  2. Hose: The number of outlets, supply of hose and proper hose size to protect the construction area shall be determined by the local Fire Marshal and provided by the Contractor.
  3. Fires: Employees shall not be allowed to start fires with gasoline or kerosene or other highly flammable materials. No open fires shall be allowed.

4. Flammable Building Materials: Only a reasonable working supply of flammable building material shall be located inside of, or on the roof of, any storage facility.
  5. Combustible Waste Materials: Oil-soaked rags, papers and other highly combustible materials must be stored in closed metal containers at all times, and shall be removed from the site at the close of each day's work and more often where necessary, and placed in metal containers with tight hinged lids.
  6. Gasoline and other flammable or polluting liquids/materials shall not be poured into sewers, manholes or traps, but shall be disposed of, together with flammable or waste material subject to spontaneous combustion, in a safe manner meeting all applicable laws and ordinances. Make appropriate arrangements for storing these materials outside of the building.
  7. Provide and maintain fire extinguishers during construction, conveniently located for proper protection, one fire extinguisher for each 5,000 square feet of floor area or less, but not less than four extinguishers. Fire extinguishers shall be ten-pound ABC type. Extinguishers shall meet approval of Underwriters' Laboratory, and shall be inspected at regular intervals and recharged as necessary.
- B. All self-propelled construction equipment, except light service trucks, panels, pickups, station wagons, crawler type cranes, power shovels and draglines, whether moving alone or in combination, shall be equipped with a reverse signal alarm (hub-cap type).
- C. Conduit trenching and excavation operations with regards to the following:
1. Pursuant to Labor Code 6706, the Contractor shall include in his base bid pay all costs incident to the provision of adequate sheeting, shoring, bracing or equivalent method for the protection of life or limb, which shall conform to applicable Federal and State safety orders.
  2. Before beginning any excavation five feet or more in depth, the Contractor shall submit to the Architect a detailed plan showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground during the excavation. The proposed plan shall comply with the standards established the State of California Construction Safety Orders and Title 24 of the California Code of Regulations. If the detailed plan varies from such shoring system standards, it shall be prepared by a registered Civil or Structural Engineer whose name and registration number shall be indicated on the drawing. If a dispute arises as to whether the plan must be prepared by a registered Civil or Structural Engineer, the Engineer's determination of the matter shall be deemed to have been included in the contract price for the work as specified.
  3. Neither the review nor approval of any plan showing the design of shoring, bracing, sloping or other provisions of work protection, shall relieve the Contractor from his obligation to comply with Construction Safety order Standards and Title 24 CCR for the design and construction of such protective work, and the Contractor shall indemnify the Owner from any and all claims, liability, costs, actions and causes of action arising out of or related to the failure of such protective systems. The



Contractor shall defend the Owner, its officers, employees and agents in any litigation or proceeding brought with respect to the failure of such protective systems.

### 3.09 TEMPORARY GUARDS, BARRICADES AND LIGHTS:

- A. Provide construction canopies, barricades, fences, guards, railings, lights and warning signs necessary and required by law, and take necessary precautions required to avoid injury or damage to any and all persons and property.
- B. Construction Site Fencing: Construct fence around construction site at exact location as indicated or directed, of chain link fence fabric not less than 6 feet high. Use 1-3/4" mesh not lighter than 9 gauge galvanized fabric with knuckled selvages. Use round posts, top tension wire and bottom tension wire, and bracing as required for rigidity. Provide steel gates and frames of not less than 1.90" OD, 0.120" minimum wall thickness galvanized tubing. Provide gates as required for access of vehicles and pedestrians. Equip swinging gates with galvanized hinges and latch. Provide change and double padlocks, arranged so that unlocking of either padlock will open the gate. Contractor provide one padlock for his use. District will provide the other padlock. Set posts for support of fences into sleeves or buried direct in ground. Hold posts aligned and plumb.

### 3.10 PROTECTION OF WORK AND FACILITIES:

- A. Protect all adjacent property, roads, streets, curbs, shrubbery, lawns, erosion control materials and planting during construction operations. All damaged material shall be replaced and/or repaired at the expense of the Contractor.
- B. Upon completion deliver the entire work to the Owner in proper, whole and unblemished condition.
  - 1. Parts of work in place that are subject to injury, because of operations being carried on adjacent thereto, shall be covered, boarded up, or substantially enclosed with adequate protection.
- C. The Contractor shall be responsible for preventing the overloading of any part of the facilities beyond their safe calculated carrying capacity by the placing of materials and/or equipment, tools, machinery, or any other items thereon.
- D. The Owner may provide such watchman services deemed necessary to protect the Owner's interest, but any protection so provided by the Owner shall not relieve the Contractor of the responsibility for the safety and condition of the work and material until the completion and acceptance thereof. The Contractor shall employ such watchman services as he may deem necessary to properly protect and safeguard the work and material.

### 3.11 DUST CONTROL:

Throughout the entire Contract period, effectively dust-palliate the working area, roads and storage areas constructed under this Contract and involved portions of the site, except during such periods that other contractors may be performing work of separate contracts in these

areas. Such application shall consist of intermittent watering and sprinkling of such frequency as will satisfactorily allay the dust during all hours that work is being performed. At no time shall water be allowed to pond or puddle. Ponds and puddles shall be removed immediately and steps taken to remove or dry the mud resulting from the ponds or puddles.

### 3.12 WATER CONTROL:

Surface or subsurface water or other fluid shall not be permitted to accumulate in excavations or under the structures. Should such conditions develop or be encountered, the water or other fluid shall be controlled and suitably disposed of by means of temporary pumps, piping, drainage lines and ditches, dams or other methods approved by the Architect.

### 3.13 CONTRACTOR VEHICLES ON CAMPUS:

Contractor's vehicles shall be restricted to access routes established by the Owner. Parking of Contractor's employees vehicles will be limited to offsite parking areas as arranged by Contractor, not necessarily adjacent to the site.

### 3.14 REMOVAL OF TEMPORARY CONSTRUCTION:

Remove temporary office facilities, toilets, storage sheds, fences and other construction of temporary nature from site as soon as progress of work permits. Recondition and restore portions of site occupied by same to a condition acceptable to Architect.

END OF SECTION

## SECTION 01573

### CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

#### PART 1 - GENERAL

##### 1.01 SUMMARY

###### A. Work Specified in this Section:

1. Construction waste management plan.
2. Construction waste recycling.
3. Construction waste adaptive reuse.

###### B. Related Work Specified in Other Sections:

1. Sustainable design requirements.

##### 1.02 REFERENCES

###### ASTM International:

E 1609                                      Guide for Development and Implementation of a Pollution Prevention Program.

###### The Collaborative for High Performance Schools (CHPS):

CHPS    Best Practices Manual Vol. 3 Criteria, 2006 ed.

##### 1.03 PLAN REQUIREMENTS:

A. Develop and implement construction waste management plan in accordance with ASTM E1609 and as approved by Architect, for compliance with High Performance Incentive (HPI) credit ME2.0 & ME2.1. Recycle, compost, and/or salvage at least 90 percent (by weight) of the non-hazardous construction and demolition debris.

B. Intent: Divert construction, demolition, and land clearing debris from landfill disposal. Redirect recyclable material back to manufacturing process. Generate cost savings or increase minimal additional cost to project for waste disposal.

##### 1.04 SUBMITTALS:

A. Construction Plan: Submit construction waste management plan describing methods and procedures for implementation and monitoring compliance including the following:

1. Transportation company hauling construction waste to waste processing facilities.
2. Recycling and adaptive reuse processing facilities and waste type each facility will accept.
3. Construction waste materials anticipated for recycling and adaptive reuse.

4. On site sorting and site storage methods.

B. Submit documentation with each application for payment substantiating construction waste management plan was maintained and goals are being achieved.

1. Trash: Quantity by weight deposited in landfills. Include associated fees, transportation costs, container rentals, and taxes for total cost of disposal.

2. Salvaged Material: Quantity by weight with destination for each type of material salvaged for resale, recycling, or adaptive reuse. Include associated fees, transportation costs, container rentals, and taxes for total cost of disposal. Also include reimbursements due to salvage resale.

3. Total Cost: Indicate total cost or savings for implementation of construction waste management plan.

C. Closeout Submittals: Submit completed USGBC LEED NC & Major Renovations Letter Template indicating diverted waste quantity, total waste quantity and percentage of waste diverted from landfills.

#### 1.06 CONSTRUCTION WASTE MANAGEMENT PLAN

A. Construction Waste Landfill Diversion: Minimum 75 percent by weight of construction waste materials for duration of Project through resale, recycling, or adaptive reuse.

B. Implement construction waste management plan at start of construction. Submit within 7 calendar days after receipt of Notice to Proceed.

C. Propose means and methods for collecting and separating each type of debris deemed reusable or recyclable.

D. Identify the off-site recycling service and hauler of each designated debris item, who has agreed to accept and divert that item from landfill, in the proposed quantities anticipated. Schedule each item and list off-site recycling service and hauler company name, telephone number, address, and person contacted.

E. Review construction waste management plan at pre-construction Meeting and progress meetings specified in Section 01200.

F. Distribute approved construction waste management plan to subcontractors and others affected by Plan Requirements.

G. Oversee plan implementation, instruct construction personnel for plan compliance, and document plan results.

H. Purchase Products to prevent waste by:

1. Ensuring correct quantity of each material is delivered to site.
2. Choosing products with minimal or no packaging.
3. Requiring suppliers to use returnable pallets or containers.
4. Requiring suppliers to take or buy-back rejected or unused items.

## 1.07 CONSTRUCTION WASTE RECYCLING

A. Use source separation method or co-mingling method suitable to sorting and processing method of selected recycling center. Dispose non-recyclable trash separately into landfill.

B. Source Separation Method: Recyclable materials separated from trash and sorted into separate bins or containers, identified by waste type, prior to transportation to recycling center.

PART 3 – EXECUTION

Not applicable to this project.

END OF SECTION

## SECTION 01630

### SUBSTITUTIONS

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

Division 1 applies to this Section. This Section covers provisions for, and restrictions on, substitutions of material, equipment and processes.

##### 1.02 SUBSTITUTIONS:

- A. Wherever catalog numbers and specific brands or trade names, whether or not followed by the designation "or equal" are used in conjunction with a designated material, product, thing or service mentioned in these specifications, they are used to establish the standards of quality, utility and appearance required.
- B. Substitutions which are considered equal in quality, utility, performance and appearance to those specified will be reviewed, subject to the following provisions:
  - 1. All substitutions must be reviewed and approved by the Architect in writing prior to fabrication and installation.
  - 2. For this purpose, submit to the District 10 days prior to the bid due date, a typewritten list containing a description of each proposed substitute item, material or assembly.
  - 3. No substitutions will be allowed within 10 days of the bid date for review.
  - 4. Contractor shall comply with the General Conditions in regard to submittal of substitutions.
  - 5. Append to the list, a complete side-by-side comparison between the specified item and the substitute item; include sufficient data, drawings, samples, long lead status, literature, guranry, warranty, or other detailed information as will demonstrate to the District that the proposed substitute is equal or better in quality, utility, performance and appearance to the material specified.
  - 6. The District will approve, in writing, such proposed substitutions as are in the District's opinion, equal in quality, utility, performance and appearance to the items or material specified.
  - 7. Such approval shall not relieve the Contractor from complying with the requirements of the drawings and specifications, and the Contractor's own expense for any changes resulting from the Contractor's proposed substitutions which affect other parts of the Contractor's own work or the work of others, time required to review the drawings and details.

8. If such substitutions impact the design of the project, the Contractor shall reimburse the District for the cost of revisions of contract documents by the District.
- C. Failure of the Contractor to submit proposed substitutions for review and approval in the manner described above, and within the time prescribed, shall be sufficient cause for disapproval by the District of any substitutions otherwise proposed.
- D. If specified items are listed in the following format or similar format: "First manufacturer and model number, equivalent second manufacturer and model number, or equal" the Contractor wishing to submit any "equivalent named manufacturer" shall so do in accordance with this provision.
- E. Wherever catalog numbers and specific bands or trade names not followed by the designation "or equal" are used in conjunction with a designated material, product, assembly, thing or service mentioned in these Specifications, no substitutions will be approved.
- F. Contractor shall discuss at the time of bid if the product being supplied is per the plans and specifications or if it is intended to be an "or equal" substitution.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION

## SECTION 01650

### PRODUCT HANDLING AND PROTECTION

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

This Section covers the requirements for handling and protection of materials and equipment to be incorporated into the work.

- A. Transport, deliver, handle and store materials and equipment at the job site in such manner as to prevent damage, including damage which might result from the intrusions of foreign matter or moisture from any source. Comply with:
  - 1. Material and equipment manufacturer's instructions regarding temperature limitations.
  - 2. Other environmental conditions which are required to maintain the original quality of the materials and equipment.
  - 3. Handle materials to prevent damage to products and finishes.
- B. Packaging:
  - 1. Maintain packaged materials in manufacturer's original containers with seals unbroken and labels intact until they are incorporated into the work.
  - 2. Packaged material shall bear the name of the manufacturer, the product, including brand name, color, stock number and all other complete identifying information.
- C. Remove all damaged or otherwise unsuitable materials and equipment promptly from the job site.
- D. Storing:
  - 1. Locate storage piles, stacks or bins so as to avoid being disturbed. Provide barricades as required to protect storage from damage.
  - 2. Store all materials and equipment in accord with manufacturer's instructions, above grade and properly protected from weather and construction activities. Provide space heaters to prevent condensation where required.
- E. Protection:
  - 1. Protect all finished surfaces, including jambs and soffits of all openings used as passage-ways through which materials and equipment are handled.



2. Provide protection for all finished flooring surfaces in traffic areas before allowing any materials and equipment to be moved over those finished surfaces.
3. Maintain all finished surfaces clean, unmarred and suitably protected until ready for use by Owner.
4. Consult individual Specification Sections for any additional specific product handling and protection requirements.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION

SECTION 01700  
PROJECT COMPLETION

PART 1 - GENERAL

1.01 DESCRIPTION:

Division 1 applies to this Section. Perform duties specified herein for project completion, complete.

1.02 SUBSTANTIAL COMPLETION:

- A. When the work is considered substantially complete, submit to the District a written notice that the work, or designated portion thereof, is substantially complete, and a list of items to be completed or corrected.
- B. After receipt of such notice, District will make an inspection to determine the status of completion.
- C. If District determines that the work is not substantially complete, District will promptly notify the Contractor in writing, giving the reasons therefore. Contractor shall remedy the deficiencies in the work and send a second written notice of substantial completion to the District. District will re-inspect the work.
- D. When District concurs that the work is substantially complete, they will prepare a Certificate of Substantial Completion on AIA Form G704, accompanied by Contractor's list of items to be completed or corrected, as verified and amended by the District. District will submit the Certificate to the Contractor for their written acceptance of the responsibilities assigned to them in the Certificate.

1.03 FINAL COMPLETION:

- A. When the work is considered complete, submit written certification that:
  - 1. Contract Documents have been reviewed.
  - 2. Work has been inspected for compliance with Contract Documents.
  - 3. Work has been completed in accordance with Contract Documents.
  - 4. Equipment and systems have been tested in the presence of the Owner's representative and are operational.
  - 5. Work is completed and ready for final inspection.
- B. District will make an inspection to verify the status of completion with reasonable promptness after receipt of such certification.
- C. If District considers that the work is incomplete or defective, he will promptly notify the Contractor in writing, listing the incomplete or defective work. Contractor shall take immediate steps to remedy the stated deficiencies and send a second written certification to District that the work is complete. District will reinspect the work.

- D. When the District finds that the work is acceptable to the requirements of the Contract Documents, he will request the Contractor to make closeout submittals.

#### 1.04 PROJECT CLOSEOUT:

The following items shall be completed and approved prior to the approval of the final certificate of payment.

- A. Warranties and Guarantees: Provide as specified in Section 01740. Unless otherwise provided elsewhere, warranties and guarantees shall commence with the date of final acceptance of the project. Verify date with the District, execute the forms and deliver to District.
- B. Final cleaning: Perform final cleaning as specified in Section 01710, immediately prior to final inspection.
- C. Project Record Documents: Deliver to District record documents specified in Section 01720 at time of final inspection.
- D. Operations and Maintenance Manuals and Parts: Deliver all documents and parts specified in Section 01730 at time of final inspection.
- E. Keys: Unless keys are shipped directly to District from the factory, properly tag and deliver all keys to District at time of final inspection.
- F. Water Purity: Deliver reports of water sterilization to District at time of final inspection.
- G. Air Balance Reports: Deliver to the District at time of final inspection.
- H. Extra Materials: Deliver extra materials specified in the various sections to District's storage facility as directed.
- I. Certificate of Insurance for Products and Completed Operations: Furnish to District at time of final inspection.

#### 1.05 REINSPECTION FEES:

Should District perform reinspection due to failure of work to comply with the claims of status of completion made by the Contractor:

- A. Owner will be compensated for such additional services.
- B. Owner will deduct the amount of such compensation from the final payment to the Contractor.

#### 1.06 FINAL ADJUSTMENT OF ACCOUNTS:

- A. Submit a final statement of accounting to District.

B. Statement shall reflect all adjustments to the Contract Sum:

1. The original Contract Sum.
2. Additions and deductions resulting from:
  - a. Previous Change Orders.
  - b. Allowances.
  - c. Unit Prices.
  - d. Deductions for uncorrected work.
  - e. Deductions for liquidated damages.
  - f. Deductions for reinspection payments.
  - g. Other adjustments.
3. Total Contract Sum, as adjusted.
4. Previous payments.
5. Sum remaining due.

C. The District will prepare a final Change Order, reflecting approved adjustments to the Contract Sum which were not previously made by Change Orders.

#### 1.07 FINAL APPLICATION FOR PAYMENT:

Submit the final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract.

#### 1.08 INSTRUCTIONS:

Instruct the District's operating and maintenance personnel in proper operation and maintenance of systems, equipment and similar items which were provided as part of the work.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION– Not applicable to this Section.

END OF SECTION

## SECTION 01710

### CLEANING

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

Division 1 applies to this Section. Provide cleaning, complete.

- A. Maintain premises and public properties from accumulations of waste, debris and rubbish caused by operations.
- B. At completion of work, remove waste materials rubbish, tools, equipment, machinery and surplus materials, and clean all exposed surfaces; leave project clean and ready for occupancy.

#### PART 2 – PRODUCTS

##### 2.01 MATERIALS:

- A. Use cleaning materials recommended by manufacturer of surface to be cleaned.
- B. Use each type of cleaning material on surfaces recommended by manufacturer.

#### PART 3 – EXECUTION

##### 3.01 DURING CONSTRUCTION:

- A. Execute cleaning to ensure that building, grounds and public properties are maintained free from accumulations of waste materials and rubbish.
- B. Wet down dry materials and rubbish to prevent blowing dust.
- C. Daily during progress of work, clean construction site and utilized public properties, and dispose of waste materials, debris and rubbish.
- D. Provide on-site containers for collection of waste materials, debris and rubbish. Provide for frequent emptying or pickup.
- E. Remove waste materials, debris and rubbish from site and legally dispose of at public or private dumping areas off Owner's property.
- F. Vacuum clean interior building areas when ready to receive finish painting and continue vacuum cleaning on an as-needed basis until building is ready for substantial completion or occupancy.
- G. Handle materials in a controlled manner with as few handlings as possible. Do not drop or throw materials from heights; rather a closed chute shall be used.

- H. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.

3.02 FINAL CLEANING:

- A. Employ experienced workers, or professional cleaners, for final cleaning. Clean all surfaces which have been replaced, remodeled or altered as part of the work. Clean for their entire extent, or to natural stopping point, as approved.
- B. Exterior: Clean surfaces of the construction and site including fixtures, walls, soffits, floors, hardware, roofs, window and opening ledges and sills, horizontal projections, steps and platforms, walkways, rails and similar surfaces, and adjoining private and public property to the extent soiled by the Contractor's operations.
- C. Contaminated Earth: Final clean up operation includes the removal and disposal of earth that is contaminated or suitable for support of plant life in planting areas, and filling of resulting excavations with suitable soil as directed and approved. Contaminated areas include those used for disposal of waste concrete, mortar, plaster, masonry and similar materials, areas in which washing out of concrete and plaster mixers or washing of tools and like cleaning operations have been performed, and all areas that have been oiled, paved or chemically treated. Do not dispose of waste oil, solvents, paints, solutions or like penetrating material by depositing or burying on Owner's property.

END OF SECTION

## SECTION 01720

### PROJECT RECORD DOCUMENTS

#### PART 1 - GENERAL

Provide project record documents, complete.

##### 1.01 MAINTENANCE OF DOCUMENTS:

- A. Maintain at job site at all times during construction and until final acceptance, one copy of:
  - 1. Contract drawings and specifications.
  - 2. Addenda, bulletins, change orders and construction change directives.
  - 3. Reviewed and approved shop and erection drawings.
  - 4. Samples, manufacturer's product data and installation instructions.
  - 5. Field test reports.
  - 6. Project correspondence and transmittals.
  - 7. Other documents relevant to work.
- B. These documents shall be latest current issue and shall bear, as applicable, all approvals and revisions.
- C. Store documents in temporary field office apart from documents used for construction. Provide files and racks for storage of documents. File documents in accordance with project filing format of CSI Masterformat. Maintain documents in clean, dry legible condition.
- D. Do not use record documents for construction purposes. Make documents available at all times for inspection.

##### 1.02 RECORD DRAWINGS:

- A. Record drawings are required for all construction. Record drawings shall conform to the following requirements.
  - 1. Maintain, and keep up to date, a complete record set of blue line prints which shall be corrected daily to show every change from the original contract drawings. In addition, the prints shall be marked to show the precise horizontal and vertical location of concealed work and equipment, including concealed or embedded piping and conduit. Prints for this purpose shall be obtained from the Owner at not cost to the Contractor for original issue. This shall not be construed as authorization for the Contractor to make changes in the layout or work without definite instructions in each case.
  - 2. At completion of the work, obtain from the District a set of transparent reproducible drawings. Enter the changes on one sheet and submit a print of that sheet to the District for review of the quality of the draftsmanship. The required quality is that the

record entries shall be equal to that of the original drawings. Following acceptance of the quality of work, record all changes neatly in ink on the reproducibles. Submit one set of corrected drawings to District for review, and following review, make corrections as required, stamp each sheet "Record Drawing", stamp Contractor's name, print and sign name of preparer, and date the drawings. Each sheet shall be signed by an authorized representative of the Contractor. Upon completion, deliver the set of drawings to the District.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION– Not applicable to this Section.

END OF SECTION



## SECTION 01730

### OPERATIONS AND MAINTENANCE MANUALS AND PARTS

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

This Section covers the general requirements for operations and maintenance manuals, spare parts and extra material.

##### 1.02 SUBMITTALS:

- A. Conform all submittals under this Section to applicable requirements of Section 01300.
- B. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of work. Architect will review draft and return one copy with comments.
- C. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.
- D. Submit 1 copy of completed volumes 15 days prior to final inspection. This copy will be reviewed and returned, with District comments. Revise content of all document sets as required prior to final submission.
- E. Submit two sets of revised final volumes in final form within 10 days after final inspection.

##### 1.03 QUALITY ASSURANCE:

Prepare instructions and data by personnel experienced in maintenance and operation of described products.

##### 1.04 FORMAT:

- A. Prepare data in the form of instructional manuals.
- B. Binders: Commercial quality, 8-1/2 x 11 inch, three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- C. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of project; identify subject matter of contents.
- D. Provide tabbed dividers for each separate product and system, with typed description of product and major component parts of equipment.
- E. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.

- F. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
  - G. Arrange content by systems under section numbers and sequence of table of contents of this project manual.
- 1.05 CONTENTS, EACH VOLUME:
- A. Table of Contents: Provide title of project; names, addresses and telephone numbers of Architect, subcontractors and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.
  - B. For each Product of System: List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
  - C. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
  - D. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use project record documents as maintenance drawings.
  - E. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.
  - F. Warranties: As specified in Section 01740.
- 1.06 MANUAL FOR MATERIALS AND FINISHES:
- A. Building Products, Applied Materials and Finishes: Include product data, with catalog number, size, composition and color and texture designations. Provide information for re-ordering custom manufactured products.
  - B. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
  - C. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition and details of installation. Provide recommendations for inspections, maintenance and repair.
  - D. Additional Requirements: As specified in individual product specifications sections.
  - E. Provide a listing in table of contents for design data, with tabbed fly sheet and space for insertion of data.

1.08 INSTRUCTION OF OWNER PERSONNEL:

- A. Before final inspection, instruct Owner's designated personnel in operation, adjustment and maintenance of products and equipment, at agreed upon times.
- B. Use operation and maintenance manuals as basis for instruction. Review contents of manual with personnel in detail to explain all aspects of operation and maintenance.
- C. Prepare and insert additional data in operation and maintenance manual when need for such data becomes apparent during instruction.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION

3.01 MAINTENANCE MATERIALS AND SPARE PARTS:

Furnish and deliver special tools, instruments, accessories, spare parts and maintenance materials required by the contract documents, and furnish and deliver the special tools, instruments, accessories, and the special lifting and handling devices shown in the instruction manuals approved above. Unless otherwise specified or directed, deliver the items to the Owner with the Contractor's written transmittal accompanying each shipment, in the manufacturer's original containers labeled to describe the contents and the equipment for which it is furnished.

END OF SECTION

## SECTION 01740

### WARRANTIES AND GUARANTEES

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION:

This section specifies the general requirements for written warranties and guarantees required by the Contract Documents. Final payment under the contract will not be made until the warranties and guarantees have been submitted in acceptable form.

##### 1.02 WARRANTIES AND GUARANTEES:

- A. General: Provide all warranties and manufacturer's guarantees with Owner named as beneficiary. For equipment and products, or components thereof, bearing a manufacturer's warranty or guarantee that extends for a period of time beyond the Contractor's warranty and guarantee, so state in the warranty or guarantee.
- B. Specific Warranty and Guarantee Requirements: Refer to Divisions 2 through 16.
- C. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties shall not relieve the Contractor of warranty on the work that incorporates the products, nor shall they relieve suppliers, manufacturers and installers required to countersign special warranties with Contractor.
- D. Related Damages and Losses: When correcting warranted work that has been found defective, remove and replace other work that has been damaged as a result of such defect or that must be removed and replaced to provide access for correction of warranted work.
- E. Reinstatement of Warranty: When work covered by a warranty has been found defective and has been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to be original warranty with an equitable adjustment for depreciation.
- F. Replacement Cost: Upon determination that work covered by a warranty has been found to be defective, replace or reconstruct the work to a condition acceptable to Owner, complying with applicable requirements of the contract documents. Contractor shall be responsible for all costs for replacing or reconstructing defective work regardless of whether Owner has benefited for use of work through a portion of its anticipated useful service life.
- G. Owner's Recourse: Written warranties made to the owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights or remedies.

- H. Rejection of Warranties: The Owner reserves the right to reject warranties and to disallow the use of products with warranties in conflict with contract document requirements.
  - I. Warranty as Condition of Acceptance: The Owner reserves the right to refuse to accept work for the project where a special warranty, certification or similar commitment is required until evidence is presented that those required to countersign such commitments are willing to do so.
- 1.03 PREPARATION OF WARRANTY AND GUARANTEE SUBMITTALS:
- A. Number of Copies: 2, unless otherwise specified, or directed.
  - B. Special Project Warranty and Manufacturer's Guarantee Forms: Forms for Special Project Warranties and for Manufacturer's Guarantees are included at the end of this Section. Prepare a written document utilizing the appropriate form, ready for execution by the Contractor, or the Contractor and subcontractor, supplier or manufacturer. Submit a draft to the Owner for approval prior to final execution.
    - 1. Refer to Divisions 1 through 16 for specific content requirements, and particular requirements for submittal of special project warranties.
    - 2. Prepare standard product warranties and product guarantees, excepting manufacturer's standard printed warranties and guarantees, on Contractor's subcontractor's material supplier's or manufacturer's own letterhead, addressed to Owner.
    - 3. Warranty and guarantee letters shall be signed by all responsible parties and by Contractor in every case, with modifications only as approved by Owner to suit the conditions pertaining to the warranty or guarantee.
  - C. Manufacturer's Guarantee Form: Manufacturer's guarantee forms may be used in lieu of special project forms included at the end of the Section. Manufacturer's guarantee forms shall contain appropriate terms and identification, ready for execution by the required parties.
    - 1. If proposed terms and conditions restrict guarantee coverage or require actions by Owner beyond those specified, submit draft of guarantee to Owner for review and acceptance before performance of the work.
    - 2. In other cases, submit draft of guarantee to Owner for approval prior to final execution of guarantee.
  - D. Signatures: By persons authorized to sign warranties and guarantees, on behalf of entity providing the warranty or guarantee. All signatures shall be notarized.
  - E. Co-Signature: All warranties, except manufacturer's printed guarantees, shall be co-signed by the Contractor.

#### 1.04 FORM OF WARRANTY SUBMITTALS:

- A. At final completion, compile 2 copies of each required warranty and guarantee properly executed by the Contractor, or by the Contractor and sub-contractor, supplier or manufacturer. Collect and assemble all written warranties and guarantees into binders and deliver binders to District for final review and acceptance.
- B. Prior to submission, verify that documents are in proper form, contain all required information and are properly signed.
- C. Organize the warranty documents into an orderly sequence based on the Table of Contents of the Project Manual.
- D. Include Table of Contents for the finder, neatly typed, following order and Section names and numbers of the Project Manual.
- E. Bind warranties and guarantees in heavy-duty, commercial quality, 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, with clear front and spine to receive inserts, and sized to receive 8-1/2" by 11" paper.
- F. Provide heavy paper dividers with celluloid or plastic covered tabs for each separate warranty. Mark tabs to identify products or installation, and Section number and title.
- G. Include on a separate typed sheet, if information is not contained in warranty or guarantee form, a description of the product or installation, and the name, address, telephone number and responsible person for applicable installer, supplier and manufacturer.
- H. Identify each binder on front and spine with typed or printed inserts with title "WARRANTIES AND GUARANTEES", the project title and the name of the Contractor. If more than one volume of warranties and guarantees is produced, identify volume number on binder.
- I. When operating and maintenance data manuals are required for warranted construction, include additional copies of each required warranty in each required manual. Coordinate with requirements specified in Section 01730.

#### 1.05 TIME OF WARRANTY AND GUARANTEE SUBMITTALS:

- A. Preliminary Submittal: Unless otherwise specified, obtain preliminary copies of warranties and guarantees within 10 days of completion of applicable item or work. Prepare and submit preliminary copies for review as specified herein.
- B. Final Submittal: Submit fully executed copies of warranties and guarantees within 10 days of date of substantial completion by not later than 3 days prior to date of application for final payment.
- C. Date of Warranties and Guarantees: Unless otherwise directed, the commencement date for warranty and guarantee periods shall be the date of substantial completion.

1. Warranties for work accepted in advance of date of substantial completion:  
Commencement date will be the date of acceptance of such work.
2. Warranties for work not accepted as of the date of substantial completion:  
Commencement date will be the date of acceptance of such work.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION