BID DOCUMENTS COVER SHEET

CONTRACT DOCUMENTS FOR
CONTRA COSTA COLLEGE

C-608 PE & Kinesiology Complex Renovation

AT
2600 Mission Bell Drive
San Pablo, California, 94806

CONTRA COSTA COMMUNITY COLLEGE DISTRICT

Consist of the following:

DSA File #7-C1
DSA Application # 01-117456

Architect: LIONAKIS
1919 19th Street
Sacramento, CA 95811

Volume 00 - Divisions 00-01

December 5, 2018
CIVIL ENGINEER:  
BKF ENGINEERS  
980 9th Street, Suite 1770  
Sacramento, CA 95814  
(916) 556-5800

James T. McCurdy       License # C-64850

DIVISION OF THE STATE ARCHITECT  
IDENTIFICATION STAMP

APPL 01-117456

AC  
DATE 12/16/18

Agency Approval
SECTION 00010
TABLE OF CONTENTS

VOLUME 00 – DIVISIONS 00-01

DIVISION 00  PROCUREMENT AND CONTRACTING REQUIREMENTS
SECTION  00001 TITLE PAGE
SECTION  00010 TABLE OF CONTENTS
SECTION  00016 CCC COLLEGE MAP
SECTION  00100 NOTICE INVITING BIDS
SECTION  00200 INSTRUCTIONS TO BIDDERS
SECTION  00210 INFORMATION AVAILABLE TO BIDDERS
SECTION  00300 BID PROPOSAL FORM
SECTION  00350 NON-COLLUSION AFFIDAVIT
SECTION  00500 BID SECURITY AND PAYMENT AND PERFORMANCE BOND
SECTION  00510 NOTICE OF AWARD
SECTION  00600 CONSTRUCTION AGREEMENT (to be issued by addendum)
SECTION  00650 NOTICE TO PROCEED
SECTION  00700 GENERAL CONDITIONS (to be issued by addendum)

DIVISION 01  GENERAL REQUIREMENTS
SECTION  01010 SUMMARY OF WORK
SECTION  01015 ADDITIONAL REQUIREMENTS FOR DSA-APPROVED PROJECTS
SECTION  01030 ALTERNATES
SECTION  01050 FIELD ENGINEERING
SECTION  01055 CONFORMANCE SURVEYING
SECTION  01140 WORK RESTRICTIONS (to be issued by addendum)
SECTION  01250 CONTRACT MODIFICATION PROCEDURES
SECTION  01290 PAYMENT PROCEDURES
SECTION  01300 LABOR COMPLIANCE PROGRAM
SECTION  01305 DELAY AND EXTENSIONS TO THE WORK
SECTION  01310 CONSTRUCTION SCHEDULING
SECTION  01311 PROJECT MANAGEMENT AND COORDINATION
SECTION  01312 PROJECT MEETINGS
SECTION  01316 BUILDING INFORMATION MODELING (BIM) (to be issued by addendum)
SECTION  01318 DOCUMENT MANAGEMENT SYSTEM
SECTION  01321 PHOTOGRAPHIC DOCUMENTATION
SECTION  01330 SUBMITTAL PROCEDURES
DIVISION 01  GENERAL REQUIREMENTS (CONTINUED)
SECTION 01340  ADMINISTRATIVE FORMS AND LOGS
SECTION 01400  QUALITY CONTROL REQUIREMENTS (to be issued by addendum)
SECTION 01410  REGULATORY REQUIREMENTS
SECTION 01411  TESTING LABORATORY SERVICES
SECTION 01412  HAZARDOUS MATERIALS (to be issued by addendum)
SECTION 01415  MITIGATION MONITORING REGULATORY REQUIREMENTS
SECTION 01416  SPECIAL PROCEDURES
SECTION 01420  REFERENCES
SECTION 01500  TEMPORARY FACILITIES AND CONTROL (to be issued by addendum)
SECTION 01540  SITE SECURITY AND SAFETY
SECTION 01552  GEOTECHNICAL REQUIREMENTS
SECTION 015639  TEMPORARY TREE AND PLANT PROTECTION
SECTION 01572  STORM WATER POLLUTION PREVENTION
SECTION 01610  BASIC PRODUCT REQUIREMENTS
SECTION 01625  PRODUCT OPTIONS AND SUBSTITUTIONS
SECTION 01710  CLEANING REQUIREMENTS
SECTION 01722  EXECUTION REQUIREMENTS
SECTION 01730  CUTTING AND PATCHING
SECTION 01740  WARRANTIES – GUARANTIES
SECTION 017419  CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL, By Lionakis
SECTION 01770  CONTRACT CLOSEOUT PROCEDURES
SECTION 01780  PROJECT RECORD DOCUMENTS
SECTION 01785  OPERATIONS AND MAINTENANCE DATA
SECTION 01820  DEMONSTRATION AND TRAINING
SECTION 018113  LEED REQUIREMENTS, Provided by Lionakis
SECTION 018119  INDOOR AIR QUALITY REQUIREMENTS, Provided by Lionakis
SECTION 019100  COMMISSIONING, Provided by Lionakis

VOLUME 01 – TECHNICAL SPECS, PREPARED BY LIONAKIS

DIVISIONS 02-14

DIVISION 02 - EXISTING CONDITIONS
02 30 00  Subsurface Investigation
02 41 00  Demolition

DIVISION 03 – CONCRETE
03 10 00  Concrete Forming
03 20 00  Concrete Reinforcing
03 30 00  Cast-in-Place Concrete
03 93 00  FRP Strengthening System
DIVISION 04 – MASONRY
04 21 13.23  Surface-Bonded Brick Masonry

DIVISION 05 – METALS
05 12 00  Structural Steel Framing
05 31 00  Steel Decking
05 40 00  Cold-Formed Metal Framing
05 50 00  Metal Fabrications

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES
06 10 00  Rough Carpentry
06 18 00  Manufactured Lumber
06 41 00  Architectural Wood Casework
06 64 00  Plastic Paneling
06 73 00  Composite Wood Siding

DIVISION 07 - THERMAL AND MOISTURE PROTECTION
07 19 19  Silicone Water Repellents
07 21 00  Thermal Insulation
07 25 00  Weather Barriers
07 26 50  Vapor Emission Control System
07 42 43.16 Aluminum Composite Wall Panels
07 54 23  Thermoplastic-Polyolefin Roofing
07 62 00  Sheet Metal Flashing and Trim
07 72 33  Roof Hatches
07 84 00  Firestopping
07 92 00  Joint Sealants
07 95 00  Expansion Control

DIVISION 08 – OPENINGS
08 11 13  Hollow Metal Doors and Frames
08 14 00  Wood Doors
08 31 00  Access Doors and Panels
08 33 13  Coiling Counter Doors
08 33 23  Overhead Coiling Doors
08 36 29  Overhead Folding Doors
08 41 13  Aluminum-Framed Entrances and Storefronts
08 62 00  Unit Skylights
08 62 23  Tubular Skylights
08 71 00  Door Hardware
08 71 13  Automatic Door Operators
08 81 00  Glass Glazing
08 81 50  View Control Decorative Glazing Film
08 88 13  Fire Rated glazing
DIVISION 09 – FINISHES
09 22 16  Non-Structural Metal Framing
09 24 00  Portland Cement Plastering
09 29 00  Gypsum Board
09 30 00  Tiling
09 51 13  Acoustical Panel Ceilings
09 51 23  Acoustical Tile Ceilings
09 64 63  Wood Dance Flooring
09 64 66  Wood Athletic Flooring
09 65 00  Resilient Flooring
09 68 13  Tile Carpeting
09 72 26  Digital Wall Coverings
09 81 00  Acoustic Insulation
09 84 13  Fixed Sound-Absorptive Panels
09 91 00  Painting

DIVISION 10 – SPECIALTIES
10 14 00  Signage
10 21 13.19 Plastic Shower Partitions
10 21 13.33 Solid Phenolic Toilet Compartments
10 28 13  Toilet Accessories
10 44 00  Fire Protection Specialties
10 51 00  Lockers
10 90 00  Miscellaneous Specialties

DIVISION 11 – EQUIPMENT
11 66 00  Athletic Equipment

DIVISION 12 – FURNISHINGS
12 24 13  Roller Window Shades
12 66 13.13 Telescoping Bleachers
12 93 00  Site Furnishings

DIVISION 13 – SPECIAL CONSTRUCTION  Not Used

DIVISION 14 – CONVEYING SYSTEMS  Not Used

VOLUME 02 DIVISIONS 21-33

DIVISION 21 – FIRE SUPPRESSION
21 01 00  Operation and Maintenance of Water Based Fire Suppression Systems
21 05 00  Common Work Results for Fire Suppression Systems
21 05 13  Common Motor Requirements for Fire Suppression
DIVISION 21 – FIRE SUPPRESSION (CONTINUED)
21 05 23 General Duty Valves for Water Based Fire Suppression Systems
21 05 29 Hangers and Supports for Fire Suppression and Equipment
21 05 48 Vibration and Seismic Control Fire Suppression and Equipment
21 07 00 Fire Suppression Systems Insulation
21 07 16 Fire Suppression Systems Equipment Insulation
21 07 19 Fire Suppression Systems Piping Insulation
21 13 13 Wet Pipe Sprinkler Systems

DIVISION 22 – PLUMBING
22 01 00 Operation and Maintenance of Plumbing
22 05 00 Common Work Results For Plumbing
22 05 13 Common Motor Requirements for Plumbing Equipment
22 05 23 General Duty Valves for Plumbing Piping
22 05 29 Hangers and Supports for Plumbing Piping and Equipment
22 05 48 Vibration and Seismic Controls for Plumbing Piping and Equipment
22 07 00 Plumbing Insulation General Requirements
22 07 16 Plumbing Equipment Insulation
22 07 19 Plumbing Piping Insulation
22 08 00 Commissioning of Plumbing Systems
22 11 00 Facility Water Distribution
22 11 16 Domestic Water Piping
22 11 19 Domestic Water Piping Specialties
22 11 23 Water Pumps
22 13 00 Facility Sanitary Sewerage
22 13 16 Sanitary Waste and Vent Piping
22 13 19 Sanitary Waste Piping Specialties
22 14 16 Rainwater Leaders
22 40 00 Plumbing Fixtures

DIVISION 23 - HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)
23 01 00 Operation and Maintenance of HVAC Systems
23 05 00 Common Work Results for HVAC
23 05 13 Common Motor Requirements for HVAC Equipment
23 05 13.10 Adjustable Frequency Drives
23 05 16 Expansion Fittings and Loops for HVAC Piping
23 05 19 Meters and Gauges for HVAC Piping
23 05 23 General Duty Valves for HVAC Piping
23 05 29 Hangers and Supports for HVAC Piping and Equipment
23 05 30 Hangers and Supports for HVAC Ductwork
23 05 48 Vibration and Seismic Controls for HVAC Piping and Equipment
23 05 53 Identification for HVAC Piping and Equipment
23 05 93 Testing, Adjusting, and Balancing
23 07 00 HVAC Insulation

Contra Costa Community College District
Contra Costa College
C-608 PE & Kinesiology Complex Renovation
DIVISION 23 – HVAC (CONTINUED)
23 07 13    Duct Insulation
23 07 19    HVAC Piping Insulation
23 08 00    Commissioning of HVAC Systems
23 09 13.33 Control Valves
23 09 23    Direct-Digital Control System for HVAC
23 10 00    Facility Fuel Systems
23 11 23    Facility Natural Gas Piping
23 21 13    Hydronic Piping
23 21 23    Hydronic Pumps
23 23 00    Refrigerant Piping
23 25 00    HVAC Water Treatment
23 31 13    Metal Ducts
23 31 16    Nonmetal Ducts
23 33 13    Dampers
23 33 23    Turning Vanes
23 33 43    Flexible Connectors
23 33 53    Duct Liner
23 34 00    HVAC Fans
23 34 01    HVAC Fans
23 74 33    Packaged Rooftop Air Conditioning Units

DIVISION 25 – INTEGRATED AUTOMATION    Not Used

DIVISION 26 – ELECTRICAL
26 05 00    Common Work Results for Electrical
26 05 13    Medium-Voltage Cables
26 05 19    Conductors and Cables
26 05 23    Control Voltage Electrical Power Cables
26 05 26    Grounding and Bonding
26 05 29    Hangers and Supports
26 05 33    Raceways and Boxes
26 05 43    Underground Ducts and Raceways for Electrical Systems
26 05 48    Vibration and Seismic Controls
26 05 53    Identification
26 05 73    Overcurrent Protective Device Coordination Study
26 08 00    Commissioning of Electrical Systems
26 09 23    Lighting Control Devices
26 09 43    Network Light Controls
26 12 00    Medium-Voltage Transformers
26 22 00    Low Voltage Transformers
26 24 13    Switchboards
26 24 16    Panelboards
26 27 26    Wiring Devices
26 28 13    Fuses
### DIVISION 26 – ELECTRICAL
26 28 16 Enclosed Switches and Circuit Breakers  
26 29 13 Enclosed Controllers  
26 51 00 Interior Lighting  
26 56 00 Exterior Lighting

### DIVISION 27 – COMMUNICATIONS
27 05 00 Common Work Results For Communications  
27 11 00 Communications Equipment Rooms  
27 13 00 Communications Backbone Cabling  
27 15 00 Communications Horizontal Cabling  
27 51 16 Public Address and Mass Notification Systems  
27 51 21 Sound Reinforcement Systems  
27 53 13 Clock Systems

### DIVISION 28 – ELECTRONIC SAFETY AND SECURITY
28 00 00 Basic Security Requirements  
28 05 00 Common Work Results for Electronic Safety and Security  
28 05 13 Security System Cabling  
28 05 53 Security System Labeling  
28 08 00 Security System Acceptance Testing  
28 13 00 Access Control and Alarm Monitoring System  
28 16 00 Intrusion Detection System  
28 23 00 Video Surveillance System  
28 31 00 Fire Detection and Alarm  
28 31 23 Conductors and Cables for Electronic Safety

### DIVISION 31 – EARTHWORK
31 11 00 Clearing and Grubbing  
31 23 00 Excavation and Fill  
31 23 33 Trenching and Backfilling

### DIVISION 32 – EXTERIOR IMPROVEMENTS
32 05 23 Cement and Concrete for Exterior Improvements  
32 11 00 Base Courses  
32 12 00 Flexible Paving  
32 13 00 Rigid Paving  
32 16 13 Concrete Curbs and Gutters  
32 17 23 Pavement Markings  
32 17 26 Tactile Warning Surfacing  
32 84 00 Planting Irrigation  
32 90 00 Planting  
32 92 00 Turf Planting
DIVISION 33 – UTILITIES

33 05 13.13  Manhole Grade Adjustment
33 05 16  Utility Structures
33 10 00  Water Utilities
33 30 00  Sanitary Sewerage Utilities
33 40 00  Storm Drainage Utilities
33 46 00  Subdrainage

DRAWINGS PREPARED BY LIONAKIS

END OF SECTION 00010
NOTICE IS HEREBY GIVEN that the Governing Board of the Contra Costa Community College District (District), Martinez, California, will receive sealed bid proposals for the furnishing of all labor, materials, equipment, transportation and services for the construction of the project entitled C-608 PE-K Complex Renovation.

ONLY SUBMISSIONS FROM PREQUALIFIED GENERAL CONTRACTORS WILL BE ACCEPTED. A LIST OF PREQUALIFIED GENERAL CONTRACTORS IS AVAILABLE ON THE DISTRICT PURCHASING WEBSITE.

Construction Estimate: $22,000,000

Project Scope

The Contra Costa College PE Complex project consists of the renovation of four buildings plus an addition to the existing gym and related site work.

- Gymnasium: Existing 18,400 SF concrete building. Seismic upgrade, new wood floors, new bleachers, added HVAC system, modernize/replace existing building systems. New addition of 4,000SF structural steel lobby, classroom, and restrooms.
- Women’s Locker: Existing 4,500SF, 1-story, wood framed building. Structural upgrades, modernize/replace existing building systems and finishes including HVAC, electrical, building envelope, and ADA upgrades.
- Men’s Locker: Existing 8,700SF, 1-story, wood framed building. Structural upgrades, modernize/replace existing building systems and finishes including HVAC, electrical, building envelope, and ADA upgrades.

IMPORTANT INFORMATION:

Bids Due No Later Than: March 7, 2019 (prior to 2:00PM)

Bids Must Be Received at: Contra Costa Community College District (Lobby)
500 Court St, Martinez, CA 94553
Attn: Ben Cayabyab – Contracts Manager (CCCCD)

Pre-Bid RFIs Due: February 28, 2019 (prior to 5:00pm)

Pre-Bid Meeting and Job Walk (MANDATORY): February 8, 2019 at 11:00AM

Pre-Bid Meeting Location:
Gym Annex Building – Room GA 50
Contra Costa College
2600 Mission Bell Drive
San Pablo, CA 95806
NOTE:
Buildings are currently occupied. Contractor is not to disturb occupants or enter locker rooms except at designated dates and times. In addition to the pre-bid meeting, buildings will be open to contractors and subcontractors to examine existing conditions on the following dates/times:

Friday, February 22, 2019 11:00 AM to 1:00 PM
Friday, March 1, 2019 11:00 AM to 1:00 PM

The District does not provide hardcopies of bid documents or reimburse cost of printing, delivery, or any expenses related to the bidding process.

For information directly from the District, you may also log on to the District Website: http://www.4cd.edu/webapps/PurchasingViewBids/default.aspx. Project documents available include, but are not limited to, plans, specifications, addenda, bidders lists, bid results, etc., and can be viewed on this District webpage. Builders Exchanges around Northern California are also notified.

This project is subject to the terms and conditions of a Project Stabilization Agreement (PSA) executed between the Contra Costa Community College District and the Contra Costa County Building & Construction Trades Council ("Council") and its affiliated local signatory unions.

All questions related to this project must be in writing and are directed to:
To: Ben Cayabyab – Contracts Manager (CCCCD)
Email: bcayabyab@4cd.edu

Cc: P.J. Roach – Project Manager (CCCCD)
Email: proach@4cd.edu

Bids must be received by the District prior to the time and by the date noted above. Bids that are not received by the District prior to the time and by the date noted above will not be accepted and will be returned to the Bidder unopened.

This project is a public works project and is subject to prevailing wage rate laws.

The Governing Board of the Contra Costa Community College District reserves the right to reject any and all bids and/or waive any informality or irregularity in any bid received. No bidder may withdraw their Bid for a period of ninety (90) days after the date set for opening thereof.

END OF SECTION 00100
SECTION 00200
INSTRUCTIONS TO BIDDERS

1.1 ISSUING OF DOCUMENTS
A. All project bid documents are available on the District Purchasing website. All project document updates and addendum will be posted on the website. Contractor is responsible for checking the website for updates.

http://www.4cd.edu/webapps/PurchasingViewBids/default.aspx

1.2 QUALIFICATIONS OF BIDDERS
A. All bidders shall be prequalified specifically for this project through District’s separate prequalification process. Previous prequalification for other District projects DOES NOT prequalify Contractor for this project. A list of prequalified bidders is posted on the District Purchasing website.

1.3 RECEIPT AND OPENING OF BIDS
A. Contra Costa Community College District, hereinafter referred to as the “District”, will receive Bids at the time and place specified in the Notice inviting Bids.
B. Complete the Bid Form included in the Project Manual.
C. The envelopes containing the Bids shall be sealed, addressed to the District, and designated as “C-608 PE-K Complex Renovation - Contra Costa College. The envelope shall contain the name and address of the Bidder.
D. Bids that are mailed shall have the previously described envelope placed inside an envelope addressed to: CONTRA COSTA COMMUNITY COLLEGE DISTRICT, 500 Court Street, Martinez, CA 94553 ATTENTION: BEN CAYABYAB, Contracts Manager. Bids should be mailed in time to be received prior to the time set forth in the Advertisement for Bids.
E. Bids which are conditional (or which make alterations, omissions, or reservations to the terms of the Bidding Documents) may be rejected as non-responsive.
F. All monetary figures are required, both in writing and in numerals. In the event of conflict between written quotations and numerical quotations, written quotations shall govern.
G. Type or print all bid data legibly in ink, except signatures, which shall be in script. Mistakes may be crossed out and corrections inserted. All corrections should be initialed in ink by signer of Bid.
H. Bidder's business address and signature shall be on the Bid. A Bid by a partnership shall furnish the full names of partners and be signed in the partnership name by one member of the partnership, or by an authorized representative, followed by the signature and designation of the person signing. Bids by corporations, with corporate seal affixed, shall be signed with the legal name of the corporation followed by the name of the state of incorporation and by the signature and designation of the person authorized to bind it to the matter. The name of each person signing shall also be typed or printed below the respective signatures. When required by the District, satisfactory evidence of authority of the office signing on behalf of the corporation shall be furnished.
I. No Bids will be received after the date and time set forth in the Notice Inviting Bids.

1.4 BID SECURITY
A. Submit with the Bid a Bid Security in the amount of 10 percent (10%) of the Bid.
B. The District reserves the right to forfeit the Bid Bond submitted for failure of the successful bidder to secure Payment & Performance Bonds.

1.5 SURETY BONDS
A. The successful Bidder shall furnish a Labor and Material Payment Bond in the amount equal to one hundred percent (100%) of the Contract Price and a faithful Performance Bond in the amount equal to 100 percent (100%) of the Contract Price as security for the successful performance of the work and payment of persons performing labor and furnishing materials. The Bonds shall be executed by a surety company or companies acceptable to the District and authorized to execute such in the State in which the Project is located and shall be furnished within 10 days after Notice of Acceptance of said Bid. Surety shall be made in favor of the District and shall cover the guarantee periods as well as the construction period.

1.6 WITHDRAWAL OR REVISIONS OF BID
A. This Bid may be withdrawn or revised prior to the scheduled time for receipt. Bids not withdrawn prior to the scheduled time for receipt may not be withdrawn for a period of 90 days.

1.7 BID PROTESTS
A. Inquiries or questions based on alleged patent ambiguity of the plans, specifications or estimate must be communicated as a bidder inquiry prior to bid opening. Any such inquiries or questions, submitted after bid opening, will not be treated as a bid protest.
B. Bidder may file a protest with the District against the Bid of other Bidder or Bidders (“Bid Protest”) subject to the provisions of this Article. The procedures and time limits set forth in this Article are mandatory and are a Bidder’s sole and exclusive remedy in protesting other Bidders’ bids. Failure to comply with these procedures shall constitute a waiver of any right to pursue a Bid Protest, or to contest the District’s award of the contract for the work that is the subject of the Bid, in any legal proceeding before any authority with jurisdiction.
C. Bid Protests and Responses shall be governed by the following time limitations:
1. Bidder must deliver any Bid Protest to the District in writing before 2:00PM, five (5) working days after the date of bid opening. The District will reject any Bid Protest not received by the District by this deadline. Bidder must concurrently deliver a copy of its Bid Protest to all Bidders against whose Bids the Bid Protest is directed. The Bidder must include with its Bid Protest written proof to the District’s satisfaction that Bidder has delivered a copy of its Bid Protest to the other Bidder whose bid is the subject of the Bid Protest.
2. A Bidder whose Bid is the subject of a Bid Protest must deliver its written response, if any, (“Response”) to the District, before 2:00PM, five (5) working days after the date the Bidder
received the Bid Protest. The District will reject any Response not received by the District by this deadline.

D. Delivery of Bid Protest or Response:
1. Bidder may deliver a Bid Protest to the District by personal delivery or electronic transmission such as email. Bidder is solely responsible for ensuring that the District receives any Bid Protest or Response by the deadlines set forth herein.
2. The District will not consider Bid Protests or Responses by telephone conversation or any other non-written communication.
3. Bidder shall submit any Bid Protest or Response in writing to:
   Ben Cayabyab, Contracts Manager
   Contra Costa Community College District, 500 Court Street, Martinez, CA 94553.
   Email: bcayabyab@4cd.edu

E. Content of Bid Protest:
1. A Bid Protest must state the basis for the protest and provide supporting evidence.
2. A Bid Protest must refer to the specific portion of the Bid that forms the basis of the protest.
3. A Bid Protest must include the name, address, and telephone number of the person representing the protesting Bidder.
4. A Bid Protest must be clearly identified as a Bid Protest.

1.8 AWARD AND REJECTION OF BIDS
A. In awarding or rejecting Bids, the District reserves the following rights:
   1. Identification of successful Bidder will not be determined at time of opening Bids.
   2. To obtain opinion of counsel on legality and sufficiency of bids.
   3. To reject all Bids, to re-bid, or waive irregularities or informalities in a Bid, and to accept or reject alternates.
   4. Request proof that the successful Bidder can provide performance and payment bonds as required.

1.9 EXAMINE DOCUMENTS AND VISIT SITE
A. Before submitting a Bid, the Bidder shall examine the Bidding Documents, visit the site of the work, attend the required site visit arranged by the District, ascertain existing conditions and limitations, including those of labor, and include in the Bid a sum to cover the cost of all items described in the Contract Documents. By submitting a bid, Contractor confirms that they have visited the site and examined the existing conditions and limitations.
B. No consideration will be granted for alleged misunderstanding of the materials to be furnished or work to be done. The tender of a Bid carries with it the agreement to terms and conditions referred to in the Contract Documents.
1.10 DISCREPANcies, AMBIGUITIES, OR CONFLICTS

A. If the Bidder is in doubt as to the true meaning of any part of the Contract Documents; finds discrepancies, errors or omissions therein; or finds variances in any of the Contract Documents with applicable rules, regulations, ordinances and/or laws, a written request for an interpretation or correction thereof must be submitted to the District’s Contract Manager. Bidders are solely responsible for submitting to District’s Contract Manager such request. Ambiguities or inconsistencies arising as a result of separation of sections or portions of the drawings or specifications by or for subcontractor bidding shall not relieve the Contractor for providing the complete Work without increase to or adjustment in the Contract Price or the Time for performance. Interpretations or corrections of the Contract Documents will be by written addendum issued by the Architect. No person is authorized to render an oral interpretation or correction of any portion of the Contract Documents to any Bidder, and no Bidder is authorized to rely on any such oral interpretation or correction. Failure to request interpretation or clarification of any portion of the Contract Documents pursuant to the foregoing is a waiver of any discrepancy, defect or conflict therein.

1.11 ADDENDA

A. Cost for work included in any Addenda issued during the time of bidding shall be included in the Bid, and will become a part of the Contract. List Addenda received as indicated on the Bid Form.

1.12 FORM OF AGREEMENT

A. The form of agreement to be used for the Contract is provided by the District and is included in the Project Manual.

1.13 AWARD OF CONTRACT

A. The District will be allowed a period of ninety (90) days after Bid Opening Date for evaluating the Bids.

B. Bidders of record will be notified of the results of the District’s evaluation of bids and Award of Contract, if any.

C. The Contractor shall begin work within ten (10) calendar days of receipt of Notice to Proceed.

END OF SECTION 00200
SECTION 00210
INFORMATION AVAILABLE TO BIDDERS

PART 1 - REPORT AND INFORMATION

1.1 Existence of reports, record drawings, and utility surveys: Contra Costa Community College District, its consultants, and prior contractors may have collected documents providing a general description of the site and conditions of the work. These documents may consist of geotechnical reports for and around the site, record drawings, utility drawings, and information regarding underground utilities. These reports, documents and other information are not part of the Contract Documents and do not show new work to be constructed, rather, they show existing conditions that Contractor may have to address as part of its construction planning.

1.2 Available Documentation: The following existing documentation is available for review through District office for this project:

A. Existing College Complex Drawings
B. Campus Utilities Maps
C. Geologic and Seismic Hazards Assessment and Geotechnical Investigation Report by Kleinfelder
D. Material-In–Structure (MIS) Inspection by Timber Products
E. Table I – Investigative Laboratory Support Services – Concrete Core Compression Data by Kleinfelder
F. Table II – Summary of Investigative Findings – Men’s Locker Building by Kleinfelder
G. Appendix B – Summary of Investigative Findings “Existing Gym Building” by Kleinfelder
H. Appendix D – Summary of Investigative Findings “Existing Women’s Locker Building” by Kleinfelder
I. Appendix E – Summary of Investigative Findings “Non-Structural Building Systems” by Kleinfelder

Contractor shall acknowledge and accept that the documents are not a part of the Contract Documents and are made available to bidders for reference only. The District and its representatives are not responsible for any and all discrepancies between the documents and the existing and actual as-built conditions, and do not guarantee the accuracy of the documents.

1.3 The District and Architect assume no responsibility for the completeness or accuracy of the documents or the records compiled there from and the interpretations made from the documents. There is no express or implied guarantee that the conditions indicated in the documents are representative of those existing throughout the building and/or site Conditions differing substantially from those indicated may be encountered.

END OF SECTION 00210
SECTION 00300
BID PROPOSAL FORM

PROJECT NUMBER / NAME: C-608 PE & Kinesiology Complex Renovation

CAMPUS / LOCATION: Contra Costa College, 2600 Mission Bell Drive, San Pablo, CA. 95806

DISTRICT: CONTRA COSTA COMMUNITY COLLEGE DISTRICT
500 Court St, Martinez, CA 94553

Herein Referred to as "District"

1. INTRODUCTION

A. The Bidder proposes to perform the Work for the Contract Sum and within the proposed Contract Time, based upon an examination of the site and the Bid and Contract Documents.

B. The Bidder certifies this Bid is submitted in good faith.

C. The Bidder agrees that the Contract Sum and other proposed terms will be considered in evaluating Bids and may be negotiated and adjusted before awarding of Contract.

D. The signed copy of the Certification of the Visit to the Site shall be attached to the Bid Form Submittal.

E. A fully executed Statement of Bidder's Qualifications signed by an authorized officer of the Bidder submitting the Bid shall be attached to the Bid Form.

F. A fully executed Non-Collusion Affidavit signed by an authorized officer of the Bidder submitting Bid shall be attached to the Bid Form.

G. The District shall award the contract to the lowest responsive and responsible Bidder. The evaluation of the low bid shall be based on the total of Item 2.A Base Bid.

H. The District reserves the right to award the Additive/Deductive Alternates, if any, through change orders as budget allows within 30 calendar days after the Award of Contract.

2. CONTRACT SUM

A. BASE BID

For labor, materials, bonds, fixtures, equipment, tools, transportation, services, sales taxes, and other costs necessary to complete the general construction in accordance with the Contract Documents, for a stipulated Contract Sum in the amount of:

____________________________________________Dollars ($__________________________
3. COMPLETION TIME

A. For establishing the Date of Final Completion the contract time for the Base Bid shall be as indicated in Section 00600, Construction Agreement. This time may be subject to modification to facilitate the work, as mutually agreed upon at a later date.

B. The Bidder certifies that the Bid is based on the Contract Time for completion as stated in Section 00600, Construction Agreement. Bidder further certifies that the Base Bid amount is sufficient to cover all labor, materials, central office and construction site overhead, profit, and all other costs related to the completion of the Project for the entire Project construction time for both the General Contractor and all Subcontractors, as stated above in paragraphs 2 and 3.

4. ADDENDA

A. The Bidder acknowledges receipt of the following Addenda, and certifies the Bid has provided for all modifications and considerations required therein.

   None [ ]
   Addendum No.: ________ dated _________________
   Addendum No.: ________ dated _________________
   Addendum No.: ________ dated _________________
   Addendum No.: ________ dated _________________
   Addendum No.: ________ dated _________________

B. List of Additional Addenda Attached: Yes [ ] No. [ ].

5. DESIGNATION OF SUBCONTRACTORS

A. The Bidder has set forth a complete list indicating the type of work, name, and business address of each Subcontractor who will perform work in excess of one-half of one percent of the Contract Sum.

B. Any portion of the work in excess of the specified amount having no designated Subcontractor shall be performed by the Bidder.

C. Substitution of listed Subcontractors will not be permitted unless approved in advance by the District.

D. Prior to signing the Contract, the District reserves the right to reject any listed Subcontractor.
6. ACCEPTANCE AND AWARD

A. The District reserves the right to reject this Bid and to negotiate changes before or after execution of the Contract. This Bid shall remain open and shall not be withdrawn for a period of 90 days after Bid Opening date.

B. If written notice of acceptance of this Bid is mailed or delivered to the Bidder within 90 days after the date set for the receipt of this Bid, or other time before it is withdrawn, the Bidder will execute and deliver to the District a Contract prepared by the District with the required Surety Bonds and Certificates of Insurance, within 10 days after personal delivery or deposit in the mail of the notification of acceptance.

C. Notice of acceptance or request for additional information may be addressed to the Bidder at the address provided.

7. BID SECURITY

A. The required 10 percent (10%) Bid Security for this Bid is attached in the form of:

( ) Bid Bond Issued By: ________________________________

( ) Certified or Cashier’s Check No. ________________________________

Issued by: ________________________________

8. BIDDER’S BUSINESS INFORMATION

A. Individual [ ]:

______________________________

Personal Name: ________________________________
Business Name: ________________________________
Address: __________________________________
                      __________ Zip Code: __________
Telephone: ________________________________
Fax Number: ________________________________

B. Partnership [ ]: ______________________________

Co-partners’ Names: ______________________________
Business Name: ________________________________
Address: __________________________________
                      __________ Zip Code: __________
Telephone: ________________________________
Fax Number: ________________________________

C. Corporation [ ]: ______________________________

Firm Name: ________________________________
Address: __________________________________
                      __________ Zip Code ____________
Telephone: ________________________________
Fax Number: ________________________________

State of Incorporation: ________________________________
President: ________________________________
Secretary: ________________________________
Treasurer: ________________________________
Manager: ______________________________________

D. Power of Attorney: Name: ______________________
Title: ____________________________

E. Contractor License No. _________ State of _____________

F. Bidder is submitting this proposal on behalf of a Joint Venture. Names, license numbers, and relevant information are given on a separate attachment:
   Yes [ ] No [ ].

G. Upon request, furnish appropriate documentation to substantiate and/or support the data given.

9. The undersigned hereby certifies under penalty of perjury under the laws of the State of California that all the information submitted by the Bidder in connection with this Bid and all the representations herein made are true and correct.

   Executed this day of __________________________

   ____________________________  ____________________________  ____________________________
   CSLB License No  Expiration Date  DIR Registration No.

   ____________________________
   Firm Name

   ____________________________
   Signature

   ____________________________
   By (Print or Type Name)

   ____________________________
   Title

   End of Section 00300
NONCOLLUSION AFFIDAVIT
(TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID)

State of California
County of Contra Costa

______________________, being first duly sworn, deposes and says that he or she is of ________________________________________, the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

I certify (or declare) under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Date: ____________________  Signature: ____________________

State of California
County of Contra Costa

On ____________________, before me, ____________________, Notary Public personally appeared ________________________, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing is true and correct.

WITNESS my hand and official seal.

Date: ________________  Signature: ______________________________________

[SEAL]

END OF SECTION 00350
SECTION 00500

BID SECURITY FORMS

1.1 The Bid Security Form to be used for this project:

Bid Bond, AIA Document A310

1.2 The Bid Security Form shall be considered part of this Project Manual as if bound herein.

1.3 The Performance Bond and the Payment Bond forms to be used for this project are included in the following pages:
PAYMENT BOND
(CALIFORNIA PUBLIC WORK)

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, the Contra Costa Community College District (sometimes referred to hereinafter as “Obligee”) has awarded to ________________________________ (hereinafter designated as the “Principal” or “Contractor”), an agreement for the work described as follows: _____________________________________________________________________ (hereinafter referred to as the “Public Work”); and

WHEREAS, said Contractor is required to furnish a bond in connection with said Contract, and pursuant to California Civil Code Section 9550;

NOW, THEREFORE, We, ________________________________, the undersigned Contractor, as Principal; and ________________________________, a corporation organized and existing under the laws of the State of ________________, and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the Contra Costa Community College District and to any and all persons, companies, or corporations entitled by law to file stop notices under California Civil Code Section 9100, or any person, company, or corporation entitled to make a claim on this bond, in the sum of __________________ Dollars ($_____________), said sum being not less than one hundred percent (100%) of the total amount payable by said Obligee under the terms of said Contract, for which payment will and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal, its heirs, executors, administrators, successors, or assigns, or subcontractor, shall fail to pay any person or persons named in Civil Code Section 9100; or fail to pay for any materials, provisions, or other supplies, used in, upon, for, or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts due under the Unemployment Insurance Code, with respect to work or labor thereon of any kind; or shall fail to deduct, withhold, and pay over to the Employment Development Department, any amounts required to be deducted, withheld, and paid over by Unemployment Insurance Code Section 13020 with respect to work and labor thereon of any kind, then said Surety will pay for the same, in an amount not exceeding the amount herein above set forth, and in the event suit is brought upon this bond, also will pay such reasonable attorneys’ fees as shall be fixed by the court, awarded and taxed as provided in California Civil Code Sections 9550 et seq.

This bond shall inure to the benefit of any person named in Civil Code Section 9100 giving such person or his/her assigns a right of action in any suit brought upon this bond.

It is further stipulated and agreed that the Surety of this bond shall not be exonerated or released from the obligation of the bond by any change, extension of time for performance, addition, alteration or modification in, to, or of any contract, plans, or specifications, or agreement pertaining or relating to any scheme or work of improvement herein above described; or pertaining or relating to the furnishing of labor, materials, or equipment therefor; nor by any change or modification of any terms of payment or extension of time for payment pertaining or relating to any scheme or
work of improvement herein above described; nor by any rescission or attempted rescission of the
contract, agreement or bond; nor by any conditions precedent or subsequent in the bond attempting
to limit the right of recovery of claimants otherwise entitled to recover under any such contract or
agreement or under the bond; nor by any fraud practiced by any person other than the claimant
seeking to recover on the bond; and that this bond be construed most strongly against the Surety
and in favor of all persons for whose benefit such bond is given; and under no circumstances shall
the Surety be released from liability to those for whose benefit such bond has been given, by reason
of any breach of contract between the Obligee and the Contractor or on the part of any obligee
named in such bond; that the sole condition of recovery shall be that the claimant is a person
described in California Civil Code Sections 9100, and who has not been paid the full amount of
his or her claim; and that the Surety does hereby waive notice of any such change, extension of
time, addition, alteration or modification herein mentioned.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this___________ day of
______________, 20____.

PRINCIPAL/CONTRACTOR:

_____________________________________________________

By: ________________________________

SURETY:

_____________________________________________________

By: ________________________________

Attorney-in-Fact
IMPORTANT: THIS IS A REQUIRED FORM.

Surety companies executing bonds must possess a certificate of authority from the California Insurance Commissioner authorizing them to write surety insurance defined in California Insurance Code Section 105, and if the work or project is financed, in whole or in part, with federal, grant or loan funds, Surety’s name must also appear on the Treasury Department’s most current list (Circular 570 as amended).

Any claims under this bond may be addressed to:

(Name and Address of Surety) (Name and Address of agent or representative for service for service of process in California)

__________________________________________________________________________

__________________________________________________________________________

Telephone: __________________________ Telephone: __________________________

STATE OF CALIFORNIA )
) ss.
COUNTY OF )

On __________________________ before me, ______________________________________,

(insert name and title of the officer),
a Notary Public in and for said State, personally appeared __________________________, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument as the Attorney-in-Fact of the ________________________ (Surety) and acknowledged to me that he/she/they subscribed the name of the ________________________ (Surety) thereto and his own name as Attorney-in-Fact on the executed instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_________________________________________ (SEAL)

Notary Public in and for said State

Commission expires: __________________________
NOTE: A copy of the power-of-attorney to local representatives of the bonding company must be attached hereto.

CONTRACT PERFORMANCE BOND
(CALIFORNIA PUBLIC WORK)

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, Contra Costa Community College District (sometimes referred to hereinafter as “Obligee”) has awarded to ______________________________ (hereinafter designated as the “Principal” or “Contractor”), an agreement for the work described as follows: ______________________________ (hereinafter referred to as the “Public Work”); and

WHEREAS, the work to be performed by the Contractor is more particularly set forth in that certain contract for said Public Work dated _____________ __________________, (hereinafter referred to as the “Contract”), which Contract is incorporated herein by this reference; and

WHEREAS, the Contractor is required by said Contract to perform the terms thereof and to provide a bond both for the performance and guaranty thereof.

NOW, THEREFORE, we, ______________________________________, the undersigned Contractor, as Principal, and ______________________________, a corporation organized and existing under the laws of the State of ________________, and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the Contra Costa Community College District in the sum of __________________________________ Dollars ($_______________), said sum being not less than one hundred percent (100%) of the total amount payable by said Obligee under the terms of said Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, if the bounded Contractor, his or her heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions, and agreements in said Contract and any alteration thereof made as therein provided, on his or her part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and shall faithfully fulfill guarantees of all materials and workmanship; and indemnify, defend and save harmless the Obligee, its officers and agents, as stipulated in said Contract, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

The Surety, for value received, hereby stipulates and agrees that it shall not be exonerated or released from the obligation of this bond (either by total exoneration or pro tanto) by any change, extension of time, alteration in or addition to the terms of the contract or to the work to be performed there under or the specifications accompanying the same, nor by any change or modification to any terms of payment or extension of time for any payment pertaining or relating

Contra Costa Community College District
Contra Costa College
C-608 PE & Kinesiology Complex Renovation
to any scheme of work of improvement under the contract. Surety also stipulates and agrees that it shall not be exonerated or released from the obligation of this bond (either by total exoneration or pro tanto) by any overpayment or underpayment by the Obligee that is based upon estimates approved by the Architect. The Surety stipulates and agrees that none of the aforementioned changes, modifications, alterations, additions, extension of time or actions shall in any way affect its obligation on this bond, and it does hereby waive notice of any such changes, modifications, alterations, additions or extension of time to the terms of the contract, or to the work, or the specifications as well notice of any other actions that result in the foregoing.

Whenever Principal shall be, and is declared by the Obligee to be, in default under the Contract, the Surety shall promptly either remedy the default, or shall promptly complete the Contract through its agents or independent contractors, subject to acceptance and approval of such agents or independent contractors by Obligee as hereinafter set forth, in accordance with its terms and conditions and to pay and perform all obligations of Principal under the Contract, including, without limitation, all obligations with respect to warranties, guarantees and the payment of liquidated damages; or, at Obligee’s sole discretion and election, Surety shall obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Obligee of the lowest responsible bidder, arrange for a contract between such bidder and the Obligee and make available as Work progresses (even though there should be a default or succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the “balance of the Contract price” (as hereinafter defined), and to pay and perform all obligations of Principal under the Contract, including, without limitation, all obligations with respect to warranties, guarantees and the payment of liquidated damages. The term “balance of the Contract price,” as used in this paragraph, shall mean the total amount payable to Principal by the Obligee under the Contract and any modifications thereto, less the amount previously paid by the Obligee to the Principal, less any withholdings by the Obligee allowed under the Contract.

Surety expressly agrees that the Obligee may reject any agent or contractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Principal. Unless otherwise agreed by Obligee, in its sole discretion, Surety shall not utilize Principal in completing the Contract nor shall Surety accept a bid from Principal for completion of the work in the event of default by the Principal.

No final settlement between the Obligee and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

The Contractor and Surety shall remain responsible and liable for all patent and latent defects that arise out of or are related to the Contractor’s failure and/or inability to properly complete the Public Work as required by the Contract and the Contract Documents. The obligation of the Surety hereunder shall continue so long as any obligation of the Contractor remains.

Contractor and Surety agree that if the Obligee is required to engage the services of an attorney in connection with enforcement of the bond, Contractor and Surety shall pay Obligee’s reasonable attorneys’ fees incurred, with or without suit, in addition to the above sum.
In the event suit is brought upon this bond by the Obligee and judgment is recovered, the Surety shall pay all costs incurred by the Obligee in such suit, including reasonable attorneys’ fees to be fixed by the Court.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this ____ day of ____________, 2010.

PRINCIPAL/CONTRACTOR:

________________________________________

By: _____________________________________

SURETY:

________________________________________

By: _____________________________________

Attorney-in-Fact

The rate of premium on this bond is ____________________________ per thousand.

The total amount of premium charged: $__________________________ (This must be filled in by a corporate surety).

IMPORTANT: THIS IS A REQUIRED FORM.

Surety companies executing bonds must possess a certificate of authority from the California Insurance Commissioner authorizing them to write surety insurance defined in California Insurance Code Section 105, and if the work or project is financed, in whole or in part, with federal, grant or loan funds, Surety’s name must also appear on the Treasury Department’s most current list (Circular 570 as amended).

Any claims under this bond may be addressed to:

(Name and Address of Surety) (Name and Address of agent or representative for service for service of process in California)
STATE OF CALIFORNIA )
COUNTY OF ) ss.

On __________________________ before me, ______________________________________ (insert name and title of the officer)

On __________________________, before me, _________________________, a Notary Public in and for said State, personally appeared _______________________________, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument as the Attorney-in-Fact of the _____________________ (Surety) and acknowledged to me that he/she/they subscribed the name of the _____________________ (Surety) thereto and his own name as Attorney-in-Fact on the executed instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

__________________________  (SEAL)
Notary Public in and for said State

Commission expires: ________________

NOTE: A copy of the power-of-attorney to local representatives of the bonding company must be attached hereto.
SECTION 00510

NOTICE OF AWARD

DATE: _____________________

TO: _____________________________________________

ADDRESS: _______________________________________

PROJECT: _________________________________________

The Contract Sum of your contract is ________________________ Dollars, ($_________________).

You must comply with the following conditions within ten (10) calendar days of the date of this Notice of Award, that is, by ________________.

1. You must deliver to the District two fully executed counterparts of Section 00600, “Construction Agreement.”

2. You must deliver to the District the “Contract Performance Bond,” and “Payment Bond,” executed by you and your surety, which are included in Section 00500.

3. You must deliver to District the insurance certificates required in Section 00700, for insurance required in Section 00600, Construction Agreement.

Failure to comply with these conditions within the time specified will entitle District to consider your bid abandoned, to annul this Notice of Award, and to declare your Bid Security forfeited. Within ten (10) calendar days after you comply with these conditions, the District will return to you one fully signed counterpart of the Construction Agreement.

Contra Costa Community College District

By: _________________________________

Title: _________________________________

END OF DOCUMENT
SECTION 00650

NOTICE TO PROCEED

Date: __________________________

TO: _______________________________________________________________________

ADDRESS: __________________________________________________________________

PROJECT: ____________________________________________________________________

You are notified that the Contract Time under the above contract will commence to run on. By that
date, you are to start performing your obligations under the Contract Documents. In accordance
with Section 00600, Construction Agreement, the date of Substantial Completion is
______________, and the date for Final Completion is _________________.

CONTRA COSTA COMMUNITY COLLEGE DISTRICT

By : ______________________________________
    Ines Zildzic

Title: Interim Chief Facilities Planner

END OF DOCUMENT
PART 1 - GENERAL

1.1 RELATED DOCUMENTS
   A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
   A. Section 01030 – “Alternates”
   B. Section 01290 – “Payment Procedures”
   C. Section 01310 – “Construction Scheduling”
   D. Section 01312 – “Project Meetings”
   E. Section 01330 – “Submittal Procedures”
   F. Section 01400 – “Quality Control Requirements”
   G. Section 01540 – “Site Security and Safety”
   H. Section 01625 – “Product Options and Substitutions”
   I. Section 01740 – “Warrantees and Guaranties”
   J. Section 01770 – “Contract Closeout Procedures”
   K. Section 01780 – “Project Record Documents”
   L. Section 01820 – “Demonstration and Training”
   M. Divisions 2 through 33 Sections for Summary of Work requirements for the work in those Sections.

1.3 WORK DESCRIPTIONS WITHOUT FORCE
   A. All general descriptions and/or general summaries of the work noted in this section, or elsewhere within the Contract Documents, are without force and effect on the Contract Work described and indicated in detail the Construction Documents. These general descriptions and summaries are for general reference and descriptive purposes only and in no way offer the complete and concise description of all the Work required by the Contract Documents.

1.4 WORK COVERED BY CONTRACT DOCUMENTS
   The intent of the Contract Documents includes but is not limited to:

   Renovation and modernization of the existing Gym, Gym Annex, Men’s Locker Room, and Women’s Locker Room buildings, including hazardous material removal, building system upgrades, finishes, seismic upgrades, and site work as noted in the contract documents.
A. **CONTRACTS**

Perform the work under a single, fixed-price Contract.

1.5 **CONTRACTOR PERSONNEL & PERSONNEL QUALIFICATIONS**

A. Qualifications: At a minimum, unless otherwise noted, the Contractor shall employ full time (8 hours per work day) at the Site the following individuals with the following minimum experience levels:

1. Project Manager (Full Time at the Site): This individual must have a minimum of 10 years of construction experience on similar public DSA projects, including the completion of two public projects involving similar building construction in excess of $15 million in value over the last seven years.

2. On-Site Project Engineer (Full Time at the Site): This individual must have a minimum of 5 years of experience on similar public DSA projects, including the completion of two public projects involving similar building construction in excess of $7 million in value over the last seven years.

3. On-Site Field Superintendent (Full Time at the Site): This individual must have a minimum of 10 years of experience on similar public DSA projects, including the completion of two public projects involving similar building construction in excess of $15 million in value over the last seven years.

**WORK SEQUENCE**

B. Construct work as shown in the Contract Documents. Coordinate Baseline CPM Schedule activities and construction operations with District and the Architect.

C. Scheduling of Contractor's use of the areas and times involved shall be determined in cooperation with the District. Notify the District a minimum of 10-days prior to commencement of work.

D. Construction activities shall be performed between the hours of 7AM and 5PM, Monday through Friday, unless otherwise required. No Work shall be performed outside the above hours without prior written authorization from the Construction Manager/Project Manager.

1.6 **USE OF PREMISES**

A. Contractor shall only use the premises for work, storage, staging areas, and vehicular parking as designated in the Contract Documents.

1.7 **EXISTING AREA CONDITION SURVEY**

A. Prior to commencement of work, jointly survey the existing area to be remodeled with the District and Architect, noting and recording existing damage such as cracks, sags, and other damage (on Site Plan/Floor Plans).

B. This record shall serve as a basis for determination of subsequent damage to these items due to settlement, movement, demolition, or Contractor’s operations.

C. Existing damage observed shall be marked and the official record of existing damage shall be signed by the parties making the survey.
D. Cracks, sags, and damage to the area and other items not noted in the original survey but subsequently observed shall be reported immediately to the Architect.

E. Contractor shall comply with Section 01321 for photographic and video recording of existing conditions.

1.8 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

A. The Drawings may not show all existing water, gas, electrical, and hot water lines, and other items known or suspected to exist in the area of the work.

B. Contractor shall locate these installations before proceeding with demolition or other operations which may cause damage, maintain them in service where appropriate, and repair damage caused by the performance of the Work, at no increase in the Contract Sum.

C. In addition to notification, if a structure or utility is damaged, take appropriate action as specified in the General Conditions.

1.9 USE AND OCCUPANCY OF WORK PRIOR TO ACCEPTANCE BY DISTRICT

A. The District may use and occupy the building before formal acceptance under the following conditions:
   1. A Certificate of Substantial Completion shall be prepared and executed as provided in the Contract Documents. See Section 01770 Contract Closeout Procedures. The Certificate of Substantial Completion shall be accompanied by a written endorsement of the Contractor’s insurance carrier and surety permitting occupancy by the District during the remaining period of the work.
   2. Occupancy by the District shall not be construed as being an acceptance of that part of the Work occupied.
   3. The Contractor will not be held responsible for damage to the occupied part of the Work resulting from the District’s occupancy.
   4. Occupancy by the District shall not be deemed to constitute a waiver of existing claims the District or Contractor may have against each other.
   6. The District will pay for utility costs associated with occupancy during construction.

1.10 NOISE CONTROL

A. See Section 01416, Special Procedures, for Noise Control requirements.

1.11 PROTECTION OF EXISTING IMPROVEMENTS

A. Provide barricades, coverings, or other types of protection necessary to prevent damage to existing improvements indicated to remain in place.

B. Protect improvements on adjoining properties as well as those on the District’s property.

C. Protect existing trees and other vegetation indicated to remain in place, against unnecessary cutting, breaking or skinning of roots, skinning and bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line.
D. Restore any improvements damaged by this work to their original condition as acceptable to the District or other parties or authorities having jurisdiction.

1.12 MISCELLANEOUS PROVISIONS

A. Items shown or scheduled to be salvaged will remain the property of the District. Store as directed by the Project Manager.

PART 2 - PRODUCTS
Not Used.

PART 3 - EXECUTION
Not Used.

END OF SECTION 01010
SECTION 01015

ADDITIONAL REQUIREMENTS FOR DSA-APPROVED PROJECTS

PART 1 - GENERAL

1.1 GENERAL

The following additional requirements apply to this Project that is being reviewed by the Division of the State Architect (DSA).

1.2 ADDITIONAL REQUIREMENTS

A. In addition to the duties specified in the Contract Documents, the duties of the Contractor shall be in accordance with the requirements specified in Title 24, California Code of Regulations (CCR).

B. In addition to the duties specified in the Contract Documents, the duties of the Architect and the Architect’s consultants shall be in accordance with the requirements specified in Part 1, Title 24, CCR.

C. DSA is not subject to arbitration proceedings.

D. Notify DSA at start of construction in accordance in Part 1, Title 24, CCR.

E. Changes: DSA defines all addenda and change orders as Construction Change Documents (CCD.) All CCD shall be submitted for DSA approval. Do not begin any work under a CCD until DSA approval is obtained. CCDs shall be in accordance in Part 1, Title 24, CCR.

1. Submit DSA 140 Form for Category A changes defined as construction changes to or affecting Structural Safety, Fire Life Safety or Accessibility.

2. Submit DSA 141 Form for Category B changes defined as construction changes NOT affecting Structural Safety, Fire Life Safety or Accessibility.

F. Do not begin work under a written order until a CCD has been submitted to and approved by DSA in accordance with Part 1, Title 24, CCR. Substitutions effecting structural, fire/life/safety or access compliance shall be submitted as CCDs for DSA approval. The Contractor will be responsible for the additional architectural and engineering costs associated with the review and regulatory processing of these substitutions.

G. Unless otherwise indicated or specified, perform the work in conformance with the latest edition of applicable regulatory requirements. A copy of Part 1 and Part 2 of Title 24, CCR shall be available on the Project site. The codes adopted by the City, County, State and Federal agencies shall govern minimum requirements for this Project.

H. Contractor shall submit verified reports in accordance with Part 1, Title 24, CCR.
I. DSA may supervise construction, reconstruction, or repair in accordance with Part 1, Title 24, CCR.

J. Construction shall be observed by a full-time Project Inspector approved by DSA in accordance with Part 1, Title 24, CCR.

K. Testing requirements of the DSA approved District’s Testing Laboratory shall be in accordance of Part 1, Title 24, CCR.

L. Special Inspection on masonry construction, glued laminated lumber, wood framing using timber connectors, ready-mixed concrete, gunite, prestressed concrete, high strength steel bolt installation, welding, pile driving, and mechanical and electrical work shall be as required by Part 1, Title 24, CCR. The costs of special inspection will be paid for by the District.

M. DSA Box: The Contractor shall submit DSA required documents via DSA Box.

N. DSA Box.com is a secure cloud-based collaborative solution initiated by the DSA to allow greater transparency and communication between DSA field engineers and designated stakeholders.
   1. Forms which historically were mailed, processed and filed in a cabinet can now be posted on-line and viewed almost immediately.
   2. The Contractor shall receive authorization to access DSA Box via invitation by email from Box.com indicating that the Contractor are being invited to share or collaborate on a file or folder that relates to a specific project. Please check your email “junk folder,” as your spam filter may not recognize the sender of the initial invitation.
   3. Additional instructions shall be provided during the course of the project.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01015
SECTION 01030
ALTERNATES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS
A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
A. SECTION 00200 – INSTRUCTIONS TO BIDDERS
B. SECTION 00300 – BID PROPOSAL FORM
C. SECTION 00700 – GENERAL CONDITIONS
D. SECTION 01010 – SUMMARY OF WORK
E. SECTION 01311 – PROJECT MANAGEMENT AND COORDINATION
F. Divisions 2 through 32 Sections for Alternates requirements for the work in those Sections.

1.3 SUMMARY
A. This Section includes administrative and procedural requirements governing Alternates. Each Alternate is identified by number and describes the basic changes to be made in the Work. A list of Alternates is included in Part 2 of this Section.

1.4 DEFINITIONS
A. Alternate, as used herein, is a dollar amount proposed by Bidders and stated on the Bid Proposal form for Work defined in the Contract Documents that the District may elect to add to or deduct from the Base Bid, as the case may be, if an Alternate or Alternates, are accepted by the District.

1.5 REQUIREMENTS
A. Alternate pricing quoted on the Bid Proposal Form will be reviewed by the District, and accepted or rejected at District’s sole option. Any accepted Alternate(s) will be identified in the Construction Agreement, or shall be executed by Change Order.
B. See Section 00300, Bid Proposal Form, Paragraph 1.G for the bid award process.
C. All Alternates are either “additive” or “deductive” or “no change” to the Lump Sum Base Bid. The Contractor shall quote the amount for each Alternate in the space provided on the Bid Proposal Form.
D. Failure to either quote an Alternate amount or the insertion of the words “no bid,” “none” or words of similar import, may be considered as not completing the Bid Proposal Form and may constitute disqualification of the entire bid at District’s sole discretion. Bidders may insert a zero-dollar amount ($0.00) in the Alternate price line of the Bid Proposal Form if the Bidder proposes to perform the Work of the Alternate with no additional change to the Contract Sum.
E. The Base Bid and the Alternates are exclusive in their scope of Work. There is no overlap between or among the Base Bid and the Alternates.

F. The cost of any item of work shall be included only once, in the Base Bid or in the Alternates.

G. Each Alternate is intended to cover all of the Work required for a complete, finished job.
   1. Alternate Work includes all miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of the Alternate, but necessary to complete the Alternate Work according to the Contract Documents.

1.6 PROCEDURES
A. Modify or adjust affected adjacent Work as necessary to completely integrate Work of each accepted Alternate into the Project.

B. Notification: Immediately following Notice to Proceed, Contractor shall notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

C. The District reserves the right to reinstate Alternates at any time within 90 calendar days after the Notice to Proceed without any increase or decrease in Contract Price (beyond the amount of the Alternates(s) listed in Section 00300, Part 3), or any increase in Contract Time.

D. Execute accepted Alternate(s) under the same conditions as other Work of this Contract.

PART 2 - PRODUCTS

2.1 DESCRIPTION OF ADDITIVE ALTERNATE
   1. Trellis at Building A.
   3. Additive Alternate – Dance Floor Replacement.
   4. Fabric Netting at Existing € Chan Link Fence w/ (E) Vinyl Slats at (E) Pool Deck.
   5. Vertical Folding Partitions at Building L.

2.2 GENERAL
A. Execute accepted alternates under the same conditions as other Work of this Contract.

B. Coordination: Modify or adjust affected Work as required to completely and fully integrate that Work into the Project.

END OF SECTION 01030
PART 1 - GENERAL

1.1 RELATED DOCUMENTS
   A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
   A. Section 01010 – “Summary of Work”
   B. Section 01311 – “Project Management and Coordination”
   C. Section 01572 – “Storm Water Pollution Prevention Plan”
   D. Divisions 2 through 33 Sections for Field Engineering requirements for the work in those sections.

1.3 SUBMITTALS
   A. Contractor shall submit name and address of Surveyor and professional Engineer to District and Architect for approval prior to their work on the Project.
   B. On request of District and Architect, Contractor shall submit documentation to verify accuracy of field engineering work, at no additional cost to the District.
   C. At completion of the Work, Contractor shall submit a certificate signed by a licensed engineer or surveyor certifying that all elevations and locations of improvements are in conformance with Contract Documents.

1.4 REQUIREMENTS
   A. Contractor shall provide and pay for field engineering services by an engineer licensed in the State of California, required for the Project, including, without limitation:
      1. Survey work required in execution of the Project.
      2. Civil or other professional engineering services specified, or required to execute Contractor’s construction methods.

1.5 QUALIFICATIONS OF SURVEYOR OR ENGINEERS
   A. Contractor shall only use a qualified licensed engineer or registered land surveyor, approved by the District.

1.6 SURVEY REFERENCE POINTS
   A. Existing basic horizontal and vertical control points for the project are those designated on the Drawings.
B. Contractor shall locate and protect control points prior to starting Site Work and preserve all permanent reference points during construction. In addition Contractor shall:

1. Make no changes or relocation without prior written notice to District and Architect.
2. Report to District and Architect when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
3. Require surveyor to replace project control points based on original survey control that may be lost or destroyed.
4. Contractor to locate and protect existing survey control and reference points.
5. Control datum for survey that is indicated on Drawings.
6. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice.

1.7 PROJECT RECORD DOCUMENTS
A. Maintain complete, accurate log of control and survey work as it progresses. Indicate dimensions, locations, angles, and elevations of construction and Site Work.
B. Submit Record Documents under provisions of Section 01770

1.8 EXAMINATION
A. Verify locations of survey control points prior to starting Work.
B. Promptly notify Architect of any discrepancies discovered.

1.9 SURVEY REQUIREMENTS
A. Provide field engineering services. Utilize recognized engineering survey practices.
B. Establish a minimum of two permanent bench marks on Site, referenced to established control points. Record locations, with horizontal and vertical data, on Project Record documents.
C. Establish lines and levels, locate and lay out by instrumentation and similar appropriate means:
   1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
   2. Grid or axis for structures.
   3. Building foundation, column locations, and ground floor elevations.
D. Periodically verify layouts by same means.

1.10 QUALITY CONTROL
A. Employ a professional Engineer of the discipline required for specific service on Project, licensed in the State of California.
B. Submit evidence of Engineer’s errors and omissions insurance coverage to District, in the form of a current Insurance Certificate.

PART 2 – PRODUCTS
PART 3 – EXECUTION

3.1 Contractor is responsible for meeting all applicable codes, OSHA, and other safety and shoring requirements.

3.2 Contractor is responsible for any re-surveying required by correction of nonconforming work with no additional cost to the District or its representatives.

END OF SECTION 01050
SECTION 01055
CONFORMANCE SURVEYING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS

A. Section 01010 – “Summary of Work”  
B. Section 01330 – “Submittal Procedures”  
C. Section 01050 – “Field Engineering”  
D. Section 01780 – “Project Record Documents”  
E. Division 2 through 33 Sections for Conformance Surveying requirements for the work in those Sections

1.3 SUMMARY

A. All necessary Project conformance surveying and Project layout Work shall be completed by a Land Surveyor currently licensed in the State of California, and be based on established site bench marks, monuments, lines and levels necessary for the Work covered by this Contract without additional cost to the District.

B. Scope of Work: Provide conformance surveying required for proper completion of the Work including, but not limited to:
   1. All applicable Project components.

1.4 SUBMITTALS

A. Contractor will be required to submit one (1) hard copy, wet stamped and signed by the licensed Land Surveyor and one (1) electronic copy of all conformance surveys for the Project.

PART 2 – PRODUCTS

Not Used.

PART 3 - EXECUTION

3.1 LAYING OUT THE WORK

A. Prior to beginning work, Contractor shall secure the electronic grading plan from the Architect. The Surveyor shall provide all conformance survey drawings both as-constructed spot elevations and compare these elevations to those on the Contract Documents for the same location. Contractor shall show the difference in these two numbers.

B. Accuracy to all Surveys provided in this section shall be to 0.01 feet.

END OF SECTION 01055
SECTION 01250
CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS

A. Section 01010 – “Summary of Work”
B. Section 01310 – “Construction Scheduling”
C. Section 01311 – “Project Management and Coordination”
D. Section 01330 – “Submittal Procedures”
E. Section 01770 – “Contract Closeout Procedures”
F. Divisions 2 through 33 Sections for Contract Modification Procedures requirements for the work in those Sections

1.3 SUMMARY

A. Any change in scope of Work or deviation from Contract Documents including, without limitation, extra work, or alterations or additions to or deductions from the original Work, shall not invalidate the original Contract, and shall be performed under the terms and conditions of the Contract Documents.

B. Changes in the work generally will begin with Requests for Information (RFI), followed by a response from the District and/or Architect, and possibly a Request for Proposal (RFP), a Contractor Proposed Change Order (PCO), a negotiated Proposed Change Order, followed by a formal Change Order (CO) authorizing the Change in the Work. A Construction Directive (CD) may be used in the absence of agreement on the terms of the Change in the Work.

1.4 CHANGES - No Changes Without Authorization

A. There shall be no change whatsoever in the drawings, specifications, or in the Work without a District executed Change Order, District executed Construction Change Directive, or District approved no cost order by the Architect for a minor change in the Work as herein provided.

B. District shall not be liable for the cost of any extra work or any substitutions, changes, additions, omissions, or deviations from the Drawings and Specifications unless the District’s Governing Board has authorized the same and the cost thereof approved in writing by Change Order or executed Construction Change Directive.

C. No extension of time for performance of the Work shall be allowed hereunder unless claim for such extension is made at the time changes in the Work are ordered, and such time duly adjusted in writing in the Change Order.
D. The provisions of the Contract Documents shall apply to all such changes, additions, and omissions with the same effect as if originally embodied in the Drawings and Specifications. Notwithstanding anything to the contrary in this Section, all Change Orders shall be prepared and issued by the Architect and shall become effective when executed by the District’s Governing Board, the Architect, and the Contractor.

E. Should any Change Order result in an increase in the Contract price, the cost of such Change Order shall be agreed to, in writing, in advance by Contractor and District and be subject to the monetary limitations set forth in Public Contract Code. In the event that Contractor proceeds with any change in Work without first notifying District and obtaining the Architect’s and District’s consent to a Change Order, Contractor waives any claim of additional compensation for such additional work.

**CONTRACTOR UNDERSTANDS, ACKNOWLEDGES, AND AGREES THAT THE REASON FOR THIS NOTICE REQUIREMENT IS SO THAT DISTRICT MAY HAVE AN OPPORTUNITY TO ANALYZE THE WORK AND DECIDE WHETHER THE DISTRICT SHALL PROCEED WITH THE CHANGE ORDER OR ALTER THE PROJECT SO THAT SUCH CHANGE IN WORK BECOMES UNNECESSARY.**

1.5 REQUEST FOR INFORMATION (“RFI”)

A. Definition: An RFI is a written request prepared by the Contractor requesting the Architect to provide additional information necessary to clarify or amplify an item which the Contractor believes is not clearly shown or called for in the drawings or specifications, or to address problems which have arisen under field conditions. The Contractor shall not submit an RFI to the District or the Architect if it pertains to a Subcontractor’s request for clarification of the Contractor’s Subcontract or contractor’s construction documents, or any other Contract Documents prepared by the Contractor.

B. Scope: The RFI shall reference all the applicable Contract Documents including specification section, detail, page numbers, drawing numbers, and sheet numbers, etc. The Contractor shall make suggestions and interpretations of the issue raised by the RFI. An RFI cannot modify the Contract Cost, Contract Time, or the Contract Documents. The Contractor shall use RFI format provided by the District.

1. The Contractor shall be responsible for Contractor and Subcontractor costs to implement and administer RFIs throughout the duration of the Project. The Contractor shall maintain an RFI log with all RFIs, including revisions, listed with a short description of the request, the date, the status, and the disposition of the RFI. Regardless of the number of RFIs submitted, the Contractor shall not be entitled to additional compensation.

2. The Contractor shall be responsible for both the District and District consultants’ costs, including the Architect, for answering RFIs if an RFI requests an interpretation or decision of a matter where the information sought is equally available to the party making such request, as determined by the District; at the District’s discretion, such costs may be deducted from progress payments or the final payment.

3. The Architect or the District may issue a Request for Proposal which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications. The Contractor shall then prepare and submit an estimate within seven (7) Calendar Days. If the Contractor fails or refuses to submit a Proposal within said seven (7) day period, the District’s Representative or the District shall determine the fair and
reasonable cost of the Work indicated in a Request for Proposal which shall be binding on the Contractor.

4. Supplemental Instruction or Bulletin: The Architect or the District may issue an Architect’s Supplemental Instruction (ASI) or Bulletin to the Contractor.

   a. If the Contractor is satisfied with the Supplemental Instruction or Bulletin and does not request change in Contract Sum or Contract Time, then the direction of the Work shall be executed without a Change Order.

   b. If the Contractor believes that the Supplemental Instruction or Bulletin results in a change in Contract Sum or Contract Time, then the Contractor shall notify the District in writing within five Calendar Days after receiving the response. If the District disagrees with the Contractor, then the Contractor may give notice of intent to submit a Claim as described in the General Conditions, and submit its Claim within five Calendar Days of the District’s response. If the District agrees with the Contractor, then the Contractor must submit a cost or time extension proposal within seven (7) Calendar Days of the District’s response to the RFI. The Contractor’s failure to deliver either the foregoing notice of Claim or proposal by the respective deadlines stated above shall result in waiver of the right to file a proposal or Claim.

C. The Contractor shall reference each RFI to an activity of the Construction Schedule and shall note time criticality of the RFI, indicating time within which a response is required. The Contractor’s failure to reference RFI to an activity on the Construction Schedule and note time criticality on the RFI shall constitute the Contractor’s waiver of any claim for time delay or interruption to the Work resulting from any delay in responding to the RFI. The Contractor must submit time critical RFIs at least seven (7) Days prior to the scheduled start date of the affected Work activity.

D. Response Time: The Architect must respond to a RFI in writing within a reasonable time, normally seven (7) days for routine RFIs, after receiving such request. If the Architect’s response results in a change in the Work, then such change shall be effected by a written CO or Construction Change Directive, if appropriate. If the Architect cannot respond to the RFI within a reasonable time, the Architect shall notify the Contractor, with a copy to the Inspector and the District, of the amount of time that will be required to respond. District or the Architect will endeavor to respond within five (5) working Days from receipt of RFI with a written response to the Contractor, provided that the RFI complies with the paragraph above and is determined by the Architect or District to be time critical. Failure of the Contractor to plan ahead or mitigate problems shall not be cause for a determination that an RFI is time critical. The District or the Architect may return an RFI requesting additional information should the original RFI be incomplete or inadequately describe the information requested or conditions encountered. The Contractor shall distribute responses to all appropriate Subcontractors.
E. If the Contractor is satisfied with the response and does not request a change in Contract Sum or Contract Time, then the response shall be executed without a change.

F. Only the Contractor and/or the District may initiate changes in the scope of Work or deviation from Contract Documents.

1. Contractor may initiate changes by submitting an RFI or a letter providing Notice of Concealed or Unknown Conditions, or Notice of Hazardous Waste Conditions.
   a. RFIs shall be submitted to seek clarification of or request changes in the Contract Documents. RFIs shall not be submitted to the District seeking clarification of any errors or omissions on behalf of the Contractor’s preparation of the construction documents or any other Contract Documents prepared by the Contractor.
   b. Differing Site Conditions: The Contractor shall submit a Notice of Differing Site Conditions by RFI to resolve problems regarding differing conditions encountered in the execution of the Work pursuant to General Conditions, which shall govern. If the District and the Architect determine that a change in Contract Sum or Contract Time is justified, the District and the Architect will issue RFP or CCD.
   c. Hazardous Waste Conditions: The Contractor shall submit Notices of Hazardous Waste Conditions by RFI to resolve problems regarding undocumented hazardous materials encountered in the execution of the Work pursuant in General Conditions, which shall govern. If the District and the Architect determine that a change in Contract Sum or Contract Time is justified, the District and the Architect will issue RFP or CCD.

2. The Contractor may submit to the Architect a written Request for Information (RFI) if one of the following conditions occurs:
   a. Contractor discovers what appears to be an unforeseen condition or circumstance that is not described in the Contract Documents.
   b. The Contractor discovers what appears to be a conflict or inconsistency within the Contract Documents and the intent of the Contract Documents cannot be reasonably inferred.
   c. The Contractors discovers what appears to be an error or omission in the Contract Documents and the intent of the Contract Documents cannot be reasonably inferred.
   d. The Contractor considers a portion of the Contract Documents is not sufficiently explained or detailed for the Contractor to proceed with that portion of the Work.
   e. The Contractor who, after a full search of the Contract Documents and upon exercising required due diligence, fails to locate the required information.

G. If the Contractor believes that the RFI response results in Change in the Contract Sum or the Contract Time, the Contractor shall notify the District in writing within five calendar Days after receiving the response. If the District disagrees with the Contractor, then the Contractor may give notice of intent to submit a Claim as described in General Conditions, and submit its Claim within 30 Calendar Days of the District’s response. If the District agrees with the Contractor, then the Contractor must submit a cost or time extension proposal within fourteen (14) Calendar Days of the District’s response to the RFI. The Contractor’s failure to
deliver either the foregoing notice of Claim or proposal by the respective deadlines stated above shall result in waiver of the right to file a proposal or Claim.

H. Contractor shall identify RFIs with sequential numbering (i.e. 001, 002, 003 etc.) with a separate number assigned to each RFI. Resubmittal of apparent unresolved RFI issues shall be on a new RFI form with the initial RFI number amended with a sequential Revision suffix (.R1, .R2, .R3 etc.) until the issue is resolved.

I. Unless otherwise directed by the Project Manager, the Contractor shall submit each RFI on the form required by the District.

1. The Contractor shall fill in all required information. Include additional information, data, sketches and the like on separate sheets as necessary; limit sheet size to 8-1/2 by 11 inches if possible. RFIs without all required information may be returned without action to the Contractor for resubmittal. Resubmittal in accordance with the specified requirements shall be the Contractors’ responsibility.

2. The Contractors own proposed form may be used, if in the Project Manager’s judgment, it is equal to the form required by the District and it contains all pertinent information. If the project is using the Owner’s Document Management System, RFIs shall be submitted in the format used in the software.

J. In each request, include the following information:

1. Project name as it appears on the Contract Documents
2. Contractor’s RFI identification number.
3. Title of issue.
5. Description of issue.
6. Contractor’s proposed written and graphic solution, Architect will determine if the proposal is in compliance with the Contract Documents and design intent of Project. Contractor’s failure to make reasonable effort to propose realistic solutions may result in the Request for Information being returned with no action.
7. Date of submission to Architect.
8. Date that response is needed to avoid impact to Construction schedule and cost. Time for response shall be reasonable to allow for processing and review, research, and written response by the appropriate party.
9. Urgency (normal or high).
10. Justification for high urgency.
11. Contractors’ name and the printed name and signature of Contractors’ representative responsible for issuance of request.
12. Name (individual and company) of responsible for originating RFI and his or her relationship to the Contractor.
13. Photographic image of condition. Furnish digital image if possible.
14. Photocopy of Contract Documents or sketch of condition (with dimensions) that pertains to this issue.
K. Limit each RFI to a single subject or issue. RFIs with multiple subject or issues may be returned to the Contractor without response. Resubmittal in accordance with the specified requirements shall be the Contractor’s responsibility.

L. Transmit each RFI to the District Project Manager as necessary to expedite the Project and to allow adequate time for review without delay to the Work. Do not transmit RFIs directly to the Architect, Architect’s Consultants, or others.

M. RFIs that do not meet the requirements of this Section will be returned to the Contractor with an explanation for its return.

N. Inappropriate RFIs, as described hereinafter, will be returned to the Contractor with an explanation for its return but without further action:
   1. RFIs that are received by the Architect from an entity other than the Contractor (such as a Subcontractor, Sub-subcontractor, supplier or others.)
   2. RFIs that transmit or contain a request for a substitution.
   3. RFIs that transmit or constitute a submittal.
   4. RFIs that are submitted without the Contractors’ thorough review of the Contract Documents or in a manner that suggests that specific portions of the Contract Documents are assumed to be excluded or taken as an isolated portion of the Contract Documents in part rather than whole.
   5. RFIs that are submitted in an untimely manner without adequate coordination or scheduling of the Work or related trades.
   6. RFIs that are submitted as a proposed or requested Change Order or other Contract Modification.
   7. RFIs that do not constitute a good faith request for required information.

O. Contractor shall be responsible for resubmittal of information contained in inappropriate RFIs in accordance with the requirements of the appropriate portion of the Contract Documents.

P. If information requested by the Contractor in an RFI is apparent from field observations, is contained in the Contract Documents, or can be reasonably inferred from them, the Contractor shall be responsible to the District for all reasonable fees charged by the Architect for additional services required to furnish such information. The amount of such additional services will be deducted from the Contractor’s next payment application by the District and those funds will be forwarded to the Architect as compensation.

Q. The quantity of RFIs submittal by the Contractor shall not be the basis for any claim by the Contractor.

R. Should the Contractor proceed with Work affect by an RFI issue before receipt of a written response from the Architect within the time described hereinbefore, that portion of the Work not performed in accordance with the requirements of the response shall be subject to the removal and replacement by the Contractor at no increase in Contract Sum or Contract Time.

S. Maintain a current and accurate Request for Information Log as follows:
   1. For each RFI, include the RFI number, subject matter, date submitted, date returned. Maintain current status of each RFI at all times.
   2. Submit log weekly and as requested by Project Manager or Architect.
3. Accurately maintain log for the duration of the Contract.

1.6 REQUEST FOR PROPOSAL (“RFP”)

A. Definition: An RFP is a written request prepared by the Architect requesting the Contractor to submit to the District and the Architect an estimate of the effect of a proposed change on the Contract Price and the Contract Time.

B. Scope: An RFP shall contain adequate information, including any necessary drawings and specifications, to enable Contractor to provide the cost breakdowns required by this Specification Section. The Contractor shall not be entitled to any Additional Compensation for preparing a response to an RFP, whether ultimately accepted or not.

C. District Requested RFP: the Contractor shall furnish a proposal within fourteen (14) Calendar Days of the District’s RFP. Upon approval of RFP, the District will issue a PCO directing the Contractor to proceed with the extra Work. If the parties do not agree on the price for an RFP, the District may issue a CCD. Upon receipt of CCD, the Contractor shall promptly proceed with the change of Work involved and concurrently respond to the District’s CCD within seven (7) Calendar Days. The Contractor shall perform the changed Work notwithstanding any claims or disagreements of any nature.

1.7 PROPOSED CHANGE ORDER (PCO) REQUEST

A. Definition: A PCO is a written request prepared by the Contractor requesting that the District and the Architect issue a CO based upon a proposed change called for in an RFP or a claim pursuant to the General Conditions.

B. Changes in Price: A PCO shall include breakdowns per this specification section to validate any change in Contract Price due to proposed change or claim.

C. Changes in Time: A PCO shall also include any additional time required to complete the Project. Any additional time requested shall not be the number of days to make the proposed change, but must be based upon the impact to the Project Schedule as defined in the Construction Scheduling Specifications of these Contract Documents. Any changes in time will be granted only if there is an impact to the critical path. If contractor fails to request a time extension in a PCO, then the Contractor is thereafter precluded from requesting or claiming a delay.

D. The Contractor may propose changes by submitting a Proposed Change Order (PCO form, see section 01340) to the District’s Representative, describing the proposed change and its full effect on the Work. The Contractor shall include a statement describing the reason for the change and the effect on the Contract Sum and Contract Time with full documentation including detailed cost and schedule breakout, and a statement describing the effect on Work by separate or other the Contractors. Document any requested substitutions in accordance with the Contract Documents. Cost for Work in approved PCOs shall not be applied for by the Contractor or paid by the District until the PCOs are included in a Change Order (CO form, see section 01340)

E. Cost Proposal and Procedures: Whenever the Contractor is required in this Section to prepare a Proposed Change Order form (PCO), and whenever the Contractor is entitled to submit a cost proposal and elects to do so, the Contractor shall prepare and submit to the District and the Architect for consideration a proposal using the PCO form found in the Contract Documents, or other similarly prepared form previously approved by the District. All cost proposals must
contain detailed line-item backup with a complete breakdown of costs for credits, deducts and extras, which itemizes materials, labor, equipment, taxes, overhead and profit. All Subcontractor Work shall be so indicated. Subcontractor quotes for any subcontractor tier submitted as lump sum or without the required line-item breakdown will be rejected. After receipt of a proposal with a detailed breakdown, the District and the Architect will act promptly thereon.

1. If the District and the Architect approves a proposal, the PCO will be routed for Contractor signatures, the District Representative signatures, and the District signature.

2. If a proposal is not acceptable to the District or the Architect because it does not agree with costs and/or time included in the proposal, the District or the Architect will submit in a response what it believes to be a reasonable cost and/or adjustment, if any. Except, as otherwise provided in this Section, the Contractor shall have five Calendar Days in which to respond to the District with a revised proposal.

3. When necessity to proceed with a change does not allow the District sufficient time to conduct a proper cost and schedule analysis of a proposal (or revised proposal), the District may direct the Contractor to proceed on a basis to be determined at earliest practical date. In this event, the value of the Change, with corresponding equitable adjustment to Contract, shall not be more than the increase or less than the decrease initially proposed.

1.8 CHANGE ORDERS (“CO”)  

A Change Order is a written instrument prepared by the Architect and signed by the District (as authorized by the District’s Governing Board), the Contractor, the Architect, and the DSA (if necessary), stating their agreement upon all of the following:

A. A description of a change in the Work;

B. The amount of the adjustment in the Contract Sum, if any; and

C. The extent of the adjustment in the Contract Time, if any.

D. Change Order Forms: Whether or not noted on the executed form of Change Order, all Change Orders approved by the District are deemed to include and incorporate the following provision: “The adjustment of the Contract Price and the Contract Time for the changes noted in a Change Order (the “Changes”) represents the full and complete adjustment of the Contract Price and the Contract Time due the Contractor for providing and completing such Changes, including without limitation: (i) all costs (whether direct or indirect) for labor, equipment, materials, tools, supplies and/or services; (ii) all general and administrative costs (including without limitation, home office, field office and Site General Conditions costs) and profit; and (iii) all impacts, delays, disruptions, interferences or hindrances in providing and completing the Changes. The Contractor waives all rights, including without limitation, those arising under Civil Code Section 1542, for any other adjustment of the Contract Price or the Contract Time on account of a Change Order or the performance and completion of the Changes.”
E. Correlation of Other Items

1. Contractor shall promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum as shown on the Change Order prior to the last day of the next monthly pay period.

2. Within seven (7) days, Contractor shall promptly revise Progress schedules, look ahead schedules, and the Contractors Master Schedule to reflect any Change in Contract Time, revise sub schedules to adjust times for other items of work affected by the change and resubmit to the District for review and approval. The Contractors shall not make changes to tasks in any schedule not impacted by the Change.

3. Contractor is responsible to promptly enter Changes in Project Record Documents.

F. All Changes:

1. Documentation of Change in Contract Sum and Contract Time:
   a. Contractor shall maintain detailed records of all Work performed on a time-and-material basis.
   b. Contractor shall document each proposal for a change in cost or time with sufficient data to allow detailed line item evaluation and analysis of the proposal.
   c. Contractor shall, on request, provide additional data to support computations for:
      i) Quantities of products, materials, labor and equipment.
      ii) Taxes, insurance, and bonds.
      iii) Overhead and profit.
      iv) Justification for any change in Contract Time and new Progress Schedule showing revision due, if any. Justification for change shall comply with Construction Scheduling Section 01310.
      v) Credit for deletions from Contract, similarly documented.
   d. Contractor shall support each claim for additional costs and for Work performed under Force Account with additional information including:
      i) Credit for deletions from Contract, similarly documented.
      ii) Origin and date of claim.
      iii) Dates and times Work was performed and by whom.
      iv) Time records and wage rates paid.
      v) Invoices and receipts for products, materials, equipment and subcontracts, similarly documented.

G. COST OF CHANGE ORDERS

1. It is the responsibility of the Contractor to notify the District within five Calendar Days if there is a cost change related to a change in the Work. Notification beyond this time limit may result in future claims being time barred.

2. Within seven (7) Calendar days after a request is made for a change that impacts the Contract Sum, the critical path, or the Contract Time, the Contractor shall provide the District and the Architect, with a written estimate of the effect of the proposed CO upon the Contract Sum and the actual cost of construction, which shall include a complete itemized cost breakdown of all labor and material showing actual quantities, hours, unit
prices, and wage rates required for the change, and the effect upon the Contract Time of such CO. Changes may be made by District by an appropriate written CO, or, at the District’s option, such changes shall be implemented immediately upon the Contractor’s receipt of an appropriate written Construction Change Directive.

3. District may, as provided by law and without affecting the validity of this Agreement, order changes, modification, deletions and extra work by issuance of written CO or Construction Change Directives from time to time during the progress of the Project, contract sum being adjusted accordingly. All such work shall be executed under conditions of the original Agreement except that any extension of time caused thereby shall be adjusted at time of ordering such change. District has discretion to order changes on a “time and material” basis with adjustments to time made after Contractor has justified through documentation the impact on the critical path of the Project.

4. The amount of the increase or decrease in the Contract Price from a CO, if any, shall be determined in one or more of the following ways as applicable to a specific situation:
   a. Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation. If an agreement cannot be reached within fifteen (15) days after submission and negotiation of Contractor’s proposal, Contractor may submit a properly formatted claim per the General Conditions and this Specification Section. Submission of sums which have no basis in fact are at the sole risk of Contractor and may be a violation of the False Claims Act set forth under Government Code Section 12650 et. seq.);
   b. By unit prices contained in Contractor’s original bid and incorporated in the Project documents or fixed by subsequent agreement between District and Contractor;
   c. Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee. However, in the case of disagreement, Contractor must utilize the procedure under this Specification Section; or
   d. By cost of material and labor and percentage of overhead and profit. (Force Account)

H. COST DETERMINATION

1. Total cost of extra Work or of Work omitted shall be the sum of construction labor costs, material costs, equipment rental costs, as defined herein plus overhead and profit as allowed herein and by the General Conditions. This limit applies in all cases of claims for extra Work, whether calculating cost proposals, Change Orders or CCDs, or calculating claims of all types, and applies even in the event of fault, negligence, strict liability, or tort claims of all kinds, including strict liability or negligence. The Contractor may recover no other costs arising out of or connected with the performance of extra Work, of any nature. No special, incidental or consequential damages may be claimed or recovered against the District, its representatives or agents, whether arising from breach of contract, negligence or strict liability, unless specifically authorized in the Contract Documents.

2. Application of Overhead and Profit: (Overhead shall be as defined in this Specification Section.)
   a. Total overhead and profit on labor for extra Work shall not exceed 15 percent.
   b. Total overhead and profit on materials for extra Work shall not exceed 15 percent.
   c. Total overhead and profit on equipment for extra Work shall not exceed 10 percent.
d. When extra Work is performed by a first tier Subcontractor the Contractor shall receive a 5 percent markup on Subcontractors’ total costs of extra Work. First tier Subcontractor’s markup on its Work shall not exceed 15 percent.

e. When extra Work is performed by a lower tier Subcontractor, the Contractor shall receive a total of 5 percent markup on the lower tier Subcontractors’ total costs of extra Work. First tier Subcontractors and lower tier Subcontractors shall divide the 15 percent markup as mutually agreed.

f. Notwithstanding the foregoing, in no case shall the total markup on any extra Work exceed 20 percent of the direct cost, notwithstanding the actual number of contract tiers.

g. On proposals covering both increases and decreases in Contract Sum, overhead and profit shall be allowed on the net increase only as determined in paragraph 1.5 above. When the net difference is a deduction, no percentage for overhead and profit shall be allowed, but rather the deduction shall apply.

h. No markup will be allowed on permits, fees, insurance, and bonds.

I. Taxes: All State sales and use taxes, Contra Costa County and applicable City sales taxes, shall be included. Federal and Excise tax shall not be included.

J. Accord and Satisfaction: Every Change Order and accepted CCD shall constitute a full accord and satisfaction, and release, of all the Contractor (and if applicable, Subcontractor) claims for additional time, money or other relief arising from or relating to the subject matter of the change including, without limitation, impacts of all types, cumulative impacts, inefficiency, overtime, delay and any other type of claim. The Contractor may elect to reserve its rights to disputed claims arising from or relating to the changed Work at the time it signs a Change Order or approves a CCD, but must do so expressly in a writing delivered concurrently with the executed Change Order or approved CCD, and must also submit a Claim for the reserved disputed items pursuant to the General Conditions no later than 30 Calendar Days of the Contractor’s first written notice of its intent to reserve rights.

K. COST BREAKDOWN

1. Labor: the Contractor will be paid cost of labor for workers (not including the project superintendent, or forepersons unless forepersons work greater than 50% of the time and then only when authorized by the District), used in actual and direct performance of extra Work. Labor rate, whether employer is the Contractor, Subcontractor or other forces, will be sum of following:

   a. Actual Wages: Actual wages paid shall include any employer payments to or on behalf of workers for health and welfare, pension, vacation, and similar purposes. At the beginning of the project, contractor shall submit labor rate breakdowns of all potential trades and classes employed and provide backup documentation justifying company specific items such as workers compensation rates.

   b. Labor surcharge: Payments imposed by local, county, state, and federal laws and ordinances, and other payments made to, or on behalf of, workers, other than actual wages such as taxes and worker’s compensation insurance. Such labor surcharge shall not exceed that set forth in the Prevailing Wage schedule which is in effect on date upon which extra Work is accomplished and which schedule is incorporated herein by reference as though fully set forth herein.
2. Material: Only materials furnished and installed in the Work by the Contractor and necessarily used in performance of extra Work will be paid for. The Contractor and any and all subcontractors will submit proof of material cost satisfactory to the District when requested. Cost of such materials will be cost, including sales tax, to purchaser (Contractor, Subcontractor or other forces) from supplier thereof, except as the following are applicable:

   a. If cash or trade discount by actual supplier is offered or available to purchaser, it shall be credited to the District notwithstanding fact that such discount may not have been taken.

   b. For materials salvaged upon completion of extra Work, salvage value of materials shall be deducted from cost, less discounts, of materials.

   c. If cost of a material is, in opinion of the District, excessive, then cost of material shall be deemed to be lowest current wholesale price at which material is available in quantities concerned delivered to Site, less any discounts as provided in this Specification Section.

      Unless accepted in writing by the District’s Representative, NECA (National Electrical Contractors Association) manual shall NOT be used as a basis to determine any material costs.

3. Equipment Rental: For the Contractor- or Subcontractor-owned equipment, payment will be made at rental rates listed for equipment in California Department of Transportation official equipment rental rate schedule which is in effect on date upon which extra Work is accomplished and which schedule is incorporated herein by reference as though fully set forth herein.

   a. If there is no applicable rate for an item of equipment, then payment shall be made for the Contractor- or Subcontractor-owned equipment at rental rate listed in the most recent edition of the Association of Equipment Distributors (AED) book.

   b. For rented equipment, payment will be made based on actual rental invoices. Equipment used on extra Work shall be of proper size and type. If, however, equipment of unwarranted size or type and cost is used, cost of use of equipment shall be calculated at rental rate for equipment of proper size and type, as determined by the District.

   c. Rental rates paid shall be deemed to cover cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals. Unless otherwise specified, manufacturer’s ratings, and manufacturer-approved modifications, shall be used to classify equipment for determination of applicable rental rates.
d. Individual pieces of equipment or tools not listed in said publication and having a replacement value of $750 or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefore as payment is included in payment for labor.

e. Rental time will not be allowed while equipment is inoperative due to breakdowns.

f. For equipment on Site, rental time to be paid for equipment shall be time equipment is in operation on extra Work being performed or on standby as approved by the District. The following shall be used in computing rental time of equipment:

i) When hourly rates are listed, less than 30 minutes of operation shall be considered to be ½ hour of operation.

ii) When daily rates are listed, less than four hours of operation shall be considered to be ½ Day of operation.

g. For equipment that must be brought to Site to be used exclusively on extra Work, cost of transporting equipment to Site and its return to its original location shall be determined as follows:

i) District will pay for costs of loading and unloading equipment.

ii) Cost of transporting equipment in low bed trailers shall not exceed hourly rates charged by established haulers.

iii) Cost of transporting equipment shall not exceed applicable minimum established rates of California Public Utilities Commission.

iv) District will not make any payment for transporting and loading and unloading equipment if equipment is used on Work in any other way than upon extra Work.

h. Rental period may begin at time equipment is unloaded at Site of extra Work and terminate at end of the performance of the extra Work or Day on which the District directs the Contractor to discontinue use of equipment, whichever first occurs. Excluding Saturdays, Sundays, and the District’s legal holidays, unless equipment is used to perform extra Work on such Days, rental time to be paid per Day shall be four hours for zero hours of operation, six hours for four hours of operation and eight hours for eight hours of operation, time being prorated between these parameters. Hours to be paid for equipment that is operated less than eight hours due to breakdowns, shall not exceed eight less number of hours equipment is inoperative due to breakdowns.

4. Work Performed by Special Forces or Other Special Services: When the District, the Architect and the Contractor by agreement, determine that special service or item of extra Work cannot be performed by forces of the Contractor or those of any Subcontractors, service or extra Work item may be performed by specialists. Invoices for service or item of extra Work on basis of current market price thereof may be accepted without complete itemization of labor, material, and equipment rental costs when it is impracticable and not in accordance with established practice of the special service industry to provide complete itemization. In those instances wherein the Contractor is required to perform extra Work necessitating a fabrication or machining process in a fabrication or machine shop facility away from Site, charges for that portion of extra Work...
performed in such facility may, by agreement, be accepted as a specialist billing. The District must be notified in advance of all off-Site Work. In lieu of overhead and profit provided in this Section, 15 percent will be added to specialist invoice price, after deduction of any cash or trade discount offered or available, whether or not such discount may have been taken.

L. FORCE-ACCOUNT WORK

1. If it is impracticable because of nature of Work, or for any other reason, to fix an increase or decrease in price definitely in advance, the Contractor may be directed to proceed at a not-to-exceed (NTE) maximum price which shall not under any circumstances be exceeded. Subject to such limitation, such extra Work shall be paid for at actual necessary cost for Force-Account Work or at the negotiated cost, as determined by the District. The cost for Force-Account Work shall be determined pursuant to this Specification Section.

2. Force-Account Work shall be used when it is not either possible or practical to price the changed Work prior to the start of that Work. In these cases, Force-Account Work will be utilized during the pricing and negotiation phase of the change. Once negotiations have been concluded and a bilateral agreement has been reached, the tracking of the Work under Force-Account is no longer necessary. Force-Account Work shall also be used when negotiations between the District and the Contractor have broken apart and a bilateral agreement on the value of the changed Work cannot be reached. The District may approve other uses of Force-Account Work.

3. Whenever any Force-Account Work is in progress, definite price for which has not been agreed on in advance, the Contractor shall report to the District each Business Day in writing in detail amount and cost of labor, equipment, and material used, and any other expense incurred in Force-Account Work on the preceding day, by using a preapproved cost proposal form. No claim for compensation for Force-Account Work will be allowed unless report shall have been made and acknowledged by the District.

4. Whenever Force-Account Work is in progress, definite price for which has not been agreed on in advance, the Contractor shall report to the District when 75 percent of the NTE amount has been expended.

5. RECORDS AND CERTIFICATION

a. Force-Account (cost reimbursement) charges shall be recorded daily and summarized in preapproved cost proposal form. The Contractor or authorized representative shall complete and sign form each Day and submit to the District Representative for review and approval. The Contractor shall also provide with the form: the names and classifications of workers and hours worked by each; an itemization of all materials used; a list by size type and identification number of equipment and hours operated; and an indication of all Work performed by specialists.

b. No payment for Force-Account Work shall be made until the Contractor submits original invoices substantiating materials and equipment charges.

c. District shall have the right to audit all records in possession of the Contractor relating to activities covered by the Contractor’s claims for modification of Contract, including Force-Account Work and CCD Work.
d. Further, the District will have right to audit, inspect, or copy all records maintained in connection with this Contract, including financial records, in possession of the Contractor relating to any transaction or activity occurring or arising out of, or by virtue of, the Contract. If the Contractor is a joint venture, right of the District shall apply collaterally to same extent to records of joint venture sponsor, and of each individual joint venture member. This right shall be specifically enforceable, and any failure of the Contractor to voluntarily comply shall be deemed an irrevocable waiver and release of all claims then pending that were or could have been subject to the General Condition of Contract.

6. Force-Account Work shall be paid as extra Work under this Section. Methods of determining payment for Work and materials provided in this paragraph shall not apply to performance of Work or furnishings of material that, in judgment of the District, may properly be classified under items for which prices are otherwise established in Contract Documents.

a. Basis for Establishing Costs.

i) Labor will be the actual cost for wages prevailing locally for each craft or type of workers at the time the extra Work is done, plus employer payments of payroll taxes and insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from Federal, State, or local laws, as well as assessments or benefits required by lawful collective bargaining agreements. The use of a labor classification which would increase the extra Work cost will not be permitted unless the Contractor establishes the necessity for such additional costs. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental.

ii) Materials shall be at invoice or lowest current price at which such materials are locally available and delivered to the Site in the quantities involved, plus sales tax, freight, and delivery. The District reserves the right to approve materials and sources of supply or to supply materials to the Contractor if necessary for the progress of the Work. No markup shall be applied to any material provided by the District.

iii) Tool and Equipment Rental. No payment will be made for the use of tools which have a replacement value of $250 or less.

b. Other Items. The District may authorize other items which may be required on the extra work. Such items include labor, services, material, and equipment which are different in their nature from those required by the Work, and which are of a type not ordinarily available from the Contractor or any of the Subcontractors. Invoices covering all such items in detail shall be submitted with the request for payment.

c. Invoices. Vendors’ invoices for material, equipment rental, and other expenditures shall be submitted with the PCO. If the request for payment is not substantiated by invoices or other documentation, the District may establish the cost of the item involved at the lowest price which was current at the time of the Daily Report.

d. Overhead and Profit. Overhead and profit is defined and shall be applied as in this Specification Section.
M. DISTRICT-FURNISHED MATERIALS
   1. District reserves right to furnish materials, as it deems advisable, and the Contractor shall have no claims for costs and overhead and profit on such materials.

N. OVERHEAD DEFINED
   1. The following includes, but is not limited to, costs that are deemed included in overhead for all Contract Modifications, including COs, Force-Account Work or CCD Work, whether incurred by the Contractor, Subcontractors, or suppliers, and the Contractor shall not invoice or receive payment for these costs separately:
      a. Drawings: field drawings, Shop Drawings, etc., including submissions of drawings.
      b. Routine field inspection of Work proposed.
      c. General Superintendence, including Site Superintendent, Project Engineers, Project Management or Construction Management services provided by the Contractor.
      d. General administration and preparation of cost proposals, schedule analysis, change orders and other supporting documentation as necessary.
      e. Computer services.
      f. Reproduction services.
      g. Salaries of, superintendent, foremen, timekeeper, storekeeper and secretaries
      h. Janitorial services
      i. Temporary on-Site facilities, including for any extended periods of Contract Time:
         i) Offices
         ii) Telephones
         iii) Plumbing
         iv) Electrical: Power, lighting, etc.
         v) Platforms
         vi) Fencing, barricades, signage, etc.
         vii) Water
   2. Home office expenses
   3. Procurement and use of vehicles and fuel used coincidentally in Work otherwise included in the Contract Documents
   4. Surveying
   5. Estimating
   6. Protection of Work
   7. Handling and disposal fees
   8. Final cleanup
   9. Small tools
   10. Warranty
   11. All Contract General Conditions
   12. Other incidental Work
O. Deductive Change Orders: All deductive Change Order(s) shall be prepared in the same manner as additive change orders using the same forms and formulas, with negative numbers. Overhead and profit will be neither added nor deducted when calculating deductive changes.

P. Discounts, Rebates, and Refunds: For purposes of determining the cost, if any, of any change, addition, or omission to the Work hereunder, all trade discounts, rebates, refunds, and all returns from the sale of surplus materials and equipment shall accrue and be credited to the Contractor, and the Contractor shall make provisions so that such discounts, rebates, refunds, and returns may be secured, and the amount thereof shall be allowed as a reduction of the Contractor’s cost in determining the actual cost of construction for purposes of any change, addition, or omissions in the Work as provided herein.

Q. Accounting Records: With respect to portions of the Work performed by COs and Construction Change Directives on a time-and-materials, unit-cost, or similar basis, the Contractor shall keep and maintain cost-accounting records satisfactory to the District, which shall be available to the District on the same terms as any other books and records the Contractor is required to maintain under the Contract Documents.

R. Notice Required: If the Contractor desires to make a claim for an increase in the Contract Price, or any extension in the Contract Time for completion, it shall notify the District pursuant to the General Conditions of these Contract Documents. Contractor shall proceed to execute the Work even though the adjustment may not have been agreed upon. Any change in the Contract Price or extension of the Contract Time resulting from such claim shall be authorized by a CO.

S. Applicability to Subcontractors: Any requirements under this Section shall be equally applicable to COs or Construction Change Directives issued to Subcontractors by the Contractor to the same extent required by the Contractor.

T. Alteration to Change Order Language: Contractor shall not alter or reserve time in Change Orders or Construction Change Directives. Contractor shall execute finalized Change Orders and proceed with the Work. If Contractor intends to reserve time, without an approved CPM schedule prepared pursuant to the Construction Scheduling Specification, the Contractor may be prosecuted pursuant to the False Claim Act.

1.9 CONSTRUCTION CHANGE DIRECTIVE

A. Definition: A Construction Change Directive is a written order prepared by the Architect and signed by the District and the Architect, directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both. The District may, by Construction Change Directive and without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions within. If applicable, the Contract Sum and Contract Time will be adjusted accordingly. In the case of a Construction Change Directive being issued, Contractor must commence Work immediately or delays from failure to perform Construction Change Directive shall be the responsibility of Contractor. Any dispute as to the sum of Construction Change Directive or timing of payment, shall be resolved pursuant to the Disputes paragraphs of these Contract Documents. A Construction Change Directive shall be used in the absence of agreement on the terms of a CO.

B. Construction Change Directives: If at any time the Architect or the District believes in good faith that a timely Change Order will not be agreed upon using the foregoing procedures, the Architect or the District may issue a CCD with a recommended cost and/or time adjustment.
1. Upon receipt of CCD, the Contractor shall promptly proceed with the change of Work involved and concurrently respond to the District’s CCD within 10 Calendar Days.
   
a. Contractor’s response must be any one of following:
   
i) Return CCD signed, thereby accepting the District’s response, time, and cost.
   
ii) Submit a (revised if applicable) proposal with supporting documentation (if applicable, reference original proposal number followed by letter R1, R2, etc. for each revision.
   
iii) Give notice of intent to submit a Claim as described in the General Conditions, and submit its Claim with 30 Calendar Days.
   
b. If the CCD provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:
   
i) Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation.
   
ii) Unit prices stated in the Contract Documents or subsequently agreed upon.
   
iii) Force account.
   
iv) Cost to be determined in a manner agreed.
   
C. A CCD signed by the Contractor indicates the agreement of the Contractor therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a PCO.
   
D. If the Contractor does not respond promptly, or disagrees with the method for adjustment in the Contract Sum, the method and the adjustment shall be determined by the District on the basis of published estimating guides, District or Architect estimating consultant analysis, or reasonable and historical expenditures and savings of those performing similar Work including, in case of an increase in the Contract Sum, a reasonable allowance for overhead and profit. If the parties still do not agree on the price for a CCD, the Contractor may file a Claim per General Conditions. The Contractor shall keep and present, in such form as the District may prescribe, an itemized accounting together with appropriate supporting data.
   
E. The amount of credit to be allowed by the Contractor for a deletion or change which results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect and the District. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.
   
1.10 Responses: For all responses for which the Contract Documents, including without limitation this Section, do not provide a specific time period, recipients shall respond within a reasonable time.
   
1.11 Disputes: For all disputes arising from the procedures herein, the Contractor shall follow this Section and the Contract General Conditions.

PART 2 – PRODUCTS
Not used.

PART 3 – EXECUTION
Not used.
PART 1 - GENERAL

1.1 RELATED DOCUMENTS
   A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
   A. Section 01010 – “Summary of Work”
   B. Section 01250 – “Contract Modification Procedures”
   C. Section 01300 – “Labor Compliance Program”
   D. Section 01312 – “Project Meetings”
   E. Section 01330 – “Submittal Procedures”
   F. Section 01770 – “Contract Closeout Procedures”
   G. Section 01780 – “Project Record Documents”
   H. Divisions 2 through 33 Sections for Payment Procedures requirements for the work in those sections.

1.3 SUMMARY
   A. This Section includes descriptions of requirements and procedures for determining the quantity of Work performed during each pay period in project and the procedures for obtaining payment for Work performed.

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

1.5 SCHEDULE OF VALUES
   A. Within ten (10) calendar days of the award of the Contract, provide an Initial Schedule of Values (SOV) along with the Initial CPM Schedule per Section 01310. This initial SOV shall include detailed breakdown of the elements of work expected in the first 90 calendar days of the Contract.
   B. Submit the Master Schedule of Values for all activities and costs under the Contract. Coordinate activities with, and submit this Master SOV at the same time as the master CPM Schedule required by Section 01310.
C. The SOV shall include Contractor’s overhead, profit, insurance, cost of bonds (except to the extent expressly identified in a Proposal Item) and/or other financing, as well as general conditions costs, (e.g., Site cleanup and maintenance, temporary roads, access, signage off-Site access roads, temporary power and lighting, security, and the like). These costs shall be prorated through all activities and all Phases of the Project so that the sum of all Schedule of Values line items equals the total Contract Sum.

D. District, Architect, and Project Manager shall review the breakdown in conjunction with the Master Construction Schedule to ensure that the amounts listed in the Schedule of Values are, in fact, fair market cost allocations for the Work items listed. Upon favorable review by the District, District will accept this Schedule of Values for use. District shall be the sole judge of fair market cost allocations.

E. District will reject any attempt to increase the cost of early activities, i.e., “front loading,” resulting in a complete reallocation of moneys until such “front loading” is corrected. Repeated attempts at “front loading” may result in suspension or termination of the Work for default, or refusal to process progress payments until such time as the Schedule of Values is acceptable to District.

F. The Schedule of Values shall list line item costs for Project Closeout, Operations and Maintenance Manuals, Warranties, final test reports, and like items as required by this and other sections of the Contract Documents.

G. Format and Content: Use the Project Manual Table of Contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project Identification on the Schedule of Values:
   a. Project name and Campus;
   b. Name of Architect;
   c. District’s project number;
   d. Contractor’s name and address;
   e. Date of submittal.

2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
   a. Related Specification Section or Division;
   b. Description of the Work;
   c. Name of subcontractor;
   d. Name of manufacturer or fabricator;
   e. Name of supplier;
   f. Change Orders (numbers) that affect value;
   g. Dollar value:
      i) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.

   Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project
Manual Table of Contents, individual Specification Sections, and the Construction Schedule. Provide several line items for principal subcontract amounts, where appropriate. Include separate line items under required principal subcontracts. A line item for Bonds must be supported by the evidence of the Bond cost at the time of application for payment. Provide individual line items for operation and maintenance manuals, punch list activities, Project Record Documents, Title 24 closeout, LEED commissioning (if applicable), and demonstration and training (if applicable). If the values for administrative close-out items are not realistic and supportable, the Schedule of Values will not be accepted.

3. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
4. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
   a. Differentiate between items stored on-site and items stored off-site. If specified, include evidence of insurance or bonded warehousing.
5. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
6. Provide separate line item in the Schedule of Values for maintenance and updating of Project Record Documents as specified in Section 01780 (Project Record Documents).
7. Provide a separate line item for DSA verified report retention if this is a DSA approved project. See General Conditions.
8. Allowances: Provide a separate line item in the Schedule of Values for each allowance.
9. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
10. Schedule Updating: When Change Orders result in a change in the Contract Sum, include each Change Order as a new line item, with additional line items for detail if the change involves multiple subcontractors or significant Work in more than one Specification Section.

1.6 SUBCONTRACTOR LISTING
A. Within five (5) days of the award of the Contract, provide the name, address, telephone number, fax number, California State Contractors Board License number, and classification of all Subcontracts for parties furnishing labor, material, or equipment for the Project.

1.7 DISTRICT APPROVAL
A. The District shall review all submittals required above in a timely manner. All submittals must be approved by the District before becoming the supporting basis for any Contractor payment request.

1.8 PROGRESS PAYMENTS
A. Within thirty (30) days after approval of the Request for Payment, Contractor shall be paid a sum equal to ninety percent (95%) of the value of the Work performed (as certified by Architect and Inspector and verified by Contractor) up to the last day of the previous month,
less the aggregate of previous payments. The value of the Work completed shall be Contractor’s best estimate. No inaccuracy or error in said estimate shall operate to release the Contractor, or any surety upon any bond, from damages arising from such Work, or from the District’s enforcement of each and every provision of this Contract, and the District shall have the right subsequently to correct any error made in any estimate for payment.

B. The Contractor shall not be entitled to have any payment requests processed, or be entitled to have any payment made for work performed, so long as any lawful or proper direction given by the District concerning the Work, or any portion thereof, remains incomplete.

C. Notwithstanding anything to the contrary stated above, the Contractor may include in its Request for Payment the value of any structural steel, G.F.R.C. panels and other such custom-made materials prepared specifically for the Project and unique to the Project so long as all of the following requirements are satisfied:

1. No payment shall be made for materials stored off-site without the written approval of the District to be given or withheld in the District’s sole discretion;

2. Title to such materials shall be vested in the District as evidenced by documentation satisfactory in form and substance to the District, including, but not limited to, recorded financing statements, UCC filings and UCC searches;

3. With each Contractor Request for Payment, the Contractor shall submit to the District a written list identifying each location where materials are stored off-site (which must be a bonded warehouse) and the value of the materials at each location. The Contractor shall procure insurance satisfactory to the District (in its reasonable discretion) for materials stored off-site in an amount not less than the total value thereof;

4. The consent of any Surety shall be obtained to the extent required prior to payment for any materials stored off-site;

5. Representatives of the District shall have the right to make inspections of the storage areas at any time; and

6. Such materials shall be (1) protected from diversion, destruction, theft and damage to the reasonable satisfaction of the District; (2) specifically marked for use on the Project; and (3) segregated from other materials at the storage facility.

D. The Contractor is required to order, obtain, and store materials and equipment sufficiently in advance of its Work at no additional cost or advance payment from District to assure that there will be no delays.

E. No payment by District hereunder shall be interpreted so as to imply that District has inspected, approved, or accepted any part of the Work. Notwithstanding any payment, the District may enforce each and every provision of this Contract. The District may correct any error subsequent to any payment.

1.9 APPLICATIONS FOR PROGRESS PAYMENTS

A. The Architect shall, within seven (7) days after receipt of the Contractor’s Application for Payment, either approve such payment or notify the Contractor in writing of the Architect’s reasons for withholding approval in whole or in part as provided herein. The review of the Contractor’s Application for Payment by the Architect is based on the Architect’s observations at the Site and the data comprising the Application for Payment that the Work has progressed
to the point indicated and that, to the best of the Architect’s knowledge, information, and belief, the quality of the Work is in accordance with the Contract Documents.

B. The foregoing representations are subject to:
   1. An evaluation of the Work for conformance with the Contract Documents;
   2. Results of subsequent tests and inspections;
   3. Minor deviations from the Contract Documents correctable prior to completion, and
   4. Specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified.

C. Progress Payment Procedures include the following:
   1. Pre-application Meeting. On or before the 5th Day of each calendar month during the progress of the Work, Contractor shall attend a pre-Application meeting with District’s Representatives, including the Architect, Project Manager and Project Inspector. Contractor shall provide a complete draft of the proposed Application for Payment for review. The Contractor shall revise and resubmit the draft Application for Payment, if required by District.
   2. Application for Progress Payment. On or before the tenth (10th) day of each calendar month during the progress of the Work, Contractor shall submit to the Architect an itemized Application for Progress Payment for operations completed in accordance with the Schedule of Values. Such application shall be notarized, if required, and supported by the following and as required by the specifications.
   3. The Contractor shall submit Applications for Payment in a form pre-approved by the District, either on or following the format of AIA G702/G703. Information shall include:
      a. The amount paid to the date of the Application to the Contractor, to all its Subcontractors, and all others furnishing labor, material, or equipment for its Contract;
      b. The amount being requested under the Application for Payment by the Contractor on its own behalf and separately stating the amount requested on behalf of each of the Subcontractors and all others furnishing labor, material, and equipment under the Contract;
      c. The balance that will be due to each of such entities after said payment is made;
      d. A certification that the Record Drawings and Annotated Specifications are current;
      e. Itemized breakdown of work done for the purpose of requesting partial payment;
      f. Where the Work is separated into Phases, provide Applications for Payment showing values correlated with each Phase separately.
      g. An updated Construction Schedule in conformance with the requirements of Section 01310, Construction scheduling.
      h. All additions to and subtractions from the Contract Price and Contract Time;
      i. A summary of the retentions held;
      j. Material invoices, evidence of equipment purchases, rentals, and other support and details of cost as the District may require;
k. An updated Schedule of values showing percentage of completion of the Contractor’s Work by line item.

D. Prerequisites for Progress Payments include the following:
   1. The following items must be submitted and approved before the first payment request will be accepted for processing:
      a. List of all subcontractors;
      b. List of Contractor’s staff assignments;
      c. Installation of the Project signs and other required temporary facilities and controls, including field office(s) required by Section 01500;
      d. Complete Schedule of Values;
      e. Initial Construction Schedule, due within [5 edit] days after Notice to Proceed;
      f. Submittal Schedule;
      g. Copies of any required permits;
      h. Copies of authorizations and licenses from governing authorities, if required;
      i. Surveyor qualifications if needed;
      j. All bonds and insurance endorsements;
      k. Other early submittals required by the Contract Documents.

E. No payment requests will be processed unless Contractor has:
   1. Submitted copies of the Certified Payroll records for the Payment Request Work period.
   2. Provided an updated Construction Schedule.
   3. Provided an updated Schedule of Values.
   4. Provided all other payment request related items required by the Contract Documents.

F. Payment requests that are not in compliance with the Contract Documents will be returned with no action taken.

G. If Contractor is late submitting an Application for Payment, that Application may be processed at any time during the one-month period, but may result in processing of the Contractor’s Application for Payment being delayed for more than a day-for-day basis. The District and its representative shall not be responsible for any such Payment being delayed due to late, incomplete, or inaccurate submission by the Contractor.

H. Any payments made to Contractor where criteria set forth in the Contract Documents have not been met shall not constitute a waiver of said criteria by District. Instead, such payment shall be construed as a good faith effort by District to resolve differences so Contractor may pay its Subcontractors and suppliers and that Contractor agrees that failure to submit such items may constitute a breach of contract by Contractor and may subject Contractor to termination or other penalty.

1.10 WARRANTY OF TITLE

A. The Contractor warrants title to all work. The Contractor further warrants that all work is free and clear of liens, claims, security interests, or encumbrances in favor of the Contractor,
Subcontractors, material and equipment suppliers, or other persons or entities making a claim by reason of having provided labor, materials, and equipment relating to the Work.

B. Failure to keep work free of liens, claims, security interests or encumbrances is grounds to make a claim against Contractor’s payment and performance bond to immediately remedy and defend.

C. If a lien or stop notice of any nature should at any time be filed against the Work or any District property by any entity which has supplied material or services at the request of the Contractor, Contractor and Contractor’s surety shall promptly, on demand by District and at Contractor’s and surety’s own expense, take any and all action necessary to cause any such lien or stop notice to be released or discharged immediately therefrom.

D. If the Contractor fails to furnish to the District within ten (10) calendar days after demand by the District, satisfactory evidence that a lien or stop notice has been so released, discharged, or secured, then District may discharge such indebtedness and deduct the amount required therefor, together with any and all losses, costs, damages, and attorney’s fees and expense incurred or suffered by District from any sum payable to Contractor under the Contract.

1.11 DECISIONS TO WITHHOLD PAYMENT

A. The District may withhold payment, in whole, or in part, to such extent as may be necessary to protect the District from loss because of, but not limited to:
   1. Defective Work not remedied;
   2. Stop Notices served upon the District;
   3. Liquidated damages assessed against the Contractor;
   4. The cost of completion of the Contract if there exists reasonable doubt that the Work can be completed for the unpaid balance of any Contract Price or by the completion date;
   5. Damage to the District or other contractor;
   6. Unsatisfactory prosecution of the Work by the Contractor;
   7. Failure to store and properly secure materials;
   8. Failure of the Contractor to submit on a timely basis, proper and sufficient documentation required by the Contract Documents, including, without limitation, acceptable monthly progress schedules, shop drawings, submittal schedules, schedule of values, product data and samples, proposed product lists, executed Change Order, Construction Change Directives, and verified reports;
   9. Failure of the Contractor to maintain record drawings;
   10. Erroneous estimates by the Contractor of the value of the Work performed, or other false statements in an Application for Payment;
   11. Unauthorized deviations from the Contract Documents;
   12. Failure of the Contractor to prosecute the Work in a timely manner in compliance with established progress schedules and completion dates.
   13. Failure to properly pay prevailing wages as defined in Labor Code section 1720, et seq.;
   14. Failure to properly maintain or clean up the Site;
   15. Payments to indemnify, defend, or hold harmless the District;
16. Any payments due to the District including but not limited to payments for failed tests, or utilities changes or permits;
17. Failure to submit an acceptable schedule in accordance with Section 01310;
18. Failure to pay Subcontractor or suppliers as required herein;
19. Failure to provide release from material suppliers or subcontractors when requested to do so.

1.12 RE-ALLOCATION OF WITHHELD AMOUNTS

A. District may, in its discretion, apply any withheld amount to payment of outstanding claims or obligations as defined in herein. In so doing, District shall make such payments on behalf of Contractor.

B. If any payment is so made by District, then such amount shall be considered as a payment made under Contract by District to Contractor and District shall not be liable to Contractor for such payments made in good faith. Such payments may be made without prior judicial determination of claim or obligation. District will render Contractor an accounting of such funds disbursed on behalf of Contractor.

C. If Contractor defaults or neglects to carry out the Work in accordance with the contract documents or fails to perform any provision thereof, District may, after ten (10) calendar days written notice to the Contractor and without prejudice to any other remedy make good such deficiencies.

D. The District shall adjust the total Contract price by reducing the amount thereof by the cost of making good such deficiencies. If District deems it inexpedient to correct Work which is damaged, defective, or not done in accordance with Contract provisions, an equitable reduction in the Contract price (of at least 150% of the estimated reasonable value of the nonconforming work) shall be made therefore.

1.13 PAYMENT AFTER CURE

A. When the grounds for declining approval are removed, payment shall be made for amounts withheld because of them. No interest shall be paid on any retainage or amounts withheld due to the failure of the Contractor to perform in accordance with the terms and conditions of the Contract Documents.

1.14 NONCONFORMING WORK

A. Contractor shall promptly remove from premises all Work identified by District as failing to conform to the Contract whether incorporated or not. Contractor shall promptly replace and re-execute its own Work to comply with the Contract without additional expense to District and shall bear the expense of making good all work of other contractors destroyed or damaged by such removal or replacement.

B. If Contractor does not remove such Work which has been identified by District as failing to conform to the Contract Documents within a reasonable time, fixed by written notice, District may remove it and may store the material at Contractor’s expense. If Contractor does not pay expenses of such removal within ten (10) calendar days’ time thereafter, District may, upon ten (10) calendar days’ written notice, sell such materials at auction or at private sale and shall
account for net proceeds thereof, after deducting all costs and expenses that should have been borne by Contractor.

1.15 SUBCONTRACTOR PAYMENTS
A. No later than ten (10) days after receipt, or pursuant to Business and Professions Code Section 7108.5 and Public Contract Code section 7107, the Contractor shall pay to each Subcontractor, out of the amount paid to the Contractor on account of such Subcontractor’s portion of the Work, the amount to which said Subcontractor is entitled. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

1.16 NO OBLIGATION OF DISTRICT FOR SUBCONTRACTOR PAYMENT
A. The District shall have no obligation to pay, or to see to the payment of, money to a Subcontractor except as may otherwise be required by law.

1.17 PAYMENT NOT CONSTITUTING APPROVAL OR ACCEPTANCE
A. An approved Request for Payment, a progress payment, or partial or entire use or occupancy of the Project by the District shall not constitute acceptance of Work not in accordance with the Contract Documents.

1.18 JOINT CHECKS
A. District shall have the right, if necessary for the protection of the District, to issue joint checks made payable to the Contractor and Subcontractors and material or equipment suppliers. The joint check payees shall be responsible for the allocation and disbursement of funds included as part of any such joint payment. In no event shall any joint check payment be construed to create any contract between the District and a Subcontractor of any tier, any obligation from the District to such Subcontractor, or rights in such Subcontractor against the District.

1.19 NO WAIVER
A. Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

1.20 FINAL PAYMENT
A. Contractor shall comply with requirements of Section 01770 Contract Closeout Procedures.
B. Contractor shall maintain the presence of Project Superintendent and Project Manager until the Work is complete.
C. Under no circumstances shall Contractor demobilize its forces prior to completion of the Final Punchlist. Upon receipt of Contractor’s written notice that all of the Final Punchlist items have been fully completed and the Work is ready for final inspection and acceptance, Architect shall inspect the Work and shall submit to Contractor and District a final inspection report noting which work, if any, is required to be completed in accordance with the Contract Documents. Absent unusual circumstances, this report shall consist of the Punchlist items not yet satisfactorily completed.
D. Upon completion of the Work contained in the Final Inspection report, the Contractor shall notify the District and Architect, who shall again inspect such Work. If the Architect and the District finds the Work contained in such Final Inspection report acceptable under the Contract Documents and, therefore, the Work fully completed, it shall notify Contractor, who may then submit to the Architect its final Application for Payment.

E. Upon receipt and approval of such final Application for Payment, the Architect shall issue a final Certificate of Payment stating that to the best of its knowledge, information, and belief, and on the basis of its observations, inspections, and all other data accumulated or received by the Architect in connection with the Work, such Work has been completed in accordance with the Contract Documents. The District shall thereupon inspect such Work and either accept the Work as complete or notify the Architect and the Contractor in writing of reasons why the Work is not complete. Upon acceptance of the Work of the Contractor as fully complete (which, absent unusual circumstances, will occur when the Punch List items have been satisfactorily completed), the District shall record a Notice of Completion with the County Recorder, and the Contractor shall, upon receipt of payment from the District, pay the amounts due Subcontractors.

F. The following conditions must be fulfilled prior to Final Payment:
   1. A full and final waiver or release of all Stop Notices in connection with the Work shall be submitted by Contractor, including a release of Stop Notice in recordable form, together with (to the extent permitted by law) a copy of the full and final release of all Stop Notice rights.
   2. The Contractor shall have made all corrections to the Work required to remedy any defects therein, to obtain compliance with the Contract Documents or any requirements of applicable codes and ordinances, or to fulfill any of the orders or directions of District.
   3. Each Subcontractor shall have delivered to the Contractor all written guarantees, warranties, applications, and bonds required by the Contract Documents for its portion of the Work.
   4. Contractor must have completed all requirements set forth in Section 01770 Contract Closeout Procedures.
   5. Architect shall have reviewed and approved a Final Application for Payment.
   6. The Contractor shall have completed final clean up as required by Section 01710 Cleaning Requirements.

1.21 RETAINAGE

A. The retainage, less any amounts disputed by the District or which the District has the right to withhold, shall be paid:
   1. After approval by District and Architect of the Contractor’s final Application for Payment;
   2. After satisfaction of all terms and conditions set forth in the Contract Documents, and
   3. Thirty-five (35) days after the acceptance of the Work by the District Governing Board and recording of the Notice of Completion by District.

B. No interest shall be paid on any retainage, or on any amounts withheld due to a failure of the Contractor to perform in accordance with the terms and conditions of the Contract Documents.
except as provided to the contrary in any Escrow Agreement between the District and the Contractor pursuant to Public Contract Code § 22300.

1.22 SUBSTITUTION OF SECURITIES
   A. The District will permit the substitution of securities in accordance with the provisions of Public Contract Code section 22300.

1.23 ALLOWANCES
   A. District will authorize and direct Contractor regarding provisions in this paragraph.
   B. Allowance Amount: as listed in Section 01210 (Allowances).
   C. District shall determine in its sole discretion which costs, if any, it will authorize in writing to be paid from the Allowance. Generally, the Allowance will be used only for District-initiated changes in the Scope of Work.
   D. Costs for Allowance Work shall be determined as provided in Section 01250, Contract Modification Procedures.

PART 2 – PRODUCTS
Not Used.

PART 3 – EXECUTION
Not Used.

END OF SECTION 01290
SECTION 01300
LABOR COMPLIANCE PROGRAM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 0 and Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
A. Section 01010 – “Summary of Work”
B. Section 01290 – “Payment Procedures”
B. Section 01770 – “Contract Closeout Procedures”
C. Divisions 2 through 33 Sections for Labor Compliance Program requirements for the work in those Sections.

1.3 SUMMARY
A. Labor Code Section 1725.5 regarding Department of Industrial Relations (DIR) contractor registration process including registration criteria and implementation of DIR registration requirements. Labor Code Section 1771.7 establishes contractor’s obligation to submit Certified Pay Roll (CPR) to the Department of Labor and Standards Enforcement (DLSE) and public works monitoring and enforcement. Labor Code Section 1773.3 requires the District to submit a PWC-100 to DIR for all public works contract awarded effective January 1, 2015.
B. Contractors and subcontractors performing work on District projects will be expected to adhere to the labor compliance provisions outlined in Division 2, Part 7, Chapter 1 of the California Labor Code §1720- 1861 including, but not limited to, the reporting of certified payroll, payment of prevailing wages and the employment of apprentices.

1.4 LABOR COMPLIANCE PROGRAM REQUIREMENTS
A. California Labor Code Section 1770, et seq., and Education Code Section 17424 require that contractors on Public works projects pay their workers based on the prevailing wage rates which are established and issued by the Department of Industrial Relations, Division of Labor Statistics and Research.

1. Pursuant to the provisions of Division 2, Part 7, Chapter 1, Article 2 of the California Labor Code §1770, et seq., the District has obtained from the Director of the California Department of Industrial Relations the general prevailing rate of per diem wages and the prevailing rate for straight time, holiday time and overtime work in the locality in which the work is to be performed for each craft, classification or type of worker needed to
execute the contract. The prevailing wage determination can be accessed online at http://www.dir.ca.gov/dlsr/DPreWageDetermination.htm. Copies of the prevailing rate of per diem wages are also on file at the District office, which shall be made available to any interested party on request. Per diem wages shall be deemed to include employer payments for health and welfare, pensions, vacation, travel time and subsistence pay as provided in California Labor Code §1773.1 and as shown in the Director’s determination. For apprenticeship or other training programs authorized by California Labor Code §3093, and similar purposes, when the term “per diem wages” is used herein it shall have the meaning as defined in the prevailing wage determination as published by the Director of the California Department of Industrial Relations and California Labor Code.

2. The contractor shall post at an appropriate conspicuous weatherproof point on the site of the project a copy of the prevailing wage determination published by the Director of the California Department of Industrial Relations which is applicable to the project and the Notice of Approval of the Labor Compliance Program.

3. There shall be paid to each worker of the contractor or any subcontractor, of any tier, engaged in the work, not less than the general prevailing wage rate regardless of any contractual relationship which may be alleged to exist between the contractor or any subcontractor, of any tier, and such worker. The contractor and subcontractors will be required to pay all workers on a weekly basis. Each worker needed to execute the work on the project shall also be paid travel and subsistence payments, as such travel and subsistence payments are defined in the prevailing wage determination published by the Director of the California Department of Industrial Relations.

4. Holiday and overtime work, when permitted by law, shall be paid for at the rate identified in the prevailing wage determination issued by the Director of the California Department of Industrial Relations. In accordance with Labor Code §1815, work performed by employees of contractors in excess of 8 hours per day, and 40 hours during any one week, shall be permitted upon public work upon compensation for all hours worked in excess of 8 hours per day at not less than 1 1/2 times the basic rate of pay.

5. The Contractor shall forfeit fifty dollars ($50.00) for each calendar day or portion thereof, for each worker paid less than the prevailing rates as determined by the Director of the California Department of Industrial Relations for such work or craft in which such worker is employed by the contractor or by any subcontractor, of any tier, in connection with the work. Pursuant to California Labor Code §1775, the difference between such prevailing wage rates and the amount paid to each worker for each calendar day, or portion thereof, for which each worker was paid less than the prevailing wage rate, shall be paid to each worker in the addition to the penalties. The amount of forfeiture shall be determined by the Labor Commissioner and shall be based on consideration of the contractor’s mistake, inadvertence, or neglect in failing to pay the correct rate of prevailing wages. The contractor’s previous record in meeting the prevailing wage obligations or the contractor’s willful failure to pay the correct rates of prevailing wages may influence the amount of penalty.

6. In accordance with Labor Code §1813, the contractor or subcontractor shall, as a penalty to the state or political subdivision on whose behalf the contract is made or awarded, forfeit twenty-five dollars ($25) for each worker employed in the execution of the contract by the respective contractor or subcontractor for each calendar day during which the worker is required or permitted to work more than 8 hours in any one calendar day and
40 hours in any one calendar week in violation of the provisions of this article. In awarding any contract for public work, the awarding body shall cause to be inserted in the contract a stipulation to this effect. The awarding body shall take cognizance of all violations of this article committed in the course of the execution of the contract, and shall report them to the Division of Labor Standards Enforcement.

B. California Labor Code Section 1776 requires contractors to keep accurate payroll records of trade workers on all public works projects and to submit copies of certified payroll records upon request.

1. Pursuant to California Labor Code §1776, the contractor and every subcontractor, of any tier, shall keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per them wages paid to each journeyman, apprentice, worker or other employee employed by them in connection with the public works project. The payroll records shall be certified and submitted bi-weekly to the Labor Compliance Representative and shall be available for inspection at all reasonable hours at the principal office of the Contractor on the following basis:

   1. A certified copy of an employee’s payroll record shall be made available for inspection or furnished to such employee or his/her authorized representative on request;

   2. A certified copy of all payroll records shall be made available for inspection or furnished upon request to the District, the Division of Labor Standards Enforcement and the Division of Apprenticeship Standards of the Department of Industrial Relations;

   3. A certified copy of payroll records shall be made available upon request to the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through the District, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. The contractor shall have ten (10) days in which to completely comply, subsequent to receipt of written notice specifying in what respects the contractor must comply herewith. Should noncompliance be evident after such 10-day period, the contractor shall, as a penalty to the District, forfeit Twenty-Five Dollars ($25.00) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated.

C. California Labor Code Section 1777.5 requires contractors to employ registered apprentices on Public works projects.

1. Per California Labor Code §1777.5(e), the contractor and all subcontractors shall notify an approved training program that can supply apprentices to the area of the public works project. The contractor and subcontractors shall submit contract award information to the applicable joint apprenticeship committee which shall include an estimate of journeyman hours to be performed under the contract, the number of apprentices to be employed, and the approximate dates the apprentices will be employed. Additionally, the contractor and subcontractors shall request, from the joint apprenticeship committee, dispatch of apprentices on the public works project using the state form DAS-142.

2. All apprentices employed by the contractor to perform any of the work shall be paid the prevailing wages identified by the Director of the California Department of Industrial Relations. Only apprentices, as defined in California Labor Code §3077 who are in training under apprenticeship standards and written apprenticeship agreements under California
Code §§3070, et seq., are eligible to be employed for the work. The employment and training of each apprentice shall be in accordance with the provisions of the apprenticeship standards and apprentice agreements under which such apprentice is training or the standards established by the Division of Apprenticeship Standards.

3. The ratio of work performed by apprentices to journeymen, who shall be employed in the work, may be the ratio stipulated in the apprenticeship standards under which the joint apprenticeship committee operates, but in no case shall the ratio be less than one hour (1) of apprentice work for each five (5) hours of labor performed by a journeyman, except as otherwise provided in California Labor Code §1777.5. Any ratio shall apply during any day or portion of a day when any journeyman, or the higher standard stipulated by the joint apprenticeship committee, is employed at the site of the Work and shall be computed on the basis of the hours worked during the day by journeymen so employed, except for the surveyor classification. The Contractor shall employ apprentices for the number of hours computed as above before the completion of the work. The contractor shall, however, endeavor, to the greatest extent possible, to employ apprentices during the same time period that the journeymen in the same craft or trade are employed at the site of the Work. Where an hourly apprenticeship ratio is not feasible for a particular craft or trade, the Division of Apprenticeship Standards, upon application of a joint apprenticeship committee, may order a minimum ratio of not less than one apprentice for each five journeymen in a craft or trade classification. This article shall not apply to contracts of general contractors, or to contracts of specialty contractors not bidding for work through a general or prime contractor, involving less than thirty thousand dollars ($30,000).

4. The contractor or any subcontractor, of any tier, who performs any of the work by employment of journeymen or apprentices in any apprenticeable craft or trade and who is not contributing to a fund or funds to administer and conduct the apprenticeship program in any such craft or trade in the area of the site of the work, to which fund or funds other contractors in the area of the site of the work are contributing, shall contribute to the fund or funds in each craft or trade in which it employs journeymen or apprentices in the same amount or upon the same basis and in the same manner as the other contractors do, but where the trust fund administrators are unable to accept such funds, contractors not signatory to the trust agreement shall pay a like amount to the California Apprenticeship Council. The contractors shall provide proof of such contributions when requested, including checks, check stubs, receipts, or other records required to prove that all required payments were made.

5. In the event the contractor willfully fails to comply with the provisions of California Labor Code §1777.5, and pursuant to California Labor Code §1777.7, the contractor shall: (i) be denied the right to bid on any public works contract for a period of one (1) year from the date the determination of non-compliance is made by the administrator of apprenticeship; and (ii) forfeit, as a civil penalty, one hundred dollars ($100.00) and up to three hundred dollars ($300.00) for each calendar day of noncompliance. The District shall withhold such amount from the contract price then due or to become due upon request of the Division of Apprenticeship Standards.

END OF SECTION 01300
SECTION 01305
DELAY AND EXTENSIONS TO THE WORK

PART 1 – GENERAL

1.1 RELATED DOCUMENTS
A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
A. Section 01010 – “Summary of Work”
B. Section 01310 – “Construction Scheduling”
C. Section 01311 – “Project Management and Coordination”
D. Divisions 2 through 33 Sections for Delay and Extensions to the Work requirements for the work in those Sections.

1.3 SUMMARY
A. This Section includes administrative and procedural requirements for evaluation of excusable delays including delays due to abnormal or adverse weather conditions.

1.4 DELAYS AND EXTENSIONS TO THE WORK
A. Contractor must complete all Work within the time specified in these Contract Documents. The Contractor will be granted an extension of time and will not be assessed liquidated damages or the cost of engineering and inspection for any delay in substantially completing the Work (or parts thereof) beyond the time set elsewhere in the Contract Documents, provided that such delay was caused by unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include fire, floods, abnormal weather (as described below), and earthquakes, embargoes, changes made pursuant to the provisions of “Changes in work” elsewhere in the Contract Documents or acts or neglect of the District not contemplated by the Contract Documents. In all cases, any extension of time is conditioned on the following:

1. That the cause is not due to the fault or negligence of the Contractor, and the Contractor has taken reasonable precautions to prevent the delays and minimize the effects thereof; and

2. That the Contractor notifies the District, Architect, Project Manager, and project Inspector in writing within five (5) days from the beginning of such delay, specifying the nature of the delay and the measures that have been or will be taken to prevent or minimize the delay. Failure to submit written notice within this time period shall constitute an absolute waiver of any claim for a time extension.
B. No extension of time will be granted for a delay caused by a shortage of materials, unless the Contractor furnishes to the District documentary proof that he has diligently made every effort to obtain such materials from all known sources within reasonable distance of the work and further proof, in the form of schedule data as required in Section 01310 that the inability to obtain such materials as originally planned did in fact cause a delay in final completion of the Work which could not be compensated for by revising the sequence of the Contractor’s operations. Only the physical shortage of material will be considered as a cause for extension of time, and no consideration will be given to any claim that material could not be obtained at a reasonable, practical or economical cost or price, unless it is shown to satisfaction of the District that such material could have been obtained only at exorbitant prices, taking into account the quantities involved and the usual practices in obtaining such quantities.

C. The term “shortage of materials,” as used in this section, shall apply only to materials, articles, parts or equipment which are standard items and shall not apply to materials, parts, articles or equipment which are processed, made, constructed, fabricated or manufactured to meet the specific requirements of the Contract Documents.

D. No extensions of time will be granted for delay that have no measurable impact on the completion of the Work (or parts thereof) under the Contract Documents. When extensions of time are granted, they will be limited to the period equivalent to the actual number of days lost on the critical path or controlling operations of the current approved Construction Schedule, taking into account the extent to which that delay could be decreased by reasonable mitigation measures by the Contractor. All requests for extensions of time must be supported with a critical path analysis showing the critical path and impacts to it. Contractor’s failure to submit this analysis will be sufficient cause for denial of any request for a time extension.

E. Within a reasonable period of time after the Contractor submits the notice of delay along with any other information required by this section, the District will determine whether an extension of time is justified and, if so, the number of days for the extension.

1.5 **ABNORMAL OR ADVERSE WEATHER CONDITIONS**

A. Time extensions caused by abnormal weather will be allowed only if there is rain in excess of 0.5 inch in a 24 hours period, as measured at the Concord, CA, Airport weather station maintained by the National Weather Service, for a number of days that exceeds the number of average rain days. For the purposes of this Project, the Contractor shall include within the Contract Time of its Master CPM Schedule an allowance of **12** work days, just prior to its Substantial Completion date milestone activity, for normally anticipated adverse weather. The allowance will be reduced pursuant to the procedures noted in this Section for abnormal weather. In the event this allowance is consumed, a non-compensable time extension for abnormal weather will be granted pursuant to the procedures of this Section. If this allowance is not consumed by normal adverse weather, the remaining work days will be considered project float as defined in Section 01310, Construction Scheduling.

B. In addition, before a time extension may be granted for abnormal weather, Contractor must establish to District satisfaction that the rain either significantly impacted at least 75% of the planned work of the critical path operations for a particular day or prohibited at least five (5) hours of work on the critical path operations planned for that day.
C. In the event that the project experiences favorable weather for a particular month (e.g. a number of actual rain days less than that allocated for allowable rain days per month), the cumulative float resulting from such favorable weather shall accrue to the project.

D. Rain delay shall be only for the actual period of time established pursuant to full compliance with the above requirements.

E. Contractor shall take reasonable steps to mitigate potential weather delays, such as dewatering the Site, providing access roads that are stable under abnormal or adverse weather conditions, and covering work and material that could be affected adversely by weather. Failure to do so shall be cause for the District to not grant a time extension due to abnormal or adverse weather, where Contractor could have avoided or mitigated the potential delay by exercising reasonable care.

F. Abnormal weather may be a valid basis for a time extension under the Contract. The term “abnormal weather” is defined as the occurrence rain conditions that exceed the criteria set forth that cause impact to Contractor’s operations.

G. Contractor shall employ reasonable methods to mitigate the impact of abnormal weather (i.e. dewatering, protection of site, etc.) The occurrence of rain during non-work hours or having minimal impact to work on the controlling operation shall not constitute a day of abnormal weather.

1.6 ENTITLEMENT TO CLAIM FOR DELAY AND EXTENSIONS TO THE WORK

A. Any Contractor claim for damages or additional compensation based on delay shall be limited to only those circumstances where the Contractor has fulfilled at least one of the following three (3) requirements:

1. Contractor has established its entitlement to a time extension pursuant to the provisions described above regarding delay and extensions to the Work.

2. The delay was caused solely by the District by District’s issuance of changes made pursuant to the provisions of “Changes in Work” elsewhere in these General Conditions or by or acts of neglect of the District.

3. The delay was unreasonable under the circumstances and not within the contemplation of the parties and/or the Contract Documents.

B. It is expressly understood and agreed that delays caused by the District will be non-compensable when there are concurrent delays caused by the Contractor. Also, Contractor shall have no entitlement to additional compensation for any delay where there have been concurrent delays caused by non-compensable delays, including, but not limited to, fire, floods, tidal waves, earthquakes, epidemics, quarantine restrictions, strikes, labor disputes and freight embargoes weather days.
C. In the event that the Contractor submits a claim for additional costs associated with overhead, the Contractor shall, within 60 calendar days of the District’s written request, submit to the District an audit examination and report performed by an independent Certified Public Accountant certifying the Contractor’s actual unanticipated overhead costs. The independent Certified Public Accountant’s audit examination shall be performed in conformance with the requirements of the American Institute of Certified Public Accountants Attestation Standards. The audit examination and report shall depict the Contractor’s project and company-wide financial records and shall specify the actual overall average daily rates for both field and home office overhead for the entire duration of the project, and whether the costs have been properly allocated. The rates of field and home office overhead shall exclude all unallowable costs as determined in the Federal Acquisition Regulations, 48 CFR, Chapter 1, Part 31. The audit examination shall determine if the rates of field and home office overhead:

1. Are allowable in conformance with the requirements of the Federal Acquisition Regulations, 48 CFR, Chapter 1, Part 31;
2. Are adequately supported by reliable documentation; and
3. Related solely to the project under examination.

D. Upon the District’s written request, the Contractor shall make its financial records available for audit by the District for the purpose of verifying the actual rate of overhead specified in the audit submitted by the Contractor. The overhead specified in the audit, submitted by the Contractor, will be subject to review and approval by the District.

PART 2 – PRODUCT
Not Used.

PART 3 – EXECUTION
Not Used.

END OF SECTION 01305
SECTION 01310
CONSTRUCTION SCHEDULING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
A. Section 01010 – “Summary of Work”
B. Section 01290 – “Payment Procedure”
C. Section 01312 – “Project Meetings”
D. Section 01330 – “Submittal Procedures”
E. Section 01610 – “Basic Product Requirements”
F. Section 01770 – “Contract Closeout Procedures”
G. Divisions 2 through 33 Sections for Construction Scheduling requirements for the work in those Sections.

1.3 SUMMARY
A. This Section describes the requirements for Project construction schedules and reports.
B. Development of schedules, cost loading of the schedule, and schedule updates, monthly payment requests, and project status reporting requirements of the Contract shall employ computerized Critical Path Method (CPM) scheduling utilizing Primavera P6.
C. All CPM schedules shall be cost loaded based on the Master Schedule of Values as approved by District and Architect.
D. Contractor shall provide one Primavera P6 licenses to be used by the on-site District personnel for the duration of the project.

1.4 FAILURE TO MEET SCHEDULING REQUIREMENTS
A. Failure of the Contractor to provide proper schedules as required by this Section is a material breach of the contract and grounds for termination pursuant to the General Conditions. The District, at its sole discretion, may choose, instead, to withhold, in whole or in part, any progress payments or retention amounts otherwise payable to the Contractor.
1.5 SCHEDULER’s QUALIFICATIONS

A. Contractor shall utilize experienced scheduling personnel qualified to use Primavera P6 Enterprise, current version scheduling software, or alternate software if approved by the District. Experience level required is set forth below. Contractor may employ such personnel directly or may employ a consultant for this purpose.

B. Within five (5) days after bid opening, the apparent successful low bidder shall provide to District and Architect a written verification either that Contractor has the required personnel under its employ or that Contractor will employ a CPM scheduling consultant. This written verification shall include:

1. Name of the individual who will perform all required CPM scheduling tasks during the entire Project.

2. Resume of the individual, to include description of similar, recent construction projects on which the individual has successfully created and updated computerized CPM schedules. Experience must include at least two projects of similar nature, scope and value not less than three-fourths the Contract Price of this Project.

3. Contact persons for all referenced projects with current telephone and address information.

C. District reserves right to accept or reject Contractor’s scheduler, and right to reject them at any time.

D. District also reserves right to refuse replacement of Contractor’s scheduler if it believes such replacement will negatively affect the Project.

1.6 CONSTRUCTION SCHEDULES, GENERAL

A. Upon Notice to Proceed, Contractor shall immediately commence development of initial and Master CPM Schedules. Reference to Project Schedule shall pertain to the initial CPM schedule, Master CPM schedule or an update of the master CPM Schedule as appropriate during the time period it is in affect during construction. When reference is made in the Contract Documents to a Baseline CPM Schedule, shall have the same meaning as an update to the Master CPM Schedule.

B. All construction schedules shall be based on and incorporate all milestones and completion dates specified in the Contract Documents. Show in the schedule the sequence in which the Contractor proposes to perform the Work and dates on which the Contractor contemplates starting and completing all schedule activities. The scheduling of the entire project is required. Contractor management personnel shall actively participate in its development. Subcontractors and suppliers working on the Project shall also contribute in developing and maintaining an accurate Project Schedule. Provide a Project Schedule that is a forward planning as well as a project monitoring tool.
C. Use the approved Project Schedule to measure the progress of the Work and to aid in evaluating time extensions.

D. Make the master CPM Schedule cost loaded and activity coded.

E. The schedule will provide the basis for all progress payments. If the Contractor fails to submit any schedule within the time prescribed, the District may withhold approval of progress payments until the Contractor submits the required schedule.

F. Provide a Schedule Status Report on at least a monthly basis. If, in the opinion of the District, the Contractor falls behind the approved schedule, the Contractor shall take all steps necessary to improve its progress including those that may be required by the Architect or Project Manager, without additional cost to the District. In this circumstance, the District may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules as the District deems necessary to demonstrate how the approved rate of progress will be regained.

G. Failure of the Contractor to comply with the requirements of the District shall be grounds for a determination that the Contractor is not prosecuting the Work with sufficient diligence to ensure completion within the time specified in the Contract Documents. Upon making this determination, the District may terminate the Contractor’s right to proceed with the Work, or any separable part of it, in accordance with the default terms of the Contract.

H. Use the project CPM Schedule as the basis for determining Contract earnings during each update period and therefore the amount of each progress payment. Lack of an approved schedule update, or qualified scheduling personnel, will result in the inability of the Architect to evaluate contract earned value for the purposes of payment. Failure of the Contractor to provide all required information will result in the disapproval of the Initial, Master and subsequent updates of the Master CPM Schedule. In the event Project Schedule revisions are directed by the District and those revisions have not been included in subsequent revisions or Updates, the District may hold retainage up to the maximum allowed by Contract, each payment period, until such revisions to the Master CPM Schedule have been made.

I. No Project Schedule shall exceed time limits set forth in the Contract Documents. Failure to submit a schedule, or submittal of a Project Schedule which shows completion of the Work beyond the specified completion date shall be deemed a material breach by the Contractor.

J. All Project Schedules must indicate the beginning and completion of all Work and shall use the “Critical path Method” for the value reporting, planning and scheduling of all Work required under the Contract Documents.

K. Overall time of completion between the Notice to Proceed and Substantial Completion to Final Completion shown on any Project Schedule shall adhere to completion times as stated in the Construction Agreement, unless an earlier (advanced) time of completion is requested by Contractor and agreed to by District. Any such agreement shall be formalized by a Change Order.

1. District is not required to accept an advanced schedule, i.e., one that shows early completion dates for the Work or any Phase of the Work.

2. In the event agreement is reached between Contractor and District on an advanced schedule, Contractor shall not be entitled to extra compensation if Contractor completes
its Work, for whatever reason (excepting approved changes with added time components) beyond completion date(s) shown in any approved advanced schedule but within the originally specified completion dates.

3. Contractor shall not submit a schedule showing early completion without indicating float time through the date set for Project completion by District.

4. Contractor’s schedule shall account for all days past early completion as float which belongs to the Project. Usage of float shall not entitle Contractor to any delay claim or damages due to delay.

L. Float Ownership: Neither the District nor the Contractor owns float. The Project owns the float. As such, liability for delay of the Substantial Completion Date(s) rests with the party whose actions, last in time, actually cause delay to the Substantial Completion Date(s).

1. For example, if Party A uses some, but not all of the float and Party B later uses remainder of the float as well as additional time beyond the float, Party B shall be liable for the time that represents a delay to the Substantial Completion Date.

2. Party A would not be responsible for the time since it did not consume the entire float and additional float remained; therefore, the Substantial Completion Date was unaffected.

M. The architect may disapprove of any construction schedule or require modification to it if, in the opinion of the Architect or District, adherence to the construction schedule will not cause the Work to be completed in accordance with the Agreement.

N. Use Primavera P6, compatible with Windows operating system for creation and updates of all required construction schedules. Contractor shall provide digital schedule files to District at times requested by District.

O. Transmit construction schedule files under form approved by District.

1.7 SCHEDULE FORMAT AND LEVEL OF DETAIL

A. All Work activity durations shall be in Workdays.

B. The Schedule shall be the basis for evaluating job progress, payment requests, and time extension requests associated with the changes.

C. Responsibility for developing all Schedules and monitoring actual progress rests with Contractor. Schedules shall comply with following requirements:

1. All Contractor, Subcontractor and assigned Contractor work shall be shown in a logical work sequence that demonstrates a coordinated plan of work for all contractors. The intent is to provide a common basis of acceptance, understanding and communication, as well as interface with other contractors.

2. Activities related to the delivery of Contractor and District-furnished equipment to be Contractor installed per Contract shall be shown.

a. District-furnished District Installed materials and equipment, if any, shall be identified as separate activities.

3. Show District and other agency activities that could impact progress. These activities include, but are not limited to: approvals, submittal reviews, environmental permit
approvals by State regulators, inspections, utility tie-in, Owner Furnished Equipment (OFE) and Notice to Proceed (NTP) for Phasing requirements.

4. All activities shall be identified through codes or other identification to indicate the phase of Work and Contractor/Subcontractor responsibility to which they pertain.

5. Show the critical path in red. For each activity, show early start, late start, early finish, late finish, durations measured in days, float, predecessor and successor activities, planned workday/week for the activity, and scheduled/actual progress payments.

6. Reasonable activity durations are those that allow the progress of ongoing activities to be accurately determined between update periods. Less than 2 percent of all non-procurement activities shall have durations greater than 20 work days or 30 calendar days unless otherwise approved by District and Architect. Procurement activities are defined herein.

a. Procurement Activities
   i) The schedule must include activities associated with the submittal, approval, procurement, fabrication and delivery of long lead materials, equipment, fabricated assemblies and supplies. Long lead procurement activities are those with an anticipated procurement sequence of over 45 calendar days. A typical procurement sequence includes the string of activities: submit, approve, procure, fabricate, and deliver. Procurement of all contract required material and equipment shall be identified as a separate activity.
   ii) These activities shall not be cost loaded unless previously approved, at the District’s sole discretion, by the District.

b. Include time for fabrication and delivery of manufactured products for the Work.

c. Show dependencies between procurement and related construction activity.

7. Activity durations shall be total number of actual work days required to perform that activity.

8. Provide activity coding to enable sorting by responsibility, location, phase of Work, Work Restriction, and CSI division. Assign activity codes to any activity or sequence of activities added to the Project Schedule as a result of a Change Orders, when approved by the District with a Change Order code. Integrate the code values to the Contractor’s numbering system. An activity shall not have more than one Change Order code.

9. The start and completion dates of all items of Work, Work Phases, their major components, and milestone completion dates shall be included.

10. Mandatory Tasks. The following tasks must be included and properly scheduled. Items noted with “SOV item upon Approval only” shall include an amount in the cost loaded schedule and in the SOV:

   a. Submission of mechanical/electrical/information systems layout drawings.

   b. Submission, review and acceptance of DSA deferred approval packages. (SOV item upon Approval only)

   c. Submission and approval of O & M manuals. (SOV item upon Approval only)
d. Submission and approval of as-built drawings. (SOV item upon Approval only)

e. Submission and approval of installed equipment lists. (SOV item upon Approval only)

f. Submission and approval of testing and air balance (TAB) if applicable. (SOV item upon Approval only)

g. Submission of TAB specialist design review report if applicable.

h. Submission and approval of fire protection specialist if applicable.

i. Submission and approval of testing and balancing of HVAC plus commissioning plans and data if applicable.

j. Air and water balancing if applicable.

k. HVAC commissioning if applicable.

l. Controls testing plan submission if applicable.

m. Controls testing if applicable.

n. Performance Verification testing if applicable. (SOV item upon Approval only)

o. Other systems testing, if required.

p. Contractor’s pre-final inspection.

q. Correction of punch list from Contractor’s pre-final inspection. (SOV item upon Approval only)

r. District’s pre-final inspection.

s. Correction of punch list from District’s pre-final inspection. (SOV item upon Approval only)

t. Final inspection.

u. Allowances for normal weather and Campus non-work days

11. Dependencies (or relationships) between activities shall be shown.

12. Complete all activity descriptions, including what Work is to be accomplished, where, and when.

13. Include anticipated non-Work days, such as weekends, holidays, and/or other observances in the Schedule.

14. Provide activity coding to enable sorting by responsibility, location, phase of Work, Work Restriction, and CSI division. Assign activity codes to any activity or sequence of activities added to the Project Schedule as a result of a Change Orders, when approved by the District with a Change Order code. Integrate the code values to the Contractor’s numbering system. An activity shall not have more than one Change Order code.

15. The start and completion dates of all items of Work, Work Phases, their major components, and milestone completion dates shall be included.

16. Contractor’s Shop Drawing and Samples Submittal Schedule: As part of the Master CPM Schedule submittal, the Contractor shall prepare a separate schedule for review and approval by the Architect and the District, detailing the processing and approval of submittals and shop drawings for all Contract-required material and equipment. This schedule shall be extracted from the Master CPM Schedule. Activities that are dependent
on submittal acceptance or material delivery shall not be scheduled to start earlier than expected acceptance or delivery dates.

a. Include time for submittals, resubmittals, and reviews by District and DSA. Coordinate with accepted Project Schedule for submission of shop drawings, samples and other submittals.

b. Contractor shall be responsible for all impacts resulting from resubmittal of either shop drawings or any other required submittal.

17. Complete all activity descriptions, including what Work is to be accomplished, where, and when.

18. The costs associated with each Work activity shall be the total of labor, material, equipment, including overhead and profit of Contractor. The sum of the costs for all activities shall equal the total Contract value.

19. Include an identify code for each activity corresponding to either the Contractor or Subcontractor responsible for performing the Work.

20. Identify the Work activities that constitute the critical path. No more than twenty-five (25%) of the activities shall be critical or near critical. Near critical is defined as float in the range of one (1) to seven (7) calendar days.

21. Include at least twenty (20) workdays for the combined durations of all activities related to developing punch list(s), completion of punch list items and final clean-up for the Work or any designated portion thereof. No other activities shall be scheduled during this period. Refer to Section 01770, Contract Closeout Procedures for specific activities required.

22. Show detailed Subcontractor Work activities. In addition, furnish copies of Subcontractor schedules upon which Master CPM Schedule was built.

a. Also furnish for each Subcontractor, as determined by District, submitted on Subcontractor letterhead a statement certifying that Subcontractor concurs with Contractor’s Master CPM Schedule, and that Subcontractor’s related schedules have been incorporated.

b. Subcontractor schedules shall be independently derived and not a copy or subset of the Contractor’s Master CPM Schedule.

c. Furnish schedule for Contractor/Subcontractor CPM schedule meetings which shall be held prior to submission of Master CPM Schedule to District. District shall be permitted to attend scheduled meetings as an observer.

21. Submit a list of anticipated non-Work days, such as weekends, holidays, and/or other observances.

D. Seasonal weather conditions (which do not constitute a delay as defined herein) shall be considered in the planning and scheduling of all work influenced by high or low ambient temperatures or presence of high moisture for the completion of the Work within the allotted Contract Time. See Section 01305 (Delay and Extensions to the Work.)

E. Failure by Contractor to include any element of Work required for performance of the Work on any Project schedule shall not excuse Contractor from completing all Work required within the Contract Time.
F. Contractor shall schedule all deferred approval items and shop drawings in its schedules if appropriate. If Contractor fails to include deferred approval items and shop drawings in its schedule which results in a critical path delay, then Contractor shall be subject to the assessment of liquidated damages.

G. CPM Logic Requirements

1. The Project Schedule interval shall extend from NTP date to the required Contract Substantial and Final Completion dates. The Contract completion activity (End Project) shall finish based on the required contract duration in the Contract Documents, as adjusted for any approved contract time extensions. The first scheduled work period shall be the day after NTP is acknowledged by the Contractor. Schedule activities on a calendar to which the activity logically belongs. Activities may be assigned to a 7 day calendar when the contract assigns calendar day durations for the activity such as a District acceptance activity if the Contract Documents specify Calendar Days. If the Contractor intends to perform physical work less than seven days per week, schedule the associated activities on a calendar with non-work periods identified including weekends and holidays. Assign the Category of Work Code – Weather Sensitive Installation to those activities that are weather sensitive. Original durations must account for anticipated normal adverse weather. The District will interpret all work periods not identified as nonwork periods on each calendar as meaning the Contractor intends to perform work during those periods.

2. The Project Schedule shall start no earlier than the date on which the NTP was acknowledged. Include as the first activity in the Project Schedule an activity called "Start Project" (or NTP). The "Start Project" activity shall have an "ES" constraint date equal to the date that the NTP was acknowledged, and a zero-day duration.

3. Project Schedule Constraints and Open Ended Logic Constrain completion of the last activity in the Project schedule by the Contract Final Completion date. Schedule calculations shall result in a negative float when the calculated early finish date of the last activity is later than the Contract Final Completion date. Include as the last activity in the Project Schedule an activity called "End Project". The "End Project" activity shall have an "LF" constraint date equal to the Contract Final Completion date for the Project, with a zero day duration, or shall achieve the same result by using the "project must finish on" date in the scheduling software. The Project Schedule shall have no constrained dates other than those specified in the Contract. The use of artificial float constraints such as "zero fee float" or "zero total float" are prohibited unless the Contractor specifically requests preapproval and receives District approval of this constraint on an activity specific level. There shall only be 2 open ended activities: Start Project (or NTP) with no predecessor logic and End Project with no successor logic.

4. In the event the Initial CPM schedule or Master CPM Schedule calculates an early completion date of the last activity prior to the Contract Final Completion date, the Contractor shall identify those activities that it intends to accelerate and/or those activities that are scheduled in parallel to support the Contractor's "early" completion. The last activity shall have a late finish constraint equal to the Contract Final Completion date and the schedule will calculate positive float. The District will not approve an early completion Project Schedule with zero float on the longest path. The District is under no obligation to accelerate activities for which it is responsible to support a proposed early contract completion.
5. Interim Completion Dates. Constrain contractually specified interim completion dates to show negative float when the calculated early finish date of the last activity in that phase is later than the specified interim completion date.

6. Start Phase. Include as the first activity for a project phase an activity called "Start Phase X" where "X" refers to the phase of work. The "Start Phase X" activity shall have an "ES" constraint date equal to the date on which the NTP was acknowledged, and zero day duration.

7. End Phase. Include as the last activity for a project phase an activity called "End Phase X" where "X" refers to the phase of work. The "End Phase X" activity shall have an "LF" Constraint date equal to the specified completion date for that phase and a zero day duration.

8. Phase "X" Hammock. Include a hammock type activity for each project phase called "Phase X" where "X" refers to the phase of work. The "Phase X" hammock activity shall be logically tied to the earliest and latest activities in the phase.

9. Default Progress Data Disallowed. Do not automatically update Actual Start and Finish dates with default mechanisms that may be included in the scheduling software. Activity Actual Start (AS) and Actual Finish (AF) dates assigned during the updating process shall match those dates provided from Daily Reports. Failure of the Contractor to document the AS and AF dates on the Daily Report for every in-progress or completed activity, and failure to ensure that the data contained on the Daily Reports is the sole basis for schedule updating shall result in the disapproval of the Contractor's updated Master CPM Schedule and the inability of the District to evaluate Contractor progress for payment purposes. Updating of the percent complete and the remaining duration of any activity shall be independent functions. Disable program features which calculate one of these parameters from the other.

10. Other Logic Requirements:
    a. Activities that have progressed before all preceding logic has been satisfied (Outof-Sequence Progress) will be allowed only on a case-by-case basis subject to approval by the District. Propose logic corrections to eliminate all out of sequence progress or justify not changing the sequencing for approval prior to submitting an updated Project Schedule. Correct out of sequence progress that continues for more than two update cycles by logic revision, as approved by the District.
    b. Lag durations contained in the project schedule shall not have a negative value. Do not use Start to Finish (SF) relationships.
    c. Project Schedule calculations shall retain the logic between predecessors and successors even when the successor activity starts and the predecessor activity has not finished. Software features that in effect sever the tie between predecessor and successor activities when the successor has started and the predecessor logic is not satisfied ("progress override") will not be allowed.

11. Milestones. The Project Schedules must include milestone activities for each significant project event including but not limited to: All phases, foundation/substructure construction complete; superstructure construction complete; building dry-in or enclosure complete to allow the initiation of finish activities; permanent power complete; and building systems commissioning complete (for each applicable phase of Work).
1.8 INITIAL CRITICAL PATH METHOD (CPM) SCHEDULE

A. Within ten (10) calendar days following Notice to Proceed, Contractor shall submit an Initial CPM Schedule along with a Initial Schedule of Values for District’s approval.

B. Within ten (10) calendar days following Notice to Proceed, Contractor shall submit a cost curve based on the Initial CPM Schedule and the Initial Schedule of Values, showing the cumulative estimated payments for all of the Work for the entire period of performance;

C. District and Contractor shall meet to review and discuss the Initial CPM Schedule within five (5) working days after it has been submitted to District.
   1. District’s review and comment on the Initial CPM schedule shall be limited to conformance with the Contract Documents (with Work phasing, sequencing, coordination, milestone requirements, and specified formatting and information requirements) and accepted CPM principals.
   2. Contractor shall make corrections to the Initial CPM Schedule as necessary to comply with Contract requirements and shall adjust the schedule to incorporate any missing information as requested by District. Contractor shall resubmit the Initial CPM Schedule if requested by District.

D. Initial CPM Schedule must indicate detailed plan for the Work to be completed during the first sixty (60) days of the Contract, including details of planned mobilization of plant and equipment, the sequence of early operations, and the procurement of materials and equipment. Show Work beyond ninety (90) calendar days in summary form through the Contract Substantial and Final Completion dates.

E. Initial CPM Schedule shall be time-scaled.

F. The Initial CPM Schedule shall be cost loaded based on the Initial Schedule of Values as approved by District and Architect.

G. The accepted Initial CPM Schedule will be used as basis for initial payments until acceptance of the Master CPM Schedule by District. Use of the Initial CPM Schedule for progress payments shall not exceed sixty (60) calendar days.

H. If, during the first thirty (30) days after Notice-to-Proceed, the Contractor is of the opinion that any of the Work included on its Initial CPM Schedule has been impacted, the Contractor shall submit to District a written Time Impact Evaluation (TIE) in accordance with the requirement of this Section. The TIE shall be based on the most current update of the initial CPM Schedule.

1.9 MASTER CPM SCHEDULE

A. Within fifteen (15) calendar days from approval of the Initial CPM Schedule, Contractor shall submit a detailed Master CPM Schedule, including cost loading, presenting an orderly and realistic plan for completion of the Work, in conformance with requirements specified herein.
B. Failure of the Master CPM Schedule to include any element of the Work or any inaccuracy in the Master CPM Schedule will not relieve Contractor from responsibility for accomplishing the Work in accordance with the Contract.

C. District's acceptance of the Master CPM Schedule shall be for its use in monitoring and evaluating job progress, payment requests, and time extension requests, and shall not, in any manner, impose a duty of care upon District, or act to relieve Contractor of its responsibility for means and methods of construction.

D. Contractor shall, within 10 calendar days from the Submittal of the Master CPM Schedule, shall meet with District to review the Master CPM Schedule submittal.
   1. Contractor shall have its Construction Manager, Project Superintendent, Project Scheduler, and key Subcontractor representatives, as required by District, in attendance. The meeting will take place over a continuous one-day period.
   2. District’s review will be limited to submittal's conformance to Contract requirements. Review may also include:
      a. Critical path method principles and tenets utilized
      b. Clarifications of Contract Requirements
      c. Directions to include activities and information missing from the submittal
      d. Requests to Contractor to clarify its schedule
   3. Within five (5) days of the Schedule Review Meeting, Contractor shall respond in writing to all questions and comments expressed by District at the Meeting.

1.10 ADJUSTMENTS TO THE MASTER CPM SCHEDULE

A. Contractor shall revise the Master CPM Schedule submittal to address all review comments from the review meeting described above, and resubmit the Master CPM Schedule for District review and approval.
   1. District, within ten (10) days from date that Contractor submitted the revised Master CPM schedule, will either:
      a. Accept the Master CPM Schedule as submitted, or
      b. Advise Contractor in writing to review any part or parts of the Master CPM Schedule which either do not meet Contract requirements, or are unsatisfactory for District to purposes of monitoring Project progress, resources, and status, or to evaluate monthly payment request by Contractor.
   2. District may accept the Master CPM Schedule with conditions that the first monthly update of the Master CPM schedule will be revised to correct identified deficiencies.
   3. When the Master CPM Schedule is accepted, it shall be considered the Master CPM Schedule, which will then be immediately updated to reflect the current status of the work.
   4. District reserves right to require Contractor to adjust, add to, or clarify any portion of Master CPM Schedule which may later be discovered to be insufficient for monitoring the Work or approving payment requests. No additional compensation will be due to the Contractor for any such adjustments, additions, or clarifications.

B. Acceptance of Contractor's Master CPM Schedule by District will be based upon schedule's compliance with Contract requirements and accepted CPM principles.
   1. In assigning activity durations and proposing Work sequences, Contractor agrees to utilize sufficient and necessary management and other resources to perform work in accordance with the approved Master CPM Schedule.
2. Upon submittal and District approval of any Master CPM Schedule Update, such updated schedule shall then be considered the "current" Master CPM Schedule.

3. Submission of Contractor's Master CPM Schedule to District shall not relieve Contractor of total responsibility for scheduling, sequencing, and executing the Work to comply with requirements of Contract Documents, including recovery from adverse effects such as delays resulting from ill-timed work.

C. Submittal of the Master CPM Schedule, and subsequent Updates shall be understood to be the Contractor's representation that the Master CPM Schedule meets all requirements of Contract Documents, and that the Work shall be executed in the sequence and within the time indicated on the schedule.

D. Contractor shall distribute the Master CPM Schedule to Subcontractors for review and written acceptance, which shall be noted on Subcontractors' letterhead to Contractor and transmitted to District for the Project record.

1.11 MASTER CPM SCHEDULE MONTHLY UPDATES

A. Following acceptance of Contractor's Master CPM Schedule, Contractor shall monitor the progress of Work and adjust the Master CPM Schedule each month to reflect actual progress, and to illustrate any anticipated changes to planned activities.

1. Each Master CPM Schedule Update submitted by Contractor shall be complete, including all information requested for the original Master CPM Schedule submittal.

2. Each Master CPM Schedule Update submitted by Contractor shall continue to show all work activities including those already completed. Any completed activities shall accurately reflect "as built" information by indicating when Work activities were actually started and completed. Contractor shall warrant the accuracy of as-built information shown on each Master CPM Schedule Update.

B. A meeting will be held within the first week of each month with the District and Project Inspector to review the Master CPM Schedule Update submittal and progress payment application for the previous month. Conduct periodic schedule update meetings for the purposes of reviewing the Contractor's proposed out of sequence corrections, determining causes for delay, correcting logic, maintaining schedule accuracy and determining earned value. Provide a computer with the scheduling software loaded and a projector during the meeting which allows all meeting participants to view the proposed Master CPM Schedule Update during the meeting. The meeting and resultant approvable Master CPM Schedule Update shall be a condition precedent to a formal submission of the Master CPM Schedule Update and to the submission of an invoice for payment. The meeting will be a working interactive exchange which will allow the District and the Contractor the opportunity to review the Master CPM Schedule Update on a real time and interactive basis. The Contractor's authorized scheduling representative will organize, sort, filter and schedule the update as requested by the District. A rough draft of the proposed activity logic corrections and narrative report shall be provided to the District 48 hours in advance of the meeting.

1. At this monthly meeting, a minimum requirement for review shall be included, but not limited to the following items:
a. Percent complete of each Work activity
b. Time impact evaluations for Change Orders and Time Extension Requests, if any
c. Actual and anticipated Work activity sequence changes
d. Anticipated Work activity duration changes
e. Actual and anticipated Contractor delays

2. These meetings are a critical component of overall monthly Master CPM Schedule Update submittal and Contractor shall ensure appropriate personnel attend. At a minimum, Contractor’s Project Engineer, General Superintendent, and Scheduler shall attend these meetings.

3. Status of Activities. Update information, including Actual Start Dates (AS), Actual Finish Dates (AF), Remaining Durations (RD), and Percent Complete shall be subject to the approval of the District at to the meeting. As a minimum, address the following items on an activity by activity basis during each progress meeting.

a. Start and Finish Dates. Accurately show the status of the AS and/or AF dates for each activity currently in-progress or completed since the last update. The District may allow an AF date to be assigned with the percent complete less than 100% to account for the value of work remaining but not restraining successor activities. Only assign AS dates when actual progress occurs on an activity.

b. Remaining Duration. Update the estimated RD for all incomplete activities independent of Percent Complete. Remaining Durations may exceed the activity original duration (OD) or may exceed the activity’s prior update RD if the District considers the current OD or RD to be understated based on current progress, insufficient work crews actually manning the job, unrealistic OD or deficiencies that must be corrected that restrain successor activities.

c. Percent Complete. Update the percent complete for each activity started, based on the realistic assessment of earned value. Activities which are complete but for remaining minor punch list work, and which do not restrain the initiation of successor activities, may be declared 100 percent complete. To allow for proper schedule management, cost load the correction of punch list from District pre-final inspection activity(ies) for each phase not less than 1 percent of the total value of that phase, which activity(ies) may be declared 100 percent complete upon completion and correction of all punch list work identified during District’s pre-final inspection(s).

d. Logic Changes. Specifically identify and discuss all logic changes pertaining to NTP on change orders, change orders to be incorporated into the Master CPM Schedule Update, Contractor proposed changes in work sequence, corrections to schedule logic for out-of-sequence progress, and other changes that have been made pursuant to contract provisions. The District will only approve logic revisions for the purpose of keeping the schedule valid in terms of its usefulness in calculating a realistic completion date, correcting erroneous logic ties, and accurately sequencing the work.

e. Other Changes. Other changes required due to delays in completion of any activity or group of activities include: 1) delays beyond the Contractor's control, such as strikes and
unusual weather. 2) delays encountered due to submittals, District activities, deliveries or work stoppages which make re-planning the work necessary.
3. Changes required to correct a Master CPM Schedule Update that does not represent the actual or planned prosecution and progress of the Work.

H. Within five (5) working days after monthly schedule update meeting, Contractor shall submit the updated Master CPM Schedule Update.

D. Within five (5) work days of receipt of above noted revised submittals, District will either accept or reject monthly Master CPM Schedule Update submittal.
1. If accepted, percent complete shown in monthly update will be basis for Application for Payment by the Contractor. The schedule update shall be submitted as part of the Contractor's Application for Payment.
2. If rejected, update shall be corrected and resubmitted by Contractor before the Application for Payment is submitted.
3. District and Architect will not review Contractor's application for payment if the updated monthly Master CPM Schedule Update is not provided and accepted by District.

E. Neither updating, changing or revising of any report, curve, schedule or narrative submitted by Contractor under this Contract, nor District's review or acceptance of any such report, curve, schedule or narrative, shall have the effect of amending or modifying in any way the Contract Substantial or Final Completion date or any phase completion dates, or of modifying or limiting in any way Contractor's obligations under this Contract.

F. Updating the Master CPM Schedule to reflect actual progress shall not be considered revisions to the Project Schedule.

G. To clarify any revisions to the Master CPM Schedule Update, the Contractor shall provide District with a written narrative explaining the reasons for each Work activity revision. For revisions affecting the sequence of work, the Contractor shall provide a schedule diagram which compares the original sequence to the revised sequence of work. The Contractor shall provide the written narrative and schedule diagram for revisions two (2) working days in advance of the monthly Master CPM Schedule Update meeting.

H. Schedule revisions shall not be incorporated into any Master CPM Schedule Update until the revisions have been reviewed and approved by District. District may request further information and justification for Master CPM Schedule revisions. Contractor shall, within three (3) days of any such District request, provide District with a complete written narrative response.

H. If the Contractor's revision is still not accepted by District, and the Contractor disagrees with District's position, the Contractor has three (3) work days from receipt of District's letter rejecting the revision to provide a written narrative providing full justification and explanation for the revision. The Contractor's failure to respond in writing within three (3) work days of District's written rejection of a schedule revision shall be contractually interpreted as acceptance of District's position, and the Contractor waives its rights to subsequently dispute or file a claim regarding District's position.
J. At District's discretion, the Contractor may be required to provide subcontractor(s) certifications of Work activity performance regarding any proposed Master CPM Schedule revisions affecting said subcontractor(s).

1.12 WEEKLY LOOK AHEAD SCHEDULE

A. At each Weekly Progress Meeting, the Contractor shall provide and present a time scaled three (3) week schedule: one (1) week behind and two (2) week look ahead schedule that is based on and correlated by activity number in the current Master CPM Schedule Update. Provide a two week look ahead schedule in bar chart format, showing daily activities for that period.

1.13 OTHER SCHEDULE RELATED REPORTS

A. Submit four (4) hard copies of the following reports with the Initial CPM Schedule, the Master CPM Schedule, and with each monthly update of the Master CPM Schedule:
   1. Two (2) activity-listing reports: one report sorted by activity number and one report by total float. These reports shall also include each activity's early/late and actual start and finish dates, original and remaining duration, float, responsibility code and the logic relationship of activities.
   2. Cost report sorted by activity number including each activity's associated cost, percentage of Work accomplished, earned value to-date, previous payments and amount earned for current update period.
   3. Schedule plots presenting time scaled network diagram showing activities and their relationships with the controlling operations or critical path clearly highlighted.
   4. Cash flow report calculated by early start, late start and indicating actual progress. Provide an exhibit depicting this information in graphic form.
   5. Monthly status report, to include:
      a. Status of major Project components (percent complete, amount of time ahead or behind schedule) and an explanation of how Project will be brought back on schedule if delays have occurred.
      b. Progress made on critical activities indicated on Project Schedule.
      c. Explanations for any lack of work on critical path activities planned to be performed during last month.
      d. Explanations for any schedule changes, including changes to logic or to activity durations.
      e. List of critical activities scheduled to be performed next month.
      f. Status of major material, and equipment procurement.
      g. Any delays encountered during reporting period.
      h. Contractor may include any other information pertinent to status of Project. Contractor shall include additional status information requested by District at no additional cost.
      i. Status reports, and the information contained therein, shall not be construed by the Contractor as claims, notice of claims, notice of delay, or requests for changes or compensation.

B. Furnish DISTRICT with digital files of all reports and Master CPM Schedule Updates.
1.14 RECOVERY SCHEDULE

A. If any Master CPM Schedule Update shows that the Contract Substantial Completion date is five (5) calendar days beyond the Contract Substantial Completion date, the Contractor shall submit to District proposed schedule revisions to recover the lost time within seven (7) calendar days. As part of this Recovery Schedule submittal, the Contractor shall provide a written narrative for each schedule revision made to recapture the lost time. If the revisions include sequence changes, the Contractor shall provide a schedule diagram comparing the original sequence to the revised sequence of work.

B. Recovery Schedule revisions shall not be incorporated into any Master CPM Schedule Update until the revisions have been reviewed and approved by the District.

C. If the Contractor’s Recovery Schedule revisions are not accepted by District, District and the Contractor shall follow the procedures in paragraph 1.10 H through J, above.

D. If requested by District, Contractor shall provide revised schedules within ten (10) days if, at any time, the District consider the completion date to be in jeopardy because of activities that are behind schedule. The additional schedule shall include a new arrow or precedence diagram and schedule reports conforming to the requirements herein, designed to show how the Contractor intends to accomplish the Work to meet the completion date.

E. The Contractor shall modify any portions of the schedule that become infeasible because of “activities behind schedule” or for any other valid reason. An activity that cannot be completed by its original latest completion date shall be deemed to be behind schedule.

1.15 TIME IMPACTS EVALUATION (TIE) FOR CHANGE ORDERS AND OTHER POTENTIAL DELAYS

A. When Contractor is directed to proceed with changed Work, which the Contractor considers have a time impact, the Contractor shall prepare and submit, within seven (7) calendar days from the direction to proceed, a Time Impact Evaluation (TIE) which includes both a written narrative and a schedule diagram depicting how the changed work affects other schedule activities. The schedule diagram shall show how the Contractor proposes to incorporate the changed Work in the schedule, and how it impacts the current Master CPM Schedule and critical path. The Contractor is responsible for requesting time extensions based on the TIEs impact on the critical path. The diagram must correspond to the main sequences of Work activities in the current Master CPM Schedule, to enable District to evaluate time impact of changed work to the scheduled critical path.

B. Contractor shall be required to comply with the above requirements for all types of delays such as, but not limited to, Contractor/Subcontractor delays, adverse weather delays, strikes, procurement delays, fabrication delays, etc.

C. Contractor shall be responsible for all costs associated with the preparation of Time Impact Evaluations, and the process of incorporating them into the current schedule update. The Contractor shall provide District with 3 copies of each TIE.
D. Once agreement between District and Contractor has been reached on a TIE, the Contract time will be adjusted accordingly. If agreement is not reached on a TIE, the Contract time may be extended in an amount District allows, and the Contractor may submit a claim for additional time.

E. If the Contractor does not submit a TIE within the required seven (7) calendar days for any issue, it is mutually agreed that the Contractor does not require a time extension for said issue.

1.16 TIME EXTENSIONS

A. The Contractor is responsible for requesting time extensions for time impacts that, in the opinion of the Contractor, impact the critical path of the current Master CPM Schedule.

B. Contractor shall not be granted an extension of time for failure to obtain necessary approvals for deferral approvals due to failure to comply with laws, building codes, and other regulations (including Title 24 of the California Code of Regulations).

C. No time extensions will be granted under this Contract for the cumulative effect of changes in the Work.

D. District will not be obligated to consider any time extension request unless requirements of Contract Documents have been met.

E. Failure of the Contractor to perform in accordance with the current Master CPM Schedule Update shall not be excused because of submittal of a time extension request.

F. Where an event for which District is responsible impacts the projected Contract Substantial Completion date of the Work, or any phase of the Work, the Contractor shall provide a written mitigation plan, including a schedule diagram, which explains how (e.g., increase crew size, overtime, etc.) the impact can be mitigated. The Contractor shall also include a detailed cost breakdown of the labor, equipment, and material the Contractor would expend to mitigate District caused time impact. The Contractor shall submit its mitigation plan to District within seven (7) calendar days from the date of discovery of said impact. The Contractor is responsible for the cost to prepare the mitigation plan.

G. Contractor’s failure to a request time extension, provide a TIE, or provide the required mitigation plan will result in Contractor waiving its right to both a time extension and to recovering any costs to mitigate the delay.

PART 2 - PRODUCTS

Not applicable to this section.

PART 3 - EXECUTION

Not applicable to this section.

END OF SECTION 01310
SECTION 01311
PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
A. Section 01010 – “Summary of Work”
B. Section 01140 – “Work Restrictions”
C. Section 01312 – “Project Meetings”
D. Section 01330 – “Submittal Procedures”
E. Section 01411 – “Testing Laboratory Services”
F. Section 01416 – “Special Procedures”
G. Section 01505 – “Construction Waste Management”
H. Section 01540 – “Site Security and Safety”
I. Section 01770 – “Contract Closeout Procedures”
J. Section 01820 – “Demonstration & Training”
K. Divisions 2 through 33 Sections for Project Management and Coordination requirements for the work in those Sections.

1.3 SUMMARY
A. This Section specifies the administrative requirements and includes descriptions of required Project Coordination for the work and all phases of Project including, but not limited to, the following:
   1. Coordination
   2. Pre-Construction Conference
   3. Project Meetings
   4. Pre-installation Conferences-Coordination
   5. Underground and Utilities Coordination
   6. Electrical and Mechanical Coordination
   7. Coordination with Work by District
   8. Special Meetings-Coordination
   9. Coordination of Contract Closeout
1.4 COORDINATION

A. Coordinate scheduling, submittals, and Work of the various Sections of Specifications to assure efficient and orderly sequence of Work, with provisions for accommodating items to be installed later and for accommodating items to be installed by other District Contractors.

B. Resolve differences or disputes concerning coordination, interference, or extent of Work of the various Sections of the Specifications. Contractor’s decisions if consistent with requirements of the Contract Documents shall be final.

C. Coordinate completion and clean-up of Work of separate Sections in preparation for substantial Completion.

D. Coordinate requests for substitutions to assure compatibility of space, of operating elements, and effect on work of other sections.

E. Coordinate sequence of Work to accommodate District occupancy as specified within the Contract Documents. Cooperate with District and District suppliers and/or contractors during move-in and occupancy of the completed Work at each Phase.

F. Contractor shall coordinate construction operations and means and method of construction included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.

1. Coordinate structural, mechanical, and electrical elements prior to installation. All penetrations of structural elements must first receive approval of Architect and District. Rerouting of ductwork, piping, or conduit and resulting changes to other work caused by failure to coordinate beforehand is the responsibility of the Contractor and shall not be considered justification for either additional cost or time.

2. Schedule construction operations in sequence required to obtain the best constructed results where installation of one part of the Work depends on installation of other components, before or after its own installation.

3. Coordinate installation of different components with other contractors or other trades to ensure maximum and appropriate accessibility for required maintenance, service, and repair. Where availability of space is limited, coordinate installation of different components to ensure maximum and appropriate performance and accessibility for required maintenance, service, operations, and repair of all components, and building systems.

4. Make adequate provisions to accommodate items scheduled for later installation.

5. The manner in which the Specifications are divided into Divisions and Sections is not intended to indicate division of work between trades nor indicate trade union or jurisdictional agreements. Requests for an increase in the Contract Price or Time for Work indicated in one area of the Specifications or Drawings that are not correlated with Work indicated in other areas of the Specifications or Drawings before Bidding will be denied by the District.

a. Assign and subcontract construction activities, and employ workers in a manner that will not risk jurisdictional disputes that could result in conflicts, delays, claims, or losses.
1.5 PRECONSTRUCTION CONFERENCE
A. The District will schedule a conference after Notice to Proceed and prior to the start of Work.
B. Attendance Required: District representatives, Architect and consultants, DSA Project Inspector, District Representative, Contractor, certain Subcontractors as requested by the District and others as appropriate.

1.6 ADMINISTRATIVE COORDINATION
A. Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative coordination activities include, but are not limited to, the following:
1. Preparation of and coordination of Contractor’s CPM Schedules
2. Preparation of the Schedule of Values and Master CPM Schedule
3. Coordinate installation and removal of temporary facilities and controls
4. Coordinate and delivery and processing of submittals, and samples
5. Coordinate progress meetings, testing, and inspection
6. Pre-installation conferences
7. Mockups
8. Startup and adjustment of systems
9. Project closeout activities
B. Project Documents Management and Exchange

1.7 PRE-INSTALLATION CONFERENCES AND COORDINATION
A. Contractor shall be responsible to convene pre-installation conferences as required by individual Section of the Specifications. Include all affected parties. Also refer to Section 01312 for additional Project Meetings and Coordination requirements.

1.8 COORDINATION OF THE WORK
A. Coordinate use of project space and sequence of installation of mechanical, electrical, structural, and other Work which is indicated diagrammatically on Drawings. Follow routings shown for pipes, ducts, and conduits as closely as practicable, with due allowance for available physical space; make runs parallel with lines of building. Utilize space efficiently for maximum and appropriate accessibility for other installations, for maintenance, service, operations, and for repairs.
B. Contractor shall use large scale drawings, if their preparation is required as part of Work of these specifications, together with shop drawings and layout drawings of other affected sections of these specifications to check, to coordinate, and to integrate the Work of various sections to prevent interferences.
C. Perform and complete checking and coordination before commencing construction in the affected areas.

D. In finished areas, except as otherwise shown, conceal pipes, ducts, and wiring in the construction. Coordinate locations of plumbing, fixtures, electrical fixtures, and fixtures and outlets with finish elements.

1.9 CONSERVATION

A. Contractor shall coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.
   1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as District’s property.

1.10 MEANS AND METHODS

A. Contractor is solely responsible for construction means, methods, techniques, sequences, and procedures for performing all Work.

1.11 COORDINATION KEY PERSONNEL NAMES

A. Contractor prior to starting construction operations shall submit a list of key personnel assignments, including Contractor’s Project Manager, Superintendent, Assistant Superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including office and cell telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.
   1. Contractor shall submit (10) copies of key personnel list to the District.
   2. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times, and provide current list to the District.

1.12 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

A. Contractor shall provide other administrative and supervisory personnel as required for proper performance of the Work.
   1. Include specific or dedicated personnel required for coordination of operations with other contractors.

1.13 COORDINATION WITH WORK BY DISTRICT

A. Coordinate service connections for District furnished and District installed equipment. Verify that service connections are correct sizes and in required locations.

B. Coordinate support and anchorage for equipment furnished and installed by the District. Provide blocking and backing as shown or directed to facilitate installation of equipment by others.
1.14 DAILY CONSTRUCTION REPORTS

A. On a daily basis, Contractor shall submit a daily activity report to DISTRICT for each workday, including weekends and holidays, when worked. Contractor shall develop the daily construction reports on a computer generated data-base capable of sorting daily Work, manpower and man-hours by Contractor, Subcontractor, area, sub area, and change order work. Upon request of DISTRICT, furnish computer disk of this database. Obtain DISTRICT’s written approval of daily construction report data base format prior to implementation. Include in report:

1. Project name and Project number
2. Contractor’s name and address
3. Weather, temperature and any unusual site conditions
4. Brief description and location of the day’s scheduled activities and any special problems and accidents, including Work of Subcontractors. Descriptions shall be referenced to CPM scheduled activities.
5. Worker quantities for its own Work force and for Subcontractors of any tier.
6. Equipment, other than hand tools, utilized by Contractor and Subcontractors.

1.15 PERIODIC VERIFIED REPORTS

A. The Contractor shall complete and submit the Final Verified Report required by DSA In addition to other conditions precedent to Final Payment, the Contractor’s completion and submission of the Final Verified Report is an express condition precedent to the District's obligation to make the Final Payment. In addition to completion and submission of the Final Verified Report, as a material obligation under the Contract Documents, the Contractor shall comply will all DSA requests for reports or other data relating to the Work, the status thereof or conformity of the Work to the Contract Documents.

PART 2 - PRODUCTS
Not Used.

PART 3 - EXECUTION
Not Used.

END OF SECTION 01311
SECTION 01312
PROJECT MEETINGS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS
A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
A. Section 01010 – “Summary of Work”
B. Section 01140 – “Work Restrictions”
C. Section 01400 – “Quality Control Requirements”
D. Section 01500 – “Temporary Facilities and Control”
E. Section 01770 – “Contract Closeout Procedures”
F. Divisions 2 through 33 Sections for Project Meetings requirements for the work in those Sections.

1.3 SUMMARY
A. This Section specifies administrative requirements and provides descriptions of the required project meetings for the Work and all phases of the project. These meetings include, but not limited to, the following:
   1. Preconstruction Meeting
   2. Schedule Review Meetings
   3. Weekly Project Progress Meetings
   4. Progress Schedule and Application for Payment Meetings
   5. Special Meetings

1.4 PRECONSTRUCTION CONFERENCE
A. District will schedule and conduct the Preconstruction Conference at a time and place to be determined.
B. Contractor and all major subcontractors shall attend the Preconstruction Conference. This includes, but is not limited to, the following:
   1. Demolition Subcontractor
   2. Structural Steel Subcontractor
   3. Mechanical Subcontractor
   4. Electrical Subcontractor
   5. Plumbing Subcontractor
   6. Hazardous Material Abatement Subcontractor
C. Meeting agenda will include, but is not limited to, discussion of the following items:

1. Schedules
2. Personnel and vehicle permit procedures
3. Use of premises
4. Location of Contractor’s on-Site facilities
5. Security
6. Housekeeping
7. Submittal and RFI procedures
8. Inspection and testing procedures, on-Site and off-Site
9. Utility shutdown procedures
10. Control and reference point survey procedures
11. Injury and Illness Prevention Program
12. Initial Schedule
13. Schedule of Values
14. Schedule of Submittals
15. Project Directory
16. Emergency Contact List

1.5 SCHEDULE OF VALUES and initial schedule MEETING

A. Contractor shall meet with District and Architect within 10 days of submittal of the initial Schedule of Values and Initial CPM Schedule to review and evaluate the Schedule of Values and the Initial CPM Schedule.

1.6 SHOP DRAWINGS & SUBMITTALS SCHEDULE MEETING

A. Contractor shall meet with District and Architect within 10 days of submittal of the draft Shop Drawings and Submittals Schedule to review and evaluate the Shop Drawings and Submittals Schedule.

1.7 WEEKLY PROGRESS MEETINGS

A. Weekly Progress Meetings will be scheduled throughout duration of Work and all phases of the project at a time acceptable to the District. Progress meetings will be held weekly, unless otherwise directed by District.

1. Meetings shall be held at Project Manager’s on-site office trailer unless otherwise directed by the District.

2. The District Representative will record meeting notes of the Weekly Progress Meeting. Within 3 working Days after the meeting, the District Representative will distribute minutes to District via e-mail, and to those affected by decisions made at the meeting. Attendees can either submit comments or additions to the minutes within 3 working days. The minutes will constitute a final documentation of the results of meeting.

B. Progress meetings shall be attended by the Contractor’s project manager, project engineer, and job superintendent, District Representative, Architect and Engineers, the Inspector of Record, and others as appropriate to agenda topics for each meeting.
C. Agenda: The previous week meeting minutes will be used as the agenda for the subsequent meeting, with new business discuss for each agenda item.

1.8 BILLING MEETINGS
A. See Section 01290, Payment Procedures.

1.9 SPECIAL MEETINGS
A. Contractor or District may call special meetings by notifying the desired participants. Notify District no less than 5 work days in advance, and provide the reason for the meeting. Special meetings may be held without advance notice in emergency situations.

B. At any time during the progress of Work, District shall have authority to require Contractor to attend a meeting with any or all of the Subcontractors engaged in the Work or in other work, and notice of such meeting shall be duly observed and complied with by Contractor.

C. Contractor shall schedule and conduct his own periodic coordination meetings as necessary to discharge coordination responsibilities.

D. Contractor shall give District five work day’s written notice of his coordination meetings. Contractors shall maintain and distribute minutes of coordination meetings to District. Attendees shall have three work Days to submit comments or additions to minutes. Minutes will constitute final documentation of results of coordination meetings.

1.10 GUARANTEES/WARRANTIES, BONDS, AND SERVICE & MAINTENANCE CONTRACTS REVIEW MEETING
A. Ten Months following date of final acceptance/completion, Contractor to hold a meeting to review guarantees/warranties, bonds, and service maintenance contracts for materials and equipment. Implement repair or replacement of defective items, and extend service and maintenance contracts, as desired by District.

B. Attending shall be:
   1. District Representatives
   2. Architect and Architect’s consultants, as appropriate
   3. CCC-Buildings & Ground Representatives
   4. Contractor
   5. Subcontractors, as appropriate
   6. Others, as appropriate

PART 2 – PRODUCTS
Not Used

PART 3 – EXECUTION
Not Used

END OF SECTION 01312
SECTION 01318

DOCUMENT MANAGEMENT SYSTEM

PART 1 GENERAL

1.1 DESCRIPTION

1.1.1 This Section is in addition to the requirements in the Contract General Conditions and General Specifications.

1.1.2 The District is utilizing the Bentley web based system to aid in the document control, management and communications between the District, Architect, and Contractor. Therefore, the District and Contractor shall utilize Bentley's system for electronic submittal of all data and documents (unless otherwise specified or allowed by the District) throughout the duration of the Contract. Bentley is a web-based electronic media site that is hosted by Bentley utilizing their Bentley web solution. Bentley will be made available to the Contractor's project personnel, subcontractor personnel, suppliers, consultants and the Architect and their sub-consultants. The joint use of this system is to facilitate: electronic exchange of information, automation of key processes, and overall management of the Contract. Bentley shall be the primary means of project information submission and management. When required by the District elsewhere in these Specifications, paper documents will also be provided. In the event of discrepancy between the electronic version and paper documents, the paper documents will govern. Bentley is a registered trademark of Bentley.

1.1.3 Preconstruction Meeting/Contractor Information: At the Preconstruction Meeting, the Contractor shall provide to the District the email addresses of all Contractor personnel that will be using the Bentley web based system. At a minimum, this will include the Contractor's Project Manager, General Site Superintendent and Project Engineer. These personnel shall have sufficient computer skills required to access, and process documents over the Internet.

1.2 USER ACCESS LIMITATIONS

The District will control the Contractor's access to Bentley by allowing access and assigning user profiles to accepted Contractor personnel. User profiles will define levels of access into the system; determine assigned function-based authorizations (determines what can be seen) and user privileges (determines what they can do). Sub-contractors and suppliers will be given access to Bentley through the Contractor. Entry of information exchanged and transferred between the Contractor and its sub-contractors and suppliers on Bentley shall be the responsibility of the Contractor.

1.3 AUTOMATED SYSTEM NOTIFICATION AND AUDIT LOG TRACKING

Review comments made (or lack thereof) by the District on Contractor submitted documentation shall not relieve the Contractor from compliance with requirements of the Contract Documents. The Contractor is responsible for managing, tracking, and documenting the Work to comply with the requirements of the Contract Documents. District acceptance via automated system notifications or audit logs extends only to the face value of the submitted documentation and does not constitute validation of the Contractor's submitted information.

1.4 SUBMITTALS

See Section 01330, Submittals for general submittal requirements.
1.5 COMPUTER REQUIREMENTS

The Contractor shall use computer hardware and software that meets the requirements of the Bentley system as recommended by Bentley to access and utilize Bentley. As recommendations are modified by Bentley, the Contractor will upgrade their system(s) to meet the recommendations or better. Upgrading of the Contractor's computer systems will not be justification for a cost or time modification to the Contract. The Contractor will ensure that connectivity to the Bentley system (whether at the home office or job site) is accomplished through DSL, cable, T-1 or wireless communications systems. The minimum bandwidth requirements for using the system are 128kb/s. It is recommended the Contractor use a faster connection when uploading pictures and files into the system. Bentley currently supports Mozilla's Firefox v3.0-3.6, Apple's Safari V3.0-5.0, and Microsoft's Internet Explorer v7.0-8.0 web browsers for accessing the application.

1.6 CONTRACTOR RESPONSIBILITY

The Contractor shall be responsible for the validity of their information placed in Bentley and for the abilities of their personnel. Accepted users shall be knowledgeable in the use of computers, including Internet Browsers, email programs, cad drawing applications, and Adobe Portable Document Format (PDF) document distribution program. The Contractor shall utilize the existing forms in Bentley to the maximum extent possible. If a form does not exist in Bentley, the Contractor must include a form of their own, or use the forms provided or required by the District. Adobe PDF documents will be created through electronic conversion rather than optically scanned whenever possible. The Contractor is responsible for the training of their personnel in the use of Bentley (outside what is provided by the District), and the other programs indicated above as needed.

1.6.1 User Access Administration: Provide a list of Contractor's key Bentley personnel for the District's acceptance. Contractor is responsible for adding and removing users from the system as it pertains to their personnel or the personnel of their subcontractors and/or suppliers. The District reserves the right to perform a security check on all potential users. The Contractor will be allowed to add additional personnel and subcontractors to Bentley.

1.7 CONNECTIVITY PROBLEMS

Bentley is a web-based environment; therefore, subject to the inherent speed and connectivity problems of the Internet. The Contractor is responsible for its own connectivity to the Internet. Bentley response time is dependent on the Contractor's equipment, including processor speed, Internet access speed, etc., and current traffic on the Internet. The District is not liable for any delays associated from the usage of Bentley including, but not limited to: slow response time, down time periods, connectivity problems, or loss of information. The Contractor will ensure that connectivity to the Bentley system (whether at the home office or job site) is accomplished through DSL, cable, T-1 or wireless communications systems. The Contractor's minimum bandwidth requirements for using the system are 128kb/s. It is recommended a faster connection be used when uploading pictures and files into the system. Under no circumstances shall the usage of the Bentley be grounds for a time extension or cost adjustment to the Contract.

1.8 EADOC TRAINING AND SUPPORT

1.8.1 Bentley Training: The District has arranged for the following training that will be provided to the Contractor at no additional cost to the Contractor: Project Team Training, which includes one, 3-hour session on line.
other Bentley training or services desired by the Contractor, or its subcontractors, shall be at the expense of the Contractor. All District provided Bentley training for the Contractor will occur between the Notice of Award and the Notice to Proceed.

1.8.2 Bentley Support: Bentley will provide limited web support to the Contractor between the hours of 6:00 am and 6:00 pm, Pacific Standard Time. If requested by the Contractor, Bentley phone support or special support by Bentley shall be at the Contractor’s expense.

PART 2 PRODUCTS

2.1 Description

Bentley project management application (no equal) provided by Bentley, www.EDOCsoftware.com

PART 3 EXECUTION

3.1 BENTLEY UTILIZATION

Bentley will be used for, but not limited to, all of the following documents. At the direction of the District, the Contractor may be required to post other documents that are not listed below over the course of the Project.

1. Submittals/Shop Drawings/Samples (by Contractor; response by District)
2. Submittal substitution requests (by Contractor; response by District)
3. Requests for Information (by Contractor; response by District)
4. Non-Compliance Reports (by District; response by Contractor)
5. Schedules (by Contractor; response by District)
6. Project Photographs (by Contractor)
7. Posting Weekly Project Meeting Minutes (by District)
8. Change Order Request (by Contractor; response by District)
9. Field Instructions (by District; response by Contractor)
10. Payment Requests (by Contractor; response by District)
11. Daily Reports (by Contractor)
12. Inspection and Special Inspection & Testing Requests (by Contractor)
13. Punch lists (By Contractor)
14. Architectural Supplemental Instructions (by District)
15. Memos (General and notices to District or Contractor)
16. Conformed Drawings and Specifications (Contract Documents may be posted by the District)

3.2. Additional Information Regarding Submittals, Shop Drawings, Samples, Etc.
All submittals, shop drawings, samples, etc. shall be submitted as PDF attachments to the Bentley submittal work flow process and form. See Section 01330 for specific submittal requirements, including paper submittals and copies.

3.2.1 Shop Drawings: Contractor shop drawing and design data documents shall be submitted as PDF attachments (in addition to the hard copies requested) to the Bentley submittal work flow process and form. Examples of shop drawings include, but are not limited to:
   a. Standard manufacturer installation drawings.
   b. Drawings prepared to illustrate portions of the work designed or developed by the Contractor.
   c. Steel fabrication, piece, and erection drawings.

3.2.2 Product Data: Product catalog data and manufacturer’s instructions shall be submitted as PDF attachments (in addition to the hard copies requested) to the Bentley submittal work flow process and form. Examples of product data include, but are not limited to:
   a. Manufacturer’s printed literature.
   b. Preprinted product specification data and installation instructions.

3.2.3 Samples: Sample submittals shall be physically submitted as specified in Section 01330. Contractor shall enter submittal data information into Bentley with a copy of the submittal form(s) attached to the sample. Examples of samples include, but are not limited to:
   a. Product finishes and color selection samples.
   b. Product finishes and color verification samples.
   c. Finish/color boards.
   d. Physical samples of materials.

3.2.4 Administrative Submittals: All correspondence and pre-construction submittals shall be submitted using Bentley. Examples of administrative submittals include, but are not limited to:
   a. Digging permits and notices for excavation.
   b. SWPPP reports.
   c. List of product substitutions
   d. List of contact personnel.
   e. Notices for roadway interruption, work outside regular hours, and utility cutovers.
   f. Schedules and associated reports and updates. Each schedule submittal specified in Specification Section 01320 shall be submitted as a native backed-up file (.PRX or .STX) of the scheduling program being used. The schedule will also be posted as a PDF file in the format specified in Specification Section 01320.
   g. Plans for safety, demolition, environmental protection, and similar activities.
   h. Quality Control Plan(s), Testing Plan and Log, Quality Control Reports, Production Reports, Quality Control Specialist Reports, Preparatory Phase Checklist, Initial Phase Checklist, Field Test reports, Summary reports, Rework Items List, etc.
   i. Meeting minutes for quality control meetings, progress meetings, pre-installation meetings, etc.
   j. Any general correspondence submitted.

3.2.5 Compliance Submittals: Test reports, certificates, and manufacturer field report submittals shall be submitted on Bentley as PDF attachments. Examples of compliance submittals include, but are not limited to:
   a. Field test reports.
   b. Quality Control certifications.
   c. Manufacturer’s documentation and certifications for quality of products and materials provided.

3.2.6 Record and Closeout Submittals
Operation and maintenance data and closeout submittals shall be submitted on Bentley as PDF documents during the approval and review stage as specified, with actual set of documents submitted for final. Examples of record submittals include, but are not limited to:

a. Operation and Maintenance Manuals: Final documents shall be submitted as specified.
b. As-Built Drawings: Final documents shall be submitted as PDF and hard copy.
c. Extra Materials, Spare Stock, etc.: Submittal forms shall indicate when actual materials are submitted.

3.2.7 Financial Submittals: Schedule of Values, Progress Payment Requests and Change Order Requests shall be submitted on Bentley. Supporting material for Pay Requests and Change Order Requests shall be submitted on Bentley as PDF attachments. Examples of compliance submittals include, but are not limited to:

a. Contractor’s Schedule of Values
b. Contractors Monthly Progress Payment Requests
c. Contractor Change Order Requests requested by the District.

3.3.0 District Prepared Logs

3.3.1 The District will prepare the following logs that will be distributed at the weekly progress meetings: Open Request for Information Log; Open Submittal and Re-Submittal Log; Open Field Instruction Log; Open Notice of Non-Compliance Log. No other versions of these logs will be distributed, or used during the weekly meetings, or posted with the meeting minutes. However, the Contractor can provide comments as described in Section 01312, Project Meetings.
SECTION 01321
PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in
this document, and provisions in the General Conditions and other Division 1 Specification
Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
A. Section 01010 – “Summary of Work”
B. Section 01140 – “Work Restrictions”
C. Section 01330 – “Submittal Procedures”
D. Section 01770 – “Contract Closeout Procedures”
E. Section 01820 – “Demonstration and Training”
F. Divisions 2 through 33 sections for Photographic Documentation requirements for the work in
these sections.

1.3 SUMMARY
A. This section specifies administrative and procedural requirements for the following:
   1. Preconstruction digital photographs.
   2. Preconstruction video
   3. Time lapse construction web cam system.
   4. Final completion construction digital photographs.

1.4 COSTS OF PHOTOGRAPHY, PRINTING AND WEB CAM SYSTEM
A. Contractor shall pay all costs for specified photography, prints, and time lapse construction web
   cam system.

1.5 SUBMITTALS
A. Qualification Data: Contractor shall provide a person with experience for taking digital
   photographs.
B. Key Plan: Submit key plan of Project site and building with notation of vantage points marked
   for location and direction of each (photograph.)
C. Construction Photographs: Submit (15) digital photographs each month, and (25) digital
   photographs at the end of Project completion.
   1. Digital Images: Submit a complete set of digital image electronic files with each submittal
      of prints as a Project Record Document. Identify electronic media with date photographs
      were taken. Submit images that have the same aspect ratio as the sensor, un-cropped.
D. Time lapse Construction Web Cam Photos and Movie:
   1. Digital Images: At the completion of the Work, submit digital still images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
      a. Date and Time: Include original image file date and time with each image.
      b. Format: Submit a sortable and identifiable archive of all digital still images on an external hard drive. Obtain District approval of file organization and file names.
   2. Time-Lapse "Movie": Compile select digital still images into a time-lapse movie of the construction period for each Phase of the Work. Optimize images included and run-time length of movie to suit District requirements.

PART 2 - PRODUCTS

2.1 PHOTOGRAPHIC MEDIA
   A. Digital Images: Provide images in JPEG format, with minimum sensor size of 10.0 megapixels.

2.2 TIME LAPSE CONSTRUCTION WEB CAM SYSTEM
   A. Provide professional-grade high resolution digital webcam system designed specifically for the construction industry as a turnkey package including 2 cameras, related hardware, mounting equipment, software, wireless cellular data transmission service, website hosting, image hosting, storage, and backup, online interface for the system, time-lapse video creation and technical support.
   B. Contractor shall be solely responsible for properly maintaining all web cam system components and related services throughout the course of the Work.
   C. The outdoor camera system shall include a tamper and impact resistant, discreet unit with fixed camera, lens and controller. It shall also include a fixed pole with a height of 15 to 20 feet for mounting purposes.
   D. Cameras shall be integrated high definition camera and lens assembly consisting of a charge coupled device (CCD) camera with a remotely controlled focal length lens mounted as a permanent module with the following features:
      1. Digital Still Image Resolution: Minimum sensor size of 10 megapixels, and at an image resolution of not less than 3648 x 2736 pixels.
      2. Lens: 78-degree wide field of view.
      4. Data Connection: Operate cameras via built-in cellular data connection provided and maintained by the system vendor.
      5. Provide electrical power for web cam system as required by Contractor’s system vendor. A solar option is acceptable.
7. The cameras shall have the ability to take a high-resolution 10 megapixel digital still images of the construction site approximately every 15 minutes, and upload the still images over a wireless cellular modem to the Contractor’s vendor servers.

E. Remote Access to Digital Images: Provide an online interface system to allow viewing of all high-definition digital still images captured and stored during Construction, from any location with internet access and with password protection.
   1. The online interface system shall be accessible by an unlimited number of human users.
   2. System shall display Project name and Owner Logo.
   4. Zoom: Provide pan and zoom capability for zooming into high definition images.
   5. User Screen Viewing Options.

F. Dynamic Calendar: Provide screen showing calendar in which each day displays an image for that day.

G. Split Screen: Provide screen showing two discrete images side by side, from the two different cameras.

H. Full-Screen: Provide screen maximizing view of images on users monitor.

I. Slideshow: Provide capability to browse through images, moving forward and backward in time by individual image and by day.

J. Contractor shall understand that photographs and archives generated by the camera system become the property of the District and cannot used for advertisement or publicity reasons without the expressed written consent of the District.

PART 3 - EXECUTION

3.1 PHOTOGRAPHS, GENERAL
   A. Date Stamps: Unless otherwise indicated, date and time stamp each photograph as it is being taken so stamp is integral to photograph.

3.2 TIME LAPSE CONSTRUCTION WEB CAM
   A. Locate cameras at 2 different fixed locations as directed by District in order to capture construction activities over the course of the Work.
   B. Coordinate location and installation of web cameras to avoid interference from trees and to prevent sunlight and light from fixtures entering directly into the camera lens.
   C. After installation, perform system test to ensure all components are functioning properly.
   D. Maintain all system components in good working order. Promptly make any necessary repairs during the course of the Work.
   E. Termination and Removal: Completely remove web cam camera system and mounting pole prior to Final Completion.
      1. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with camera system.
2. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

F. Camera system, including associated appurtenances and mounting equipment, shall become the property of the District

G. Maintain images on the Contractor’s vendor website for reference available at all times during the Work, and for not less than 90 days after Final Completion.

3.3 EXISTING CONDITIONS SURVEY VIDEO

A. Prior to commencement of Work on Site, jointly survey the existing and surrounding areas and structures with the District and Architect. Contractor shall note and recording existing damage such as cracks, sags, and other damage, on Site Plan/Floor Plans as appropriate.

B. This record shall serve as a basis for determination of subsequent damage to these items due to settlement, movement, demolition, or other Contractor operations.

C. Existing damage observed shall be marked and the completed record of existing damage shall be signed by the parties.

D. Cracks, sags, and damage to the area and other items not noted in the original survey but subsequently observed shall be reported immediately to the Architect.

E. Contractor shall comply with requirements of this Section for photographic and/or video recording of existing conditions.

3.4 PRECONSTRUCTION PHOTOGRAPHS

A. Before starting construction, take color digital photographs of Project site and surrounding properties from different vantage points, as directed by and Architect and District.

B. Take photographs as necessary to show existing conditions adjacent to the building, spaces, and property before starting the work.

C. Take necessary photographs of existing buildings either on or adjoining the building, spaces, and property to accurately record the physical conditions prior to the start of construction.

3.5 CONSTRUCTION VIDEOS, GENERAL

A. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to show area of construction for maintenance and operation. Display continuous running time.

END OF SECTION 01321
SECTION 01330
SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED DOCUMENTS SPECIFIED IN OTHER SECTIONS

A. Section 01010 – “Summary of Work”
B. Section 01140 – “Work Restrictions”
C. Section 01290 – “Payment Procedures”
D. Section 01310 – “Construction Scheduling”
E. Section 01400 – “Quality Control Requirements”
F. Section 01770 – “Project Closeout Procedures”
G. Section 01780 – “Project Record Documents”
H. Section 01820 – “Demonstration and Training”
I. Divisions 2 through 33 sections for Submittal Procedures requirements for the work in these sections

1.3 SUMMARY

A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other Submittals.

1.4 DEFINITIONS

A. Action Submittals, as used herein are written and/or graphic information that requires Architect and/or District responsive action. Submittals may be rejected for not complying with requirements. Prepare and submit Action Submittals as required by individual Specification Sections.

B. Informational Submittals, as used herein are written and/or graphic information that does not require Architect responsive action. Submittals may be rejected for not complying with requirements. Prepare and submit Informational Submittals as required by individual Specification Sections.

C. Manufactured, as used herein applies to standard units usually mass-produced, and “fabricated” means items specifically assembled or made out of selected materials to meet individual design requirements.

D. Submittal Descriptions. Submittals requirements are specified in the technical sections. Submittals are identified by description as follows:
1. Preconstruction Submittals, as used herein are submittals which are required following a Notice to Award and prior to commencing Work on Site. Examples include, but are not limited to:
   a. Initial CPM Schedule
   b. Submittal Log (listing submittal schedule, including shop drawings and samples)
   c. Initial Schedule of Values
   d. Safety Plan
   e. Waste Management Plan
   f. Quality Control Plan
   g. Others as required by the Contract Documents

2. Shop Drawings, as used herein are drawings, diagrams, schedules, and other data, which are prepared by Contractor, Subcontractors, manufacturers, fabricators, suppliers, or distributors illustrating some portion of the Work, and include: illustrations; fabrication, erection, layout and setting drawings; manufacturer’s standard drawings; schedules; descriptive literature, instructions, catalogs, and brochures; performance and test data including charts; wiring and control diagrams; and all other drawings and descriptive data pertaining to materials, equipment, piping, duct and conduit systems, and methods of construction as may be required to show that the materials, equipment, or systems and their position conform to the requirements of the Contract Documents.
   a. Shop drawings shall establish the actual detail of all manufactured or fabricated items, indicate proper relation to adjoining work, amplify design details of mechanical and electrical systems and equipment in proper relation to physical spaces in the structure, and incorporate minor changes of design or construction to suit actual conditions.

3. Product data, as used herein are catalog cuts, illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate a material, product, or system for some portion of the Work. This includes samples of warranty language when the contract requires extended product warranties.

4. Samples, as used herein are physical examples furnished by Contractor to illustrate materials, equipment, or quality and includes natural materials, fabricated items, equipment, devices, appliances, or parts thereof as called for in the Specifications, and any other samples as may be required by the Architect to determine whether the kind, quality, construction, finish, color, and other characteristics of the materials, etc., proposed by the Contractor conform to the required characteristics of the various parts of the Work. All Work shall be in accordance with the approved samples.

5. Design Data, as used herein are design calculations, mix designs, analyses or other data pertaining to a part of Work.

6. Test Reports, as used herein, include:
   a. Reports signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accord with specified requirements. (Testing must have been within three years of date of contract award for the project.)
b. Reports which include findings of a test required to be performed by the Contractor on an actual portion of the work or prototype prepared for the project before shipment to job site.

c. Reports which include findings of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.

d. Investigation reports.

e. Daily performance logs.

f. Manufacturer or Installer checklists.

g. Manufacturer's Factory or Field Reports, including documentation of the testing and verification actions taken by manufacturer at the factory or manufacturer's representative at the job site, in the vicinity of the job site, or on a sample taken from the job site, on a portion of the work, during or after installation, to confirm compliance with manufacturer's standards or instructions. The documentation must be signed by an authorized official of a testing laboratory or agency and must state the test results; and indicate whether the material, product, or system has passed or failed the test.

h. Final acceptance test and operational test procedure.

7. Manufacturer’s Instructions. Preprinted material describing installation of a product, system or material, including special notices, checklists, and Material Safety Data sheets concerning impedances, hazards and safety precautions.

8. Operation and Maintenance Data. Data that is furnished by the manufacturer or the system provider to the equipment operating and maintenance personnel, including manufacturer's help and product line documentation necessary to maintain and install equipment. This data is needed by District operating and maintenance personnel for the safe and efficient operation, maintenance and repair of the item. This data is intended to be incorporated in the Operations and Maintenance manual submittals.

9. Closeout Submittals. Documentation to record compliance with technical or administrative requirements in order to meet all requirements necessary to properly close out the Construction Contract. These include, but are not limited to:

   a. Record Drawings
   b. As-built drawings
   c. Others as required by the Contract Documents.

1.5 PREPARATION AND FORMAT

A. Transmit each submittal, except sample installations and sample panels to the District. If the District, the Architect, and the Contractor mutually agree, submittals from the Contractor may be transmitted to the District and the Architect at the same time. However, following review by the Architect-Engineer team, submittals shall be transmitted back to the District Construction Manager prior to further distribution.

B. Transmit submittals with transmittal form prescribed by District and standard for the Project.
1. On the transmittal form identify Contractor, indicate date of submittal, and include information prescribed by transmittal form and required in paragraph entitled "Identifying Submittals." Process transmittal forms to record actions regarding sample[s].

C. Identifying Submittals. When submittals are provided by a Subcontractor, the Contractor shall prepare, review and stamp with Contractor’s approval stamp all specified submittals prior to submitting for District approval. Identify submittals, except sample installations and sample panels, with the following information permanently adhered to or noted on each separate component of each submittal and noted on transmittal form. Mark each copy of each submittal identically, with the following:

1. District Project Number and title.
2. Construction contract number.
3. Date of the drawings and revisions.
4. Product identification and location in project.
5. Name, address, and telephone number of subcontractor, supplier, manufacturer and any other second tier Contractor associated with submittal.
6. Section number of the specification section which requires the submittal.
7. When a resubmission, add numeric revision suffix on submittal description, for example, submittal 18 would become 18R1, to indicate resubmission.

D. Format for Shop Drawings
1. Shop drawings are not to be less than 8 1/2 by 11 inches nor more than 30 by 42 inches, except for full size patterns or templates. Prepare drawings to accurate size, with scale indicated, unless other form is required. Prepare drawings that will be submitted to Division of State Architect (DSA) noted as Deferred Approval in the bid drawings and specifications as mandated by DSA.
2. Drawings are to be suitable for reproduction and be of a quality to produce clear, distinct lines and letters with dark lines on a white background.
3. Present 8 1/2 by 11 inches sized shop drawings as part of the bound volume for submittals required by section. Present larger drawings in sets.
4. Include on each drawing the drawing title, number, date, and revision numbers and dates, in addition to information required in paragraph entitled "Identifying Submittals."
5. Number drawings in a logical sequence. Each drawing is to bear the number of the submittal in a uniform location adjacent to the title block. Place the District Project name and number in the margin, immediately below the title block, for each drawing.
6. Reserve a blank space on the right hand side of each sheet for the Architect’s disposition stamp.
7. Dimension drawings, except diagrams and schematic drawings and prepare drawings demonstrating interface with other trades to scale. Use the same unit of measure for shop drawings as indicated on the contract drawings. Identify materials and products for work shown.
8. Include the nameplate data, size and capacity on drawings. Also include applicable federal, military, industry and technical society publication references.
E. Format of Product Data and Manufacturer's Instructions

1. Present product data submittals for each section as a complete, bound volume. Include table of contents, listing page and catalog item numbers for product data.

2. Indicate by prominent notation each product which is being submitted; indicate specification section number and paragraph number to which it pertains.

3. Supplement product data with material prepared for Project to satisfy submittal requirements for which product data does not exist. Identify this material as developed specifically for project, with information and format as required for submission of Certificates.

4. Include the manufacturer's name, trade name, place of manufacture, and catalog model or number on all product data. Also include applicable industry and technical society publication references. Should manufacturer's data require supplemental information for clarification, include such information in the submittal.

5. Where equipment or materials are specified to conform to industry and technical society reference standards of the organizations such as American National Standards Institute (ANSI), ASTM International (ASTM), National Electrical Manufacturer's Association (NEMA), Underwriters Laboratories (UL), and Association of Edison Illuminating Companies (AEIC), submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance.
   a. In lieu of the label or listing, submit a certificate from an independent testing organization, competent to perform testing, and approved by the District Project Manager. State on the certificate that the item has been tested in accordance with the specified organization's test methods and that the item complies with the specified organization's reference standard.

6. Collect required data submittals for each specific material, product, unit of work, or system into a single submittal and marked for choices, options, and portions applicable to the submittal. Mark each copy of the product data identically. Partial submittals will not be accepted for expedition of construction effort.

7. Submit manufacturer's instructions prior to installation.

F. Format of Samples

1. Furnish samples in sizes below, unless otherwise specified or unless the manufacturer has prepackaged samples of approximately same size as specified:
   a. Sample of Equipment or Device: Full size.
   b. Sample of Materials Less Than 2 by 3 inches: Built up to 8 1/2 by 11 inches.
   c. Sample of Materials Exceeding 8 1/2 by 11 inches: Cut down to 8 1/2 by 11 inches and adequate to indicate color, texture, and material variations.
   d. Sample of Linear Devices or Materials: 10 inch length or length to be supplied, if less than 10 inches. Examples of linear devices or materials are conduit and handrails.
   e. Sample of Non-Solid Materials: Pint. Examples of non-solid materials are sand and paint.
   f. Color Selection Samples: 2 by 4 inches. Where samples are specified for selection of color, finish, pattern, or texture, submit the full set of available choices for the
material or product specified. Sizes and quantities of samples are to represent their respective standard unit.

    g. Sample Panel: 4 by 4 feet.
    h. Sample Installation: 100 square feet.

2. Samples Showing Range of Variation: Where variations in color, finish, pattern, or texture are unavoidable due to nature of the materials, submit sets of samples of not less than three units showing extremes and middle of range. Mark each unit to describe its relation to the range of the variation.

3. Reusable Samples: Incorporate returned samples into work only if so specified, indicated, or approved by Architect and District. Incorporated samples are to be in undamaged condition at time of use.

4. Recording of Sample Installation: Note and preserve the notation of area constituting sample installation but remove notation at final clean-up of project.

G. Format of Design Data and Certificates. Provide design data and certificates on 8 1/2 by 11 inches paper. Provide a bound volume for submittals containing numerous pages.

H. Format of Test Reports and Manufacturer's Field Reports
   1. Provide reports on 8 1/2 by 11 inches paper in a complete bound volume.
   2. Indicate by prominent notation, each report in the submittal. Indicate specification number and paragraph number to which it pertains.

I. Format of Operation and Maintenance Data shall comply with the requirements specified in Section 01785 Operation and Maintenance data for O&M Data format.

J. Format of Preconstruction Submittals and Closeout Submittals.
   1. When submittal includes a document which is to be used in Project or become part of Project Record, other than as a submittal, do not apply Contractor's approval stamp to document, but to a separate sheet accompanying document.
   2. Provide all dimensions in English units only.

1.6 QUANTITY OF SUBMITTALS

A. Number of Copies of Shop Drawings. Submit in compliance with the following requirements:
   1. Submit three (3) original, wet-signed, and one (1) color PDF file for submittals that require shop drawings unless otherwise directed by District.
   2. Submittals that require local and State agency approval, shall conform with this Specification and the requirements of the local or State agency.

B. Contractor shall receive one hardcopy and one (1) reviewed electronic PDF file of the submittal. Contractor shall be responsible for providing copies to its subcontractors.

C. Number of Copies of Product Data and Manufacturer’s Instructions. Submit in compliance with quantity requirements specified for shop drawings.

D. Number of Samples
1. Submit three (3) sets of samples showing range of variation, of each required item. Two approved samples or sets of samples will be retained by District and one will be returned to Contractor.

2. Submit one sample panel or provide one sample installation where directed. Include components listed in technical section or as directed.

3. When required by Contract Documents, provide one sample installation where directed by Architect or District.

E. Number of Copies Design Data and Certificates. Submit in compliance with quantity requirements specified for shop drawings.

F. Number of Copies Test Reports and Manufacturer's Field Reports. Submit in compliance with quantity and quality requirements specified for shop drawings.

G. Number of Copies of Operation and Maintenance Data. Submit three (3) copies of O&M Data to the District Project Manager for review and approval.

H. Number of Copies of Preconstruction Submittals and Closeout Submittals. Unless otherwise specified, submit as required for shop drawings.

1.7 SUBMITTALS, GENERAL

A. Contractor shall obtain and shall submit all required shop drawings, samples, technical data, and other submittals as required by the Contract Documents with such promptness as to cause no delay in its own Work or in that of any other contractor or subcontractor.

1. As required by the Contract Documents, the Contractor shall obtain and submit with shop drawings all seismic and other calculations, and all product data from equipment manufacturers.

2. No shop drawing submittals shall be reviewed until coordinated documents per paragraph 1.13.C.1.b and c have been submitted, reviewed and signed off by representatives of each of the sub-contractors.

B. Prepare a complete Submittal Log and maintain it as the Work progresses. Submit the initial Submittal Log for approval by District at the same time as the Initial Schedule (See Section 01310 Construction Scheduling). Include the Contractor’s anticipated submission dates and the approval needed dates (if approval is required).

1. Re-submit submittal log and annotate monthly by the Contractor with actual submission and approval dates. When all items on the log have been fully approved, no further re-submittal is required.

2. Carefully control procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Log."

3. Except as specified otherwise, allow review period of at least fifteen (15) working days for submittals requiring Architect or District approval. Period of review for submittals requiring approval begins when District receives submittal from Contractor.

4. For submittals requiring review by fire protection engineer and/or DSA, allow review period, beginning when District receives submittal thirty (30) calendar days for return of submittal to the Contractor.
5. Period of review for each resubmittal is the same as for initial submittal.

C. The District may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections.

D. Units of weights and measures used on all submittals are to be the same as those used in the contract drawings.

E. Each submittal is to be complete and in sufficient detail to allow ready determination of compliance with contract requirements.

F. No extensions of time will be granted to Contractor or any Subcontractor because of its failure to have shop drawings, samples, product data and/or other required submittals submitted in accordance with the approved Submittal Log and Master Construction Schedule.

G. Each Subcontractor shall submit all shop drawings, samples, product data and other required submittals for the review by the District and the Architect through the Contractor.

H. By submitting shop drawings, samples, product data and other required submittals, the Contractor represents that it has determined and verified all materials, field measurements, catalog numbers, related field construction criteria, and other relevant data in connection with each such submission, and that it has checked, verified, and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents, including the construction schedule.

I. Quality Control Certification. Stamp each sheet of each submittal with a quality control certifying statement, except that data submitted in bound volume or on one sheet printed on two sides may be stamped on the front of the first sheet only. When approving authority is Architect or District, Contractor shall certify submittals with the following certifying statement:

"I hereby certify that the (equipment) (material) (article) shown and marked in this submittal is that proposed to be incorporated with contract Number [_______], is in compliance with the Contract Documents, does not constitute an unapproved substitution, deviation, or variation, can be installed in the allocated spaces, and is submitted for District approval.

I further certify that I have reviewed and approved the field dimensions and the construction criteria, and have also made written notation regarding any information in the shop drawings that does not fully conform to the Contract Documents. This submittal has been coordinated with all other submittals received to date, and this duty of coordination has not been delegated to subcontractors, material suppliers, the Architect, or the Engineers on this project.

For the Contractor:

Certified by Submittal Reviewer _____________________, Date _______
(Signature )

Certified by QC Manager _____________________________, Date ______
(Signature)
J. Partial submittals are not acceptable, will be considered non-responsive, and will be returned without review by either District or Architect. Mark each copy of each submittal to show which products and options are applicable.

K. The submission of the shop drawings, samples, product data and other required submittals, shall not deviate from the requirements of the Contract Documents including detailing and design intent which is specifically outlined in Contract Documents except as specifically authorized by the Architect or through an accepted substitution, per the requirements of the Contract Documents.

L. Deviations from the Contract Documents
   1. Any deviations from the Contract Documents shall be fully described in a transmittal accompanying the shop drawings, samples, product data and other required submittals. However, such submittals shall not be used as a means of requesting a substitution, the procedure for which is defined elsewhere in the Contract Documents.
   2. Architect and District approval is required for any proposed deviation from the accepted design which still complies with the Contract Documents before the Contractor is authorized to proceed with material acquisition or installation. If necessary to facilitate the project schedule, the Contractor and the Architect may discuss a submittal proposing a deviation with the District Project Manager prior to officially submitting it to the District. However, the District reserves the right to review the submittal before providing an opinion, if deemed necessary. In any case, the District will not formally agree to or provide a preliminary opinion on any deviation without either the Architect's approval or recommended approval.
   3. The District reserves the right to reject any deviation which may impact furniture, furnishings, equipment selections, and/or operations decisions that were made previously and based on the District reviewed and approved Project design.
   4. Contractor is responsible for the dimensions and design of connection details and construction of work. Failure to point out deviations may result in the District requiring rejection and removal of such work at the Contractor's expense.
   5. After submittals have been accepted by the Architect, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

M. Review by District and Architect shall not relieve the Contractor or any Subcontractor from its responsibility in preparing and submitting proper submittals in accordance with the Contract Documents.

N. Any submission, which in Architect’s opinion is incomplete, contains errors, or been superficially checked will be returned by the Architect without review for resubmission by the Contractor.

O. Electronic copies of the stamped and signed Contract Documents will not be provided by District or Architect for Contractor’s use unless:
   1. Contractor shall first request and obtain written approval from Architect prior to use of any Architect’s CAD files, drawings, or other documents for submittal purposes.
2. Contractor shall be responsible for all reproduction, printing, and delivery cost associated with the use of any requested drawings and/or CAD files.

3. Contractor provides disclaimer letters to the Architect and District (15) working days in advance of any proposed use of Architect’s documents and/or digital files. Such disclaimer letter shall be in a form acceptable to Architect and District.

4. Contractor shall not reuse any Architect’s documents and/or electronic files for submittal purposes without prior written approval.

P. Coordinate preparation and processing of submittals with performance of construction activities.
   1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
   2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination. The Contractor shall ensure Mechanical, Electrical, and Plumbing (MEP) sub-contractors provide coordinated and comprehensive submittals for all integrated systems. Multiple submittal packages will not be allowed and will be returned without review or action. No extension of Contract Time will be authorized due to incomplete or uncoordinated Contractor submittals.
      a. Architect and District reserve the right to withhold action on, or return without review, a submittal requiring coordination with other submittals until all such related submittals are received. No extension of the Contract Time will be authorized.
      b. Architect and District will return incomplete submittals to the Contractor without review. No extension of Contract Time will be authorized due to incomplete Contractor submittals.

Q. Submittals Schedule: Comply with requirements in Section 01310 (Construction Scheduling) in planning for required submittals and relating them to scheduled construction activities.
   1. Initial Review: Allow (15) working days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will, through the Construction or Project Manager, advise Contractor when a submittal review must be delayed for coordination reasons.
   2. Intermediate Review: If intermediate submittal review is necessary, process it in the same manner as an initial submittal.
   3. Re-submittal Review: Allow (10) working days for review of each re-submittal.
   4. Sequential Review: Where sequential review of submittals by Architect’s consultants, District, or other parties is indicated, allow (15) working days for initial review of each submittal.
   5. DSA Deferred Approvals Review: see paragraph 1.13 D.18 for detailed procedures

R. Re-submittals: Make re-submittals in same form and number of copies as initial submittal.
   1. Note date and content of previous submittal.
   2. Note date and content of revision in label or title block and clearly indicate extent of revision(s).
   3. Cloud or otherwise highlight and call out ALL changes made in each re-submittal.
4. Provide cover letter in each re-submittal, identifying all changes made in each re-submittal.
5. Resubmit submittals until they are marked “No Exceptions Taken” or “Make Corrections Noted” by the Architect.
6. After submittals have been accepted by the Architect, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.8 ARCHITECT’S REVIEW

A. Architect’s review is for general conformance with design concept only, and does not relieve Contractor in any way from compliance with Contract Documents, nor does it in any way constitute grounds for a Change Order. Contractor remains solely responsible for details and accuracy of all quantities and dimensions, and selection of fabrication and/or installation processes.

B. The Architect’s review shall neither be construed as a complete check which relieves the Contractor, Subcontractor, manufacturer, fabricator, or supplier from responsibility for any deficiency that may exist or from any departures or deviations from the requirements of the Contract Documents unless the Contractor has, in writing, called the Architect’s attention to the deviations at the time of submission.

C. The Architect’s review shall not relieve the Contractor or Subcontractors from responsibility for errors of any sort in any required submittals, for proper fitting of the Work, coordination of the differing subcontractor trades, and Work which is not indicated on any submittal at the time of submission.

D. In reviewing shop drawings, samples, product data and other required submittals, the Architect will not verify dimensions and field conditions.

E. The Architect will review and approve shop drawings, samples, product data and other required submittals for aesthetics and for conformance with the design concept of the Work and the Contract Documents.

F. Architect will review each submittal, make marks to indicate corrections or modifications required, and return it.

G. Contractor and Subcontractors shall be solely responsible for any quantities which may be shown on either the submittals or the Contract Documents.

H. Architect will not review submittals that do not bear Contractor’s approval stamp and Quality Control Certification Letter, and will return them to the Contractor without review.

I. Architect will stamp each submittal appropriately to indicate action to be taken, as follows:
   1. No Exceptions Taken: Work covered by submittal may proceed provided it complies with the requirements of the Contract Documents. Compliance with Contract Documents is a condition of acceptance of the Work.
   2. Make Corrections Noted: Work covered by the submittal may proceed provided it complies with Architect and/or Engineer notations and/or corrections. Contractor shall make all noted corrections. Compliance with Contract Documents is a condition of acceptance of the Work.
3. Revise and Resubmit: Do not proceed with any Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise the submittal in accordance with Architect and/or Engineer notations and resubmit without delay. Repeat if necessary.

4. Rejected. See Remarks: Do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Prepare a new submittal in accordance with Architect/Engineer’s notations and resubmit without delay.

J. Use of Submittals for Construction: Use only final submittals with Architect’s mark indicating “No Exceptions Taken” or “Make Corrections Noted.”

K. Informational Submittals: Architect will review each submittal but will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

1.9 REJECTED SUBMITTALS

A. Contractor shall make corrections required by the Architect and resubmit.

B. If the Contractor considers any correction or notation on the returned submittals to constitute a change to the contract drawings or specifications, he shall provide notice to the Architect and District.

C. If changes are necessary to submittals, the Contractor shall make such revisions and submission of the submittals in accordance with the procedures above. No item of work requiring a submittal change is to be accomplished until the changed submittals are approved.

1.10 NO EXCEPTIONS TAKEN OR MAKE CORRECTIONS NOTED SUBMITTALS

A. Acceptance will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor is responsible for the satisfactory construction of all work.

1.11 NO EXCEPTIONS TAKEN OR MAKE CORRECTIONS NOTED SAMPLES

A. Acceptance of a sample is only for the characteristics or use named in such acceptance and is not be construed to change or modify any contract requirements. Before submitting samples, the Contractor shall assure that the materials or equipment will be available in quantities required in the project. No change or substitution will be permitted after a sample has been accepted.

B. Match the accepted samples for Materials and equipment incorporated in the work. If requested, accepted samples, including those which may be damaged in testing, will be returned to the Contractor, at his expense, upon completion of the contract. Samples not accepted will also be returned to the Contractor at its expense, if so requested. Failure of any materials to pass the specified tests will be sufficient cause for refusal to consider, under this contract, any further samples of the same brand or make of that material. District reserves the right to disapprove any material or equipment which previously has proved unsatisfactory in service.

C. Samples of various materials or equipment delivered on the site or in place may be taken by the District Construction Manager or Project Manager for testing. Samples failing to meet contract requirements will automatically void previous acceptance, and Contractor shall replace such materials or equipment at Contractor expense to meet contract requirements.
D. Acceptance of the Contractor’s samples by the AOR or District does not relieve the Contractor of his responsibilities under the contract.

1.12 WITHHOLDING OF PAYMENT

A. Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

B. No payment for materials incorporated in the work will be made if all required Designer of Record or required District approvals have not been obtained.

C. No payment will be made for any materials incorporated into the work for any conformance review submittals or information only submittals found to contain errors or deviations from the Solicitation or Accepted Proposal.

1.13 SUBMITTAL REQUIREMENTS

A. Shop Drawings

1. Transmittal Letter and Other Requirements. All shop drawings must be properly identified with the name of the Project and dated, and each lot submitted must be accompanied by a letter of transmittal referring to the name of the Project and to the Specification section number for identification of each item clearly stating in narrative form, as well as “clouding” on the submissions, all qualifications, departures, or deviations from the Contract Documents. Shop drawings, for each section of the Work shall be numbered consecutively and the numbering system shall be retained throughout all revisions. All Subcontractor submissions shall be made through the Contractor. Each drawing shall have a clear space for the stamps of Architect and Contractor.

2. Copies Required. Each submittal shall include one (1) original drawing, one (1) PDF format digital file, and five (5) legible prints of each drawing or schedule, table, cut sheet, etc., including fabrication, erection, layout and setting drawings, and such other drawings as required under the various sections of the Specifications, until final acceptance thereof is obtained. Subcontractor shall submit copies, in an amount as requested by the Contractor, of: (1) manufacturers’ descriptive data for materials, equipment, and fixtures, including catalog sheets showing dimensions, performance, characteristics, and capacities; (2) wiring diagrams and controls; (3) schedules; (4) all seismic calculations and other calculations; and (5) other pertinent information as required by the District or Architect.

3. Corrections. The Contractor shall make all corrections required by Architect and shall resubmit, as required by Architect, corrected copies and digital files of shop drawings or new samples until approved. Contractor shall direct specific attention in writing or on resubmitted shop drawings to revisions other than the corrections required by the Architect on previous submissions. Professional services required for more than one (1) re-review of required submittals of shop drawings, product data, or samples are subject to charge to the Contractor by the District.

4. Approval Prior to Commencement of Work. No portion of the Work requiring a shop drawing or sample submission or other submittal shall be commenced until the submission has been reviewed by Contractor and Architect and approved by Architect unless
specifically directed in writing by the Architect. All such portions of the Work shall be in accordance with approved shop drawings and samples.

5. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed detail.

6. Fully illustrate requirements of the Contract Documents. Include the following information, as applicable:
   a. Dimensions
   b. Weights and measures
   c. Identification of products
   d. Fabrication and installation drawings
   e. Roughing-in and setting diagrams
   f. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring
   g. Electrical power requirements
   h. Shopwork manufacturing instructions
   i. Templates and patterns
   j. Schedules
   k. Design calculations
   l. Compliance with specified standards
   m. Notation of coordination requirements
   n. Notation of dimensions established by field measurement
   o. Relationship to adjoining construction clearly indicated
   p. Seal and signature of California professional engineer or other engineer if specified
   q. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring
   r. Other information as necessary or required by the Contract Documents

B. Samples

1. Samples Required. In case a considerable range of color, graining, texture, or other characteristics are anticipated in finished products, a sufficient number of samples of the specified materials shall be furnished by the Contractor to indicate the full range of characteristics which will be present in the finished products; and products delivered or erected without submittal and approval of a full range of samples shall be subject to rejection by the District.
   a. Except for range samples, and unless otherwise called for in the various sections of the Specifications, samples shall be submitted in duplicate.
   b. All samples shall be marked, tagged, or otherwise properly identified with the name of the submitting party, the name of the Project, the purpose for which the samples are submitted and the date, and shall be accompanied by a letter of transmittal containing
similar information, together with the Specification section number. Each tag or sticker shall have clear space for the review stamps of Contractor and Architect.

2. Labels and Instructions. All samples of materials shall be supplied with the manufacturer’s descriptive labels and application instructions.

3. Architect’s Review. The Architect will review and, if appropriate, approve submissions and will return them to the Contractor with the Architect’s stamp and signature applied thereto, indicating the timing for review and appropriate action in compliance with the Contract Documents.

4. Identification: Attach label on unexposed side of Samples that includes the following information:
   a. Generic description of Sample
   b. Product name and name of manufacturer
   c. Sample source
   d. Number and title of appropriate Specification Section
   e. District Project name and number
   f. Contractor’s name
   g. Date of submittal

5. Disposition: Maintain sets of all approved Samples at Project site, available for quality-control comparisons throughout the course of the Project. Sample sets may be used to determine final acceptance of construction associated with each sample or sample set.
   a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
   b. Samples not incorporated into the Work, if any, or otherwise designated as District’s property, are the property of Contractor.

6. Samples for Initial Selection: Submit manufacturer’s color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
   a. Number of Samples: Submit 6 full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer’s product line.

7. Samples for Verification: Where required by the Contract Documents, submit full-size units of Samples, prepared from the same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
   a. Number of Samples: Unless indicated otherwise, submit six sets of Samples. Architect will retain two Sample sets; remaining four sets will be returned.
i) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.

ii) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by Sample, submit at least four sets of paired units that show approximate limits of variations.

8. District’s Property. All shop drawings, computer disks, annotated specifications, samples, and other submittals shall become the District’s property upon receipt by the District or Architect.

C. Other Submittals

1. General: Prepare and submit Submittals required by other Specification Sections.

   a. Test and Inspection Reports: Comply with requirements specified in Section 01400 Quality Control Requirements.

   b. Coordination Drawings: Comply with requirements specified in Section 01311 Project Management and Coordination.

      i) Coordination Drawings are required where limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.

      ii) Contractor shall not start any portion of the Work without approval of coordination submittals from the Architect.

   c. Coordination Documents (Mechanical, Electrical, and Plumbing)

      i) Contractor is required to submit Coordinated Mechanical, Electrical, Plumbing Layout Drawings to coordinate installation and location of HVAC ductwork, grilles, diffusers, hydronic piping, fire sprinklers, plumbing, light fixtures and electrical services (including, but not limited to floor boxes, conduits, cable trays, low voltage systems, fire alarm, etc.).

      ii) Coordinated MEP Layout Drawings are to be composite ¼” equals 1 foot scale drawings that show all services color-coded on a single sheet. Drawings are to be coordinated with structural framing systems and architectural systems (roofing, ceilings, finishes). Section drawings, with detailed elevations above finished floor for ducts, piping, fixtures, etc. are to be included to identify and avoid conflicts.

      iii) Coordination Documents shall be submitted for review by Architect and engineers prior to submittal of MEP shop drawings.

      iv) Shop drawings for the systems noted in 1.07.A.2 will not be reviewed before the MEP Coordination Documents are signed off by representatives of each of the Mechanical and Electrical sub-contractors as well as the Contractor.

      v) Contractor to hold coordination meetings to complete these Coordination Documents, attended by all Mechanical, Electrical, and Plumbing sub-contractors whose work scope is represented in the Coordination Documents. These meetings shall be scheduled in the CPM Schedule.
vi) No fabrication work or field installation shall commence before the Coordination Documents are signed off by representatives of each of the Mechanical, Electrical, and Plumbing sub-contractors.

vii) See Mechanical, Electrical, and Plumbing Specification Sections for additional requirements.

2. **Product Data:** Submit manufacturer’s printed literature in original form as required in the Contract Documents. Submittal shall include specifications, physical dimensions, and ratings of all equipment. Furnish performance curves for all fans and pumps. Where printed literature describes items in addition to that item being submitted, submitted item shall be clearly marked on submittal and superfluous information shall be crossed out in the same manner on all copies. Equipment submittals shall be complete and include space requirements, weight, electrical and mechanical requirements, performance data, and any supplemental information that may be available or requested.

3. **Qualification Data:** Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

4. **Welding Certificates:** Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Report (PQR) on AWS forms. Include names of firms and personnel certified.

5. **Installer Certificates:** Prepare written statements on manufacturer’s letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

6. **Manufacturer Certificates:** Prepare written statements on manufacturer’s letterhead certifying that product complies with requirements in the Contract Documents.

7. **Material Certificates:** Prepare written statements on manufacturer’s letterhead certifying that material complies with requirements in the Contract Documents.

8. **Material Test Reports:** Prepare reports written by a qualified testing agency, on testing agency’s standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

9. **Product Test Reports:** Prepare written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

10. **Research/Evaluation Reports:** Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
    a. Name of evaluation organization
    b. Date of evaluation
    c. Time period when report is in effect
    d. Product and manufacturer’s names
    e. Description of product
f. Test procedures and results

11. Schedule of Tests and Inspections: Comply with requirements specified in Section 01400 Quality Control Requirements.

12. Preconstruction Test Reports: Prepare test reports written by a qualified testing agency, on testing agency’s standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

13. Compatibility Test Reports: Prepare test reports written by a qualified testing agency, on testing agency’s standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

14. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency’s standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

15. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements specified in Section 01785 (Operation and Maintenance Data.)

16. Manufacturer’s Installation and Operations Instructions: Prepare written or published information that documents manufacturer’s recommendations, guidelines, and procedures for installing or operating a product or equipment. Manufacturer’s Instructions shall be available for review on site at all times. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:
   a. Preparation of substrates
   b. Required substrate tolerances
   c. Sequence of installation or erection
   d. Required installation tolerances
   e. Required adjustments
   f. Recommendations for cleaning and protection

17. Manufacturer’s Field Reports: Prepare written information documenting factory-authorized service representative’s tests and inspections. Include the following, as applicable:
   a. Name, address, and telephone number of factory-authorized service representative making report.
   b. Statement on condition of substrates and their acceptability for installation of product.
   c. Statement that products at Project site comply with requirements.
   d. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
   e. Results of operational and other tests and a statement of whether observed performance complies with requirements.
f. Statement whether conditions, products, and installation will affect warranty.
g. Other required items indicated in individual Specification Sections.

18. DEFERRED APPROVALS
   a. Submit detailed plans, specifications and engineering calculations for all deferred approval items.
   b. Calculations and drawings of structural nature shall be prepared and signed by a Structural Engineer registered in the State of California.
   c. Submit 6 complete sets. If revisions are necessary, the Architect will return one copy to the Contractor. Resubmit 6 complete sets with all corrections. Three sets will be sent to D.S.A. for review.
   d. If revisions are required by D.S.A., make the corrections and submit 6 complete sets with all corrections, along with D.S.A. check set, to the Architect. After D.S.A. approval, one D.S.A. approved set will be returned to the Contractor.
   e. Contractor shall distribute DSA approved documents to CM, PM, IOR and other designated sub-contractors
   f. Fabrication and installation of deferred approval items shall not be started until detailed plans, specifications and engineering calculations have been accepted by the Architect and the Division of the State Architect.

PART 2 - PRODUCTS: Not Used.

PART 3 - EXECUTION: Not used

END OF SECTION 01330
SECTION 01340
ADMINISTRATIVE FORMS & LOGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS

A. Section 01015 – “Project Phasing”
B. Section 01290 – “Payment Procedures”
C. Section 01310 – “Construction Scheduling”
D. Section 01311 – “Project Management and Coordination”
E. Section 01330 – “Submittal Procedures”
F. Section 01625 - “Product Options and Substitutions”
G. Section 01780 – “Project Record Documents”
H. Divisions 2 through 33 Sections for Administrative Forms & Logs requirements for the Work in those Sections.

1.3 SUMMARY

A. This section specifies the information and format requirements for administrative forms and logs.

1.4 ADMINISTRATIVE FORMS & LOGS

A. Administrative forms and logs include, but are not limited to, the following:
   1. Transmittal Form
   2. Submittal Transmittal Form
   3. Request for Information Form.
   4. Substitution Request Form.
   5. 3-Week Projected Construction Schedule Form
   6. 3-Week Testing & Inspection Schedule Form
   7. Proposed Change Order Form.
   8. Change Order Form.
   9. Request for Information Log Form.
   10. Submittal Log Form
11. Proposed Change Order Log Form.
12. Change Order Log Form.
13. Contractor's Proposal for Contract Modification Form* (includes sample numbers to demonstrate calculations only)
14. Contractor Production Report

B. Forms generated by project management software may be substituted if substitution forms contain essentially the same information as shown in these Contract Documents. Allowance for the use of substitute forms is at the sole discretion of the District, and shall be requested and approved before use of the substitute form. Forms marked with an asterisk (*) may NOT be substituted under any condition.

C. Microsoft Excel files of these forms are available for Contractor use from the District.

1.5 FORMS INCORPORATED BY REFERENCE

A. Forms available from the California Department of General Services, Division of the State Architect, http://www.dgs.ca.gov/dsa/Forms.aspx, related to administration, construction, testing, and inspection of public work school facilities are hereby incorporated by reference into these Contract Documents.

1.6 CONTRACTOR RESPONSIBILITIES

A. Nothing in this Section 01340 including, but not limited to the above forms and log forms shall be construed to limit, relieve, or release Contractor from liability to District for any damages sustained as a result of inaccurate or incorrect information supplied by the Contractor.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.
## Transmittal

**To:** Contra Costa Community College District  
500 Court Street, Martinez, CA 94553-1203  
Phone: (925) 229-1000  
Fax: (925) 335-9697  
Attr: ____________________________________________

**From:**  
__________________________________________________

**Date:** ____________________________

**Via:**  
- [ ] Fax  
- [ ] Hand Delivery  
- [ ] US Mail  
- [ ] Pick-Up  
- [ ] Overnight Mail  
- [ ] Email  
- [ ] Other ____________________________

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<th>Plans</th>
<th>Specifications</th>
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For Your Info  
For Your Approval  
As Requested  
As Required per Contract Para: ____________________________

**Remarks:**  
__________________________________________________

*Copy To:*

**From:**  
__________________________________________________  
Print Name: ________________________________________  
Signature: ________________________________________

**Received by:**  
__________________________________________________  
Print Name: ________________________________________  
Signature: ________________________________________  
Date: ____________________________
# Submittal Transmittal

**To:**  

**Via:**  

**Attn:**  

**Contract No.:**  

**Project No. and Name:**  

**Date:**  

**Transmittal No.:**  

**From:**  

---

**Specification Section:**  
- Shop Drawings
- Copy of Letter
- D&M Manual
- Test Reports
- Certificate
- Project Closeout Documents

**Request Return (per Schedule):**  
- Plans
- Samples
- Product Data
- Warranty Documents

**Action Codes:**  
- No Exception Taken (NET)
- Make Correction Noted (MCN)
- Revise and Resubmit (RR)
- Submit Specified Item (SSI)
- Rejected (R)

---

**CONTRACTOR USE ONLY**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Para No. and/or Dwg No.</th>
<th>Item Identification (Type, size, model no., Mfg. Name, dwg, or brochure no.)</th>
<th>No. of Copies</th>
<th>Action Code</th>
<th>Reviewer Initials and Date</th>
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**Contractor Comments:**

---

**Copies of Submittals to District:**  

- Yes
- No

**Contractor Signature:**

---

**Reviewer Use Only:**

- Date Rec’d by Reviewer:
- From (Reviewer):
- To (DISTRICT):
- PROJECT MANAGER OR CONSTRUCTION MANAGER

**Reviewer Signature:**

---

**Copy To:**  

**Received by:**  

**Print Name:**

**Signature:**

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Page 1 of 1
## Request for Information (RFI)

<table>
<thead>
<tr>
<th>ITEM</th>
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### Suggestion:

Request Issued By:

- Contractor's Signature
- Name (Printed)
- Date

### ITEM Response:

Response Issued By:

- Architect/Engineer Signature
- Name (Printed)
- Date

Response Reviewed By:

- Owner Authorized Representative
- Name (Printed)
- Date

### Note to Contractor:

This Form Cannot Modify Contract Amount or Milestones and/or Contract Time.
CONTRA COSTA COMMUNITY COLLEGE DISTRICT
500 Court Street, Martinez, CA 94553

SUBSTITUTION REQUEST FORM

Contractor Name: ________________________________
Contract #: ________________________________

RFS #: ________________________________
DSA Application #: ________________________________
Campus: ________________________________
Project No., Name: ________________________________

Contractor pursuant to General Conditions submits the proposed items. If the District accepts such items as described, the undersigned may furnish such items with all necessary labor, materials, equipment and incidentals to perform and complete the Work.

<table>
<thead>
<tr>
<th>Item No.</th>
<th>SPECIFIED/ITEM OR DRAWING</th>
<th>SPECIFICATION SECTION</th>
<th>PROPOSED SUBSTITUTION (and name of Subcontractor if different)</th>
</tr>
</thead>
</table>

CERTIFICATION
Under penalty of perjury under the Laws of California, I certify that the proposed substitution will be readily available, perform adequately the functions and achieve the results called for by the design concept, be similar in substance to the specified, and be subject to the same use as that specified in Contract Documents.

Contractor: ________________________________
(Please print name of company) ________________________________
Name and Title (printtype) ________________________________
Contractor Authorized/Representative ________________________________
Date: ________________________________

A. Does the substitution affect dimensions shown on Drawings?

B. Will the undersigned pay for changes to the building design, including engineering and detailing costs caused by the requested substitution?

C. What effect does the substitution have on other trades?

D. Will substitution cause change to Project Schedule, or to critical delivery dates? Add? Shorten?

E. Differences between proposed substitution and specified item?

F. What is the Cost Differential including all markup?

G. Are Manufacturer’s guarantees for the proposed item the same as for item specified? Explain differences.

H. The undersigned accepts full responsibility for delays caused by redesign of other items of the Work necessitated by substitution.

I. The undersigned states that the function, appearance and quality are equivalent or superior to the specified item.

A/E Response: ________________________________
O Accepted
O Not Accepted
O Accepted As Noted
O Received Too Late

District Representative Response: ________________________________
O Accepted
O Not Accepted
O Accepted As Noted
O Received Too Late

By: ________________________________ Date: ________________________________
By: ________________________________ Date: ________________________________
<table>
<thead>
<tr>
<th>Project Phase No.</th>
<th>Scope of Work</th>
<th>Remarks</th>
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<tbody>
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<td>1</td>
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**Start Date: Week 1**

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**Week 2**

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**Week 3**

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**Finish Date:**

The table continues with additional weeks and phases, showing the projected construction schedule for the project phases.
### 3-Week Projected Testing and Inspection Schedule

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<th>Item</th>
<th>Task</th>
<th>Required IOR Inspection YES or NO</th>
<th>Reg'd Testing Lab. Ins. Y/N</th>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
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Project Phase #

Remarks:

Submitted by: [Print Name]

Sign & Date:

---

K:\Project Filing System\CCOC\C\Coll.Merch.\Design03\Design Dev\3.40 Const Docs Phase3.45 Specs & Prods\CCC-DIVISION 0 & 1\DRAFT\Div 0 and 1 working templates\Forms & Logs\Templates\3-Week Projected Testing and Inspection Schedule.xls
CONTRA COSTA COMMUNITY COLLEGE DISTRICT
500 Court Street, Martinez, CA 94553

PROPOSED CHANGE ORDER
PCO No.:  

Contractor Name:  
Contract #:  
Contract Date:  
NTP Date:  
GL #:  

Date:  7-C1
DSA File #: 
DSA Application #: 
Campus: 
Project No., Name: 

PRELIMINARY CHANGE AS FOLLOWS:
Within (7) days provide and submit to the Project Manager a complete and itemized proposal including but not limited to the following items: cost breakdown of labor, material, equipment, markup, construction schedule, etc. Provide either ADD or DEDUCT to the original Contract Amount.

Scope of Work:  
Ref. (Drawings, Specifications, Others):  

Final Cost of this PCO: $0.00
The Contractor requests that time will be Increased:  Decreased:  By  Working Days  

NOTE: The Contractor waives any claim for further adjustments of the Contract Sum and Contract Time related to the changes in Work as described above.

1 - REVIEWED & RECOMMENDED  (Architect/Engineer of Record)  

5 - CONTRACTOR ACCEPTANCE

| Company Name: | 
| Address: | 

Stamp (when applicable)  
Signature/Date  

2 - CONSTRUCTION MANAGER (CM)  (when applicable)  

Authorized Representative, Name & Title (PRINT)  
Signature/Date  

3 - PROJECT INSPECTOR (PI)  (when applicable)  

Signature/Date  

4 - PROJECT MANAGER (PM)  

Signature/Date  

6 - DISTRICT REPRESENTATIVE

DSA APPROVAL (when applicable)  

Signature/Date  

Page 1 of 1
CHANGE ORDER No.: 

<table>
<thead>
<tr>
<th>Contractor Name:</th>
<th>Date:</th>
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<tbody>
<tr>
<td>Contract #:</td>
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<td>DSA Application #:</td>
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<td>NTP Date:</td>
<td>Campus:</td>
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<tr>
<td>GL #:</td>
<td>Project No., Name:</td>
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THE CONTRACT IS CHANGED AS FOLLOWS: (Attach Contractor Change Order Request or Proposal - if applicable)

<table>
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<tr>
<th>ADJUSTMENT TO CONTRACT AMOUNT / TIME</th>
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<tbody>
<tr>
<td>Original Contract Amount</td>
</tr>
<tr>
<td>Prior Contract Adjustments</td>
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<tr>
<td>Contract Sum Prior to this Change Order</td>
</tr>
<tr>
<td>Adjustment Per This Change Order</td>
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<tr>
<td>Revised Contract Amount</td>
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</tbody>
</table>

Original Contract Period: Start Date: End Date:
The Contract Time will be Increased: Decreased: By Calendar Days
Revised Contract Completion Date:

NOTE: The Contractor waives any claim for further adjustments of the Contract Sum and Contract Time related to the above changes in Work.

1 - REVIEWED & RECOMMENDED (Architect/Engineer of Record)

5 - CONTRACTOR ACCEPTANCE

<table>
<thead>
<tr>
<th>Company Name:</th>
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<tr>
<td>Address:</td>
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2 - CONSTRUCTION MANAGER (CM) - (when applicable)

<table>
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<th>Signature/Date</th>
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<tr>
<td>Authorized Representative Name &amp; Title (PRINT)</td>
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</table>

3 - PROJECT INSPECTOR (PI) - (when applicable)

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<th>Signature/Date</th>
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4 - PROJECT MANAGER (PM)

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DSA APPROVAL (when applicable)

[Signature/Date]
## Request For Information Log - RFI LOG

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<tr>
<th>RFI No.</th>
<th>Requested By</th>
<th>Description</th>
<th>Date Submitted to AIE for Review</th>
<th>Date Returned to Contractor</th>
<th>RFI Returned with All or PCC (when applicable)</th>
<th>RFI Reviewed and Responded by:</th>
<th>Date Returned to DBA</th>
<th>Date of Return from DSA</th>
<th>Distribution List</th>
<th>Remarks</th>
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<td>C-608 PE &amp; Kinesiology Complex Renovation</td>
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### Table

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<th>Project Submittal Analysis</th>
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### Notes

- Project Submittal Analysis:
  - Number of Submittals
  - Avg. Size of Submittals
  - Avg. Size of Submittals

- Number of Submittals:
  - Number of Submittals
  - Avg. Size of Submittals

- Number of Documents:
  - Number of Documents
  - Avg. Size of Documents

- Number of Submissions:
  - Number of Submissions
  - Avg. Size of Submissions

- Number of Submissions:
  - Number of Submissions
  - Avg. Size of Submissions

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<th>Number of Submissions</th>
<th>Number of Open Comments</th>
<th>Project Submittal Analysis</th>
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</table>
## CHANGE ORDER Log

### General Information
- **Contractor Name:**
- **Contract #:**
- **DSA File #:**
- **DSA Application #:**
- **Campus:**
- **Project No. and Name:**

### Change Order Log Table

<table>
<thead>
<tr>
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<th>Date</th>
<th>Description</th>
<th>Date Submitted to DSA</th>
<th>Date Returned from DSA</th>
<th>DSA Comments</th>
<th>Distribution List</th>
<th>Date of Issue</th>
<th>Amount Approved</th>
<th>Time Extension (Calendar Days)</th>
<th>Remarks</th>
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### Adjustment to Contract Amount/Time

- **Original Contract Amount:** $0.00
- **Contract Adjustments:** $0.00
- **Revised Contract Amount:** $0.00
- **Original Contract Completion Date:**
- **Number of Calendar Days Adjusted:**
- **Revised Contract Completion Date:**

### Remarks

- **Total Approved Changes:** $0
## Project Re-inspection Record

**By:** Project Inspector  

<table>
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<th>Hours</th>
<th>Description</th>
<th>List of Re-inspection by IOR (if applicable)</th>
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<td>Date / Hours</td>
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| Sun. | | | |

**Signature**  

Print name: Inspector of Record  

Date:

**Signature**  

Print name: Project Manager  

Date:
## CONTRACTOR'S PROPOSAL FOR CONTRACT MODIFICATION

ujący:

### Project No. and Name:

### Prime Contractor:

#### SHORT DESCRIPTION OF CHANGE:

- Description attached

### PRIME CONTRACTOR'S WORK

<table>
<thead>
<tr>
<th>Description</th>
<th>Percentage</th>
<th>Unit Price</th>
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<td>4. Insurance, Taxes, and Fringe Benefits</td>
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<td>6. Rental Equipment</td>
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<td>7. Sales Tax on Rental Equipment</td>
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<td>8. Equipment Ownership and Operating Expenses</td>
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<td>9. SUBTOTAL Equipment (Add lines 6-8)</td>
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<tr>
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<td>11. Overhead and Profit On Prime Material and Labor</td>
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<td>$0.00</td>
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<tr>
<td>12. Overhead and Profit On Prime Equipment</td>
<td>10.00%</td>
<td>$0.00</td>
<td>$0.00</td>
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<tr>
<td>13. Total of Subcontractor's Work (See Backup)</td>
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<td>14. Prime's Overhead on all Subcontractor's Work</td>
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<td>15. SUBTOTAL (Add Lines 10-14)</td>
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<tr>
<td>16. Prime Contractor's Bond Premium</td>
<td>1%</td>
<td>$0.00</td>
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<tr>
<td>17. TOTAL COST (Add Lines 15-16)</td>
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### Estimated time extension and justification (attach schedule analysis):

- Work Days:

### Prime Contractor's Comments:

<table>
<thead>
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<th>Number</th>
<th>Description</th>
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<tr>
<td>1</td>
<td>Material (attach itemized quantity and unit cost plus sales tax)</td>
</tr>
<tr>
<td>2</td>
<td>Labor (attach itemized hours and rates)</td>
</tr>
<tr>
<td>3</td>
<td>Liability and Property Damage/Insurance, Worker's Compensation Insurance, Social Security, and Unemployment Taxes, not to exceed as follows: HCA @ 8.2% with a wage ceiling of $94,995; Medicare @ 1.45% with no wage ceiling; IL/IA @ .93% with a wage ceiling of $7,000; Workers' Compensation @ 1.94% with a wage ceiling of $7,000; ESI and SUI @ 2.93% with a wage ceiling of $10,000. Total net-to-excess is 19.1%. (Note: Modifications to these percentages will be evaluated and prorated only on a case-by-case basis and only after proper proof of alternate percentages are documented and approved in advance. In addition, as wage ceilings are met, those corresponding percentages must drop from the &quot;burden&quot; calculations.)</td>
</tr>
<tr>
<td>4</td>
<td>(Optional) Equipment (attach invoices)</td>
</tr>
<tr>
<td>5</td>
<td>(Optional) If Subcontractor performed Work, use Subcontractor's sheets to calculate costs.</td>
</tr>
<tr>
<td>14</td>
<td>Prime Contractor's Overhead and Profit on Subcontractor work. No more than five percent (5%) of item (13). Subcontractor overhead and profit (all costs cumulative) not to exceed fifteen percent (15%) of the lowest tier Subcontractor Total Cost.</td>
</tr>
<tr>
<td>15</td>
<td>Bond not to exceed two percent (2%) of item (16). Use actual percentage from Performance/Payment bonds submitted at contract award.</td>
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### Signature and Title of Preparer:

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
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<tbody>
<tr>
<td>Signature</td>
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Contra Costa Community College District  
Contra Costa College  
C-608 PE & Kinesiology Complex Renovation  
Section 01340 - Page 16 of 24  
Administrative Forms & Logs
CONTRACTOR'S PROPOSAL FOR CONTRACT MODIFICATION

(05/11)

<table>
<thead>
<tr>
<th>Project No. and Name:</th>
<th>CONTRACT NO.:</th>
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<tbody>
<tr>
<td>Tier 1 Subcontractor:</td>
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<tr>
<td></td>
<td></td>
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</table>

SHORT DESCRIPTION OF CHANGE: [Description attached]

TIER 1 SUBCONTRACTOR’S WORK

| 1. Direct Materials | $ - |
| 2. Sales Tax on Materials | 9.25% of Line 1 | $0.00 |
| 3. Direct Labor     | $ -  |
| 4. Insurance, Taxes, and Fringe Benefits | 19.19% of Line 3 | $0.00 |
| 5. SUBTOTAL Materials and Labor (add lines 1-4) | $0.00 |
| 6. Rental Equipment | $ -  |
| 7. Sales Tax on Rental Equipment | 9.25% of Line 5 | $0.00 |
| 8. Equipment Ownership and Operating Expenses | $ -  |
| 9. SUBTOTAL Equipment (add Lines 6-8) | $0.00 |

SUMMARY

| 10. TIER 1 Contractor's Work (Add Lines 5 and 8) | $0.00 |
| 11. Overhead and Profit On TIER 1 Material and Labor | 15.00% of Line 9 | $0.00 |
| 12. Overhead and Profit On TIER 1 Equipment | 10.00% of Line 9 | $0.00 |
| 13. Total of all Subcontractor's Work (See Backup) | $0.00 |
| 14. Tier 1 Overhead on Subcontractor's Work | 0.00% of Line 10 | $0.00 |
| 15. SUBTOTAL (Add Lines 10-14) | $0.00 |
| 16. TIER 1 Contractor’s Bond Premium | 1% of Line 16 | $0.00 |
| 17. TOTAL COST (Add Lines 15-16) | $0.00 |

Estimated time extension and justification: [Work Days]

Subcontractor's Comments:

Prime Contractor's Name:

Signature and Title of Preparer: Date:

(1) Material (attach itemized quantity and unit cost plus sales tax)
(2) Labor (attach itemized hours and rates)
(3) L&I, and Property Damage Insurance, Worker's Compensation Insurance, Social Security, and Unemployment Taxes, not to exceed as follows:
   FICA @ 6.2% with a wage ceiling of $84,900; Medicare @ 1.45% no wage ceiling; FUTA @ .8% with a wage ceiling of $7,000; EIT and SUI @ 2.3% with a wage ceiling of $7,000; Workers' Compensation @ 5.94%; Liability and Property Damage @ 2.5%. Total not to exceed 11.91%. (Note: Modifications to these percentages will be evaluated and possibly modified only on a case-by-case basis and only after proper proof of alternate percentages are documented and approved in advance. In addition, as wage ceilings are met, these corresponding percentages must drop from the "burden" calculations.)
(4) Equipment (attach invoices)
(13) If lower tier Subcontractor performed work, use Subcontractor's sheets to calculate costs.
(14) Subcontractor's overhead and profit on lower tier Subcontractor work. No more than five percent (5%) of item (13). Subcontractor overhead and profit (all items cumulative) not to exceed fifteen percent (15%) of the lowest tier Subcontractor Total Cost.
(15) Bond not to exceed two percent (2%) of item (16). Use actual percentage from Performance Payment bonds submitted at contract award.
### INSTRUCTIONS FOR PREPARING CONTRACTOR PROPOSAL FOR CONTRACT MODIFICATION

All contract modification proposals shall be addressed to the District and be received only from the Prime Contractor. Proposals must clearly state the conditions and scope of the modification and shall be accompanied by a breakdown of costs, as indicated. Lump sum costs will not be accepted in either the prime or sub-contractor’s breakdown of direct cost. The total cost for labor, material, and equipment for each item shall be transferred to the corresponding item on the front of this form.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Unit Cost</th>
<th>Total Cost</th>
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<th>Unit Cost</th>
<th>Total Cost</th>
<th>Rate</th>
<th>Days</th>
<th>Rent</th>
<th>Overall Cost</th>
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**Breakdown of Direct Costs**

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<tr>
<th>Description</th>
<th>Unit</th>
<th>Progress Code</th>
<th>Rate</th>
<th>Days</th>
<th>Rent</th>
<th>Overall Cost</th>
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**Continuation Page**: Yes

**Total**: $ $ $ $ $ $
### CONTRACTOR'S PROPOSAL FOR CONTRACT MODIFICATION

**Project No. and Name:**

**Tier 2 Subcontractor:**

**SHORT DESCRIPTION OF CHANGE:** Description attached

#### TIER 2 SUBCONTRACTOR’S WORK

<table>
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<tr>
<th>Item</th>
<th>Percentage of Line</th>
<th>Amount</th>
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<tbody>
<tr>
<td>1. Direct Materials</td>
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</tr>
<tr>
<td>2. Sales Tax on Materials</td>
<td>9.25%</td>
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<tr>
<td>3. Direct Labor</td>
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</tr>
<tr>
<td>4. Insurance, Taxes, and Fringe Benefits</td>
<td>19.19%</td>
<td>$0.00</td>
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<tr>
<td>5. SUBTOTAL Materials and Labor (add lines 2-4)</td>
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<td>6. Rental Equipment</td>
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<tr>
<td>7. Sales Tax on Rental Equipment</td>
<td>9.25%</td>
<td>$0.00</td>
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<tr>
<td>8. Equipment Ownership and Operating Expenses</td>
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<tr>
<td>9. SUBTOTAL Equipment (Add Lines 6-8)</td>
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#### SUMMARY

<table>
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<tr>
<th>Item</th>
<th>Percentage of Line</th>
<th>Amount</th>
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<tbody>
<tr>
<td>10. TIER 2 Contractor’s Work (Add Lines 5 and 8)</td>
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<tr>
<td>11. Overhead and Profit On TIER 2 Material and Labor</td>
<td>15.00%</td>
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<td>12. Overhead and Profit On TIER 2 Equipment</td>
<td>10.00%</td>
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<tr>
<td>13. Total of all Subcontractor’s Work (See Backup)</td>
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<td>14. TIER 2 Overhead on Subcontractor’s Work</td>
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<td>15. SUBTOTAL (Add Lines 10-14)</td>
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<td>16. TIER 2 Contractor’s Bond Premium</td>
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<tr>
<td>17. TOTAL COST (Add Lines 15-16)</td>
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</table>

Estimated time extension and justification: Work Days

#### Tier 2 Subcontractor’s Comments:

**Tier 1 Subcontractor’s Name:**

**Signature and Title of Preparer:**

---

1. Material (attach itemized quantity and unit cost plus sales tax)
2. Labor (attach itemized hours and rates)
3. Liability and Property Damage Insurance, Worker's Compensation Insurance, Social Security, and Unemployment Taxes, not to exceed as follows: FICA @ 6.2% with a wage ceiling of $84,900; Medicare @ 1.45% - no wage ceiling; FUTA @ .8% with a wage ceiling of $7,000; EIT and SU @ 2.3% - with a wage ceiling of $7,000; Workers’ Compensation @ 3.94%; Liability and Property Damage @ 2.5%. Total not-to-exceed 13.19%. (Note: Modifications to these percentages will be evaluated and possibly modified only on a case-by-case basis and only after proper proof of alternate percentages are documented and approved in advance. In addition, as wage ceilings are met, these corresponding percentages must drop from the ‘burden’ calculations).
4. Equipment (attach invoices)
5. If lower tier Subcontractor performed work, use Subcontractor’s sheets to calculate costs.
6. Subcontractor’s Overhead and Profit on lower tier Subcontractor work. No more than five percent (5%) of item (15). Subcontractor overhead and profit (all tiers cumulative) not to exceed fifteen percent (15%) of the lowest tier Subcontractor Total Cost.
7. Bond not to exceed two percent (2%) of item (16). Use actual percentage from Performance/Payment bonds submitted at contract award.
### INSTRUCTIONS FOR PREPARING CONTRACTOR PROPOSAL FOR CONTRACT MODIFICATION

All contract modification proposals shall be addressed to the District and be received only from the Prime Contractor. Proposals must clearly state the conditions and scope of the modification and shall be accompanied by a breakdown of costs, as indicated. Lump sum costs will not be accepted in either the prime or subcontractor’s breakdown of direct cost. The total cost for labor, material, and equipment for each item shall be transferred to the corresponding item on the front of this form.

### TEB 2 SUBCONTRACTOR

#### BREAKDOWN OF DIRECT COSTS

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<th>Equipment</th>
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**Continuation Page (Yes / No)**

**Continuation Totals**

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<th>Name of Work Description</th>
<th>Qty</th>
<th>Unit</th>
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<th>Unit Cost</th>
<th>Labor Total Cost</th>
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**TOTALS for Itemized Costs**

- Total: $0.00
- Rental Cost: $0.00
- Owner Cost: $0.00
**CONTRACTOR'S PROPOSAL FOR CONTRACT MODIFICATION**

**TIER 3 SUBCONTRACTOR'S WORK**

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<th>Direct Labor</th>
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**SUMMARY**

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**Tier 3 Subcontractor's Comments:**

**Tier 2 Subcontractor’s Name:**

**Signature and Title of Preparer:**

Date:

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1. Material (attach itemized quantity and unit cost plus sales tax)
2. Labor (attach itemized hours and rates)
3. Liability and Property Damage Insurance, Workers’ Compensation Insurance, Social Security, and Unemployment Taxes, not to exceed as follows: PIA @ 6.2% with a wage ceiling of $40,800; Medicare @ 1.42% with a wage ceiling of $150,000; FUTA @ 0.8% with a wage ceiling of $7,000; Workers’ Compensation @ 2.5%; Liability and Property Damage @ 2.5%. Total not to exceed 18.13%. Note: Modifications to these percentages will be evaluated and possibly modified only on a case-by-case basis and only after proper proof of alternate percentages are documented and approved in advance. In addition, as wage ceilings are met, these corresponding percentages must drop from the "bidders' calculations".
4. Equipment (attach invoices)
13. If lower tier subcontractor performed work, use subcontractor's sheets to calculate costs.
14. Subcontractor's overhead and profit on lower tier subcontractor work. No more than five percent (5%) of item 13. Subcontractor overhead and profit (at tier cumulative) not to exceed fifteen percent (15%) of the lowest tier Subcontractor Total Cost.
15. Bid not to exceed two percent (2%) of item 16. Use actual percentage from Performance/Payment Bonds submitted at contract award.
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All contract modifications shall be addressed to the District and/or received only from the Prime Contractor. Proposals must define the conditions and scope of the modifications and shall be for said items to be transferred to the corresponding line on back of this form.
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**Total Direct Cost:** $2900
PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
A. Divisions 2 through 28 Sections for Regulatory requirements for the work in those sections.

1.3 SUMMARY
A. This Section includes: regulatory requirements applicable to the Contract Documents and the Project and Work.

    B. Specific reference in the Specifications to codes and regulations or requirements of regulatory agencies shall mean the latest printed edition of each adopted by the regulatory agency in effect at the time of the opening of Proposals, except as may be otherwise specifically stated in the Contract Documents.

    C. No change order shall be considered for any change in any applicable federal, state or local code or regulation if similar language existed in an alternate applicable regulation in force at the time of opening of Bids.

    D. Contractor shall not allow design or construction of any conditions wherein the finished Work will not comply with current applicable codes. No change order shall be considered by District for the Work correction of any Work not complying with code.

    E. This section shall cover 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.

1.4 REFERENCES TO REGULATORY REQUIREMENTS
A. Code, laws, ordinances, rules and regulations referred to shall have full force and effect as though printed in full in these Specifications. Code, laws, ordinances, rules and regulations are not furnished to Contractor because Contractor is assumed to be and shall be familiar with these requirements, including readily available access to these requirements. The listing of applicable codes, laws, and regulations for hazardous waste abatement Work in the Contract Documents is supplied to Contractor as a courtesy and shall not limit Contractor’s responsibility for complying with all applicable laws, regulations or ordinances having application to the Work. Where conflict among the requirements or with these Specifications occurs, the most stringent requirements shall be used with no change in Contract Sum or Contract Time.

    B. Contractor shall conform to all applicable federal, state, and local codes, laws, ordinances, rules and regulations, whether or not referenced in the Contract Documents.

    C. Precedence:
1. Where specified requirements differ from the requirements of applicable codes, ordinances and standards, the more stringent requirements shall take precedence.

2. Where Contract Documents require or describe products or execution of better quality, higher standard or greater size than required by applicable codes, ordinances and standards, Contract Documents shall take precedence so long as such increase is legal.

3. Where no requirements are identified on Contract Documents, comply with all requirements of applicable codes, ordinances and standards of governing authorities have jurisdiction.

1.5 REGULATORY REQUIREMENTS

A. All statutes, ordinances, laws, rules, codes, regulations, standards, and lawful orders of all public authorities have jurisdiction of the Work, are hereby incorporated into these Contract Documents as if repeated in full herein and are intended to be included in any reference to Code or Building Code, unless otherwise specified, including, without limitation, the references in the list below. Contractor shall make available at the Site, copies of all the listed documents applicable to the Work as the District and/or Architect may request, including, without limitation, applicable portions of the California Code of Regulations (“CCR”).

B. This Project shall be governed by applicable regulations, including, without limitation, the State of California’s Code Section Group 1, Chapter 4, Part 1, Title 24, CCR, and the most current version on the date the bids are opened and as it pertains to school construction including, without limitation:

1. Test and testing laboratory per Section 4-335 (District shall pay for the testing laboratory.)
2. All special inspections per Section 4-333(c).
3. Contractor shall submit verified reports per Section 4-365 & 4-343(c).
4. Administration
   a. Duties of the Architect & Engineers shall be per Section 4-333(a) & 4-341.
   b. Duties of the Contractor shall be per Section 4-343.
   c. Verified Reports per Section 4-336.
5. Contractor shall keep and make available a copy of Part I and II of the most current version of Title 24 at the Site during construction.
6. Contractor shall notify the Division of State Architect (“DSA”) upon the start of construction per Section 4-334 if applicable.
7. Addenda and Change Orders per Section 4-338.

1.6 CODES

A. Codes that apply to Contract Documents include, but are not limited to, the following:

5. California Elevator Safety Construction Code, Part 7, Title 24 C.C.R.
7. Public Safety, Title 19, California Code of Regulations, State Fire Marshal Regulations
13. California Code of Regulations (CCR):
   a. Title 8, Industrial Relations (Cal/OSHA Standards).
   b. Title 24, State Access Compliance.
14. California Air Resources Board (CARB), and in particular Rule 1113.
16. State Water Resources Control Board Waste Discharge Requirements
17. County ordinances and regulations.
18. Other codes as specified.

1.7 LAWS, ORDINANCES, RULES, AND REGULATIONS

A. During prosecution of Work to be done under Contract Documents, comply with applicable laws, ordinances, rules and regulations, including, but not limited to, the following:

1. Federal:
   b. 29 CFR, Section 1910.1001, Asbestos
   c. 40 CFR, Subpart M, National Emission Standards for Asbestos
   d. Executive Order 11246
   e. Federal endangered Species Act
   f. Clean Water Act

2. State of California:
   a. California Code of Regulations, Titles 5, 8, 19, 21, 22, 24 and 25
   b. California Public Contract Code
   c. California Health and Safety Code
   d. California Government Code
   e. California Labor Code
   f. California Civil code
   g. California Code of Civil Procedure
h. CPUC General Order 95, Rules for Overhead Electric Line Construction
i. CPUC General Order 128, Rules for Construction of Underground electric Supply and Communications systems
j. Cal/OSHA
k. OSHA: Hazard Communications Standards
l. California Endangered Species Act
m. Water Code

3. State of California Agencies:
   a. State and Consumer Services Agency
   b. Office of the State Fire Marshall
c. Not used
d. Bay Area Air Quality Management District
e. San Francisco Bay Regional Water Quality Control Board
   f. Division of the State Architect

4. Local Agencies:
   a. City of Brentwood, California
   b. Contra Costa County Fire Protection Department

5. Other Requirements:
   b. References on Drawings on in specifications to “code” or “building code” not otherwise identified shall mean the codes specified in this Section 1410 together with all additions, amendments, changes, and interpretations adopted by code authorities of the jurisdiction.

B. Contractor shall have immediate access to all of the foregoing.

C. Other Applicable Laws, Ordinances and Regulations:
   1. Work shall be accomplished in conformance with all applicable laws, ordinances, rules and regulations of federal, state, and local governmental agencies and jurisdictions having authority over the Project.
   2. Work shall be accomplished in conformance with all rules and regulations of public utilities and utility districts.
   3. Where such laws, ordinances, rules and regulations require more care or greater time to accomplish Work, or require better quality, higher standards or greater size of products, Work shall be accomplished in conformance to such requirements with no change to the Contract Time and Contract Sum, except where changes in laws, ordinances, rules and regulations occur subsequent to the time of opening of the Proposals.

D. Under California Government Code Section 930.2 et. Seq. and Public Contract Code Section 7105(d)(2), neither the Contract Claims Procedure nor the Change Order Procedure may be modified, waived, or otherwise not complied with, absent a written change order that explicitly and expressly makes such modifications.

1.8 CONFLICTS
A. Between reference regulatory requirements: Comply with the one establishing the more stringent requirement.

B. Between referenced regulatory requirements and Contract Documents: Comply with the one establishing the more stringent requirement.

1.9 COMPLIANCE WITH AMERICANS WITH DISABILITIES ACT

A. Contractor acknowledges that, pursuant to the Americans with Disabilities Act (ADA), programs, services and other activities provided by a public entity to the public, whether directly or through a contractor, must be accessible to people with disabilities. Contractor shall provide the services specified in the Contract Documents in a manner that complies with the ADA and any and all other applicable federal, state and local disability rights legislation. Contractor agrees not to discriminate against people with disabilities in the provision of services, benefits, or activities provided and further agrees that any violation of this prohibition on the part of Contractor, its employees, agents or assigns shall constitute a material breach of the Contract Documents.

PART 2 - PRODUCTS
Not Used.

PART 3 - EXECUTION
Not Used.

END OF SECTION 01410
SECTION 01411
TESTING LABORATORY SERVICES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS
   A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in
   this document, and provisions in the General Conditions and other Division 1 Specification
   Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
   A. Section 01010 – “Summary of Work”
   B. Section 01400 – “Quality Control Requirements”
   C. Section 01410 – “Regulatory Requirements”
   D. Section 01412 – “Hazardous Material”
   E. Section 01770 – “Contract Closeout Procedures”
   F. Division 2 through 33 Sections for Special Inspections, tests required and standard for testing.

1.3 SUMMARY
   A. This section describes the requirements and procedures for work involving the testing
   laboratory.

1.4 REFERENCES
   A. CBC - California Building Code.
   B. CCR - California Code of Regulations.
   C. ANSI/ASTM D3740 – Practice for Evaluation of agencies Engaged in Testing and/or Inspection of
   Soil and Rock as Used in Engineering Design and Construction.
   D. ANSI/ASTM E329 – Standard Recommended Practice for Inspection and Testing Agencies for
   Concrete, Steel and Bituminous Materials as Used in Construction.

1.5 REGULATORY REQUIREMENTS
   A. Testing, sampling and preparing samples will be in accordance with the standards referenced in
   individual specification sections and in the applicable sections of CBC State Chapters.
   B. Testing and submitting test reports will conform to provisions of Section 4-335, Part 1, Title 24,
   CCR.
   D. Laboratory shall maintain a full-time registered Engineer on staff to review services.
   E. Laboratory authorized to operate in State in which Project is located.
F. Testing Equipment shall be calibrated at reasonable intervals with devices of accuracy traceable to either NSB Standards or accepted values of natural physical constants.

1.6 SELECTION AND PAYMENT

A. The District will employ and pay for the services of testing laboratory and/or testing agencies acceptable to the Division of the State Architect to conduct required tests and inspections for the Project.

1. Soils: The testing laboratory will observe excavating, grading, and filling operations and provide testing of soil materials as required by the Division of the State Architect and as specified in the Contract Documents. The Soils Engineer will have management, laboratory and field supervisory personnel with minimum 5 years experience in testing and inspection of soils materials and will have adequate facilities, equipment, and technical references to permit performance of testing and inspections within applicable regulations and standards in accordance with Section 4-335, Part 1, Title 24, CCR.

2. Other Construction: The testing laboratory will conduct tests, inspections, and special inspections as required by the Division of the State Architect and as specified in the Contract Documents.
   a. Construction Requiring Testing and Inspection Other Than Special Inspection: The testing laboratory will have management, laboratory and field supervisory personnel with minimum 5 years experience in testing and inspection of work and materials of construction and will have adequate facilities, equipment, and technical references to permit performance of testing and inspections within applicable regulations and standards in accordance with Section 4-335, Part 1, Title 24, CCR.
   b. Construction Requiring Special Inspection: The testing laboratory will have special inspectors approved by the Division of the State Architect to conduct special inspections as required by the Division of the State Architect under provisions of Section 4-333, Part 1, Title 24, CCR.

B. Retesting: When initial tests indicate non-compliance with the Contract Documents, subsequent retesting caused by the non-compliance shall be performed by the same testing agency and the costs thereof will be deducted by the District from the Contractor’s Contract Price by Change Order.

C. Retesting Covered Work: Re-examination of previously tested and inspected work may be ordered by the District. The Contractor shall uncover such work if retesting is ordered. If work is found in accordance with Contract Documents, the District will pay costs of uncovering, removing, retesting and replacing. If work is found not in accordance with Contract Documents, the District will deduct the cost of retesting from the Contract Price by Change Order and the Contractor will bear the costs of uncovering, removing and replacing work.

D. Testing and inspecting performed for Contractor's convenience, such as testing and inspection to establish equivalence of substitutions, equivalence of repairs to damaged materials, and testing and inspecting to expedite the operations, shall be the Contractor’s responsibility.
1. The Contractor shall employ a licensed professional engineer of the discipline required to develop a testing program which will establish equivalency.

2. The Contractor shall submit the testing program to the District for review.

3. The Contractor shall arrange testing in accordance with the accepted testing program to be performed by the District's testing laboratory.

4. The costs of testing done by the District's testing laboratory for the Contractor will be deducted from the Contract Price by Change Order.

5. The Contractor may not arrange for testing upon portions of the work already completed except with the written consent of the District and Architect.

E. Employment of testing laboratory shall in no way relieve Contractor of obligation to perform work in accordance with requirements of Contract Documents.

F. The District shall have the right to make tests at any time on materials or work done whether those materials are specified or substituted items.

1.7 LABORATORY RESPONSIBILITIES


B. Perform specified sampling and testing of materials in accordance with specified standards.

C. Ascertain compliance of materials and mixes with requirements of Contract Documents.

D. Promptly notify Division of the State Architect, District, Project Inspector and Contractor of observed irregularities and non-conformance of work and products.

E. Perform additional tests required by District, and Division of the State Architect.

F. Attend Pre-Construction Meeting, Progress Meetings and other meetings as requested by District.

G. Perform all tests required by the Division of the State Architect for this Project. See form DSA-103 in this Project Manual and individual specification sections.

1.8 LABORATORY REPORTS

A. Test/Inspection Reports:

1. Reports will comply with Section 4-335(d), Part 1, Title 24, CCR.

2. Include every test and inspection made regardless of whether such tests and inspections indicate that the material and procedures are satisfactory or unsatisfactory.

3. Include records of special sampling operations as required.

4. Indicate that materials were sampled and tested in accordance with requirements of CCR regulations and Construction Documents.

5. Indicate specified design strength of materials such as masonry, concrete and steel.

6. State whether or not materials and procedures comply with requirements of the Contract Documents.
7. Submit copies of reports to Division of the State Architect, District, Project Inspector, and Contractor within 14 days of tests. Submit copies of reports of non-complying materials and procedures immediately.

B. Verified Reports:

1. Soils Engineers inspecting placement of fills and Special Inspectors will submit Verified Reports in accordance with Section 4-336, Part I, Title 24, CCR.
   a. Special inspections requiring Verified Reports include, but are not limited to, inspections of masonry construction, glued-laminated timber fabrication, wood framing using timber connectors, manufactured trusses, ready-mixed concrete batting, shotcrete application, shop welding and field welding.
   b. Submit two copies of reports directly to the Office of Regulation Services; forward one copy each to District, Architect and Project Inspector.

2. Soils Engineers and testing laboratories conducting tests on materials will submit verification of test reports at completion of testing program and when required by Office of Regulation Services in accordance with Section 4-335(e), Part I, Title 24, CCR.
   a. The Final Laboratory Verified Report or Laboratory Affidavit will indicate whether every material tested passed and disposition of problems associated with earlier deficient test reports.
   b. Submit two copies of each report directly to Office of Regulation Services; forward one copy each to District and Project Inspector.

1.9 LIMITS ON AGENCY OR TESTING LABORATORY AUTHORITY

A. Agency or laboratory may not release, revoke, alter or enlarge on requirements of Contract Documents.

B. Agency or laboratory may not approve or accept any portion of the work.

C. Agency or laboratory may not assume any duties of Contractor.

D. Agency or laboratory has no authority to stop work.

1.10 CONTRACTOR RESPONSIBILITIES

A. Package and deliver to laboratory at designated location adequate samples of materials proposed to be used which require testing. Samples shall be selected by laboratory personnel. Allow proper time for selecting samples, and making tests or considerations.

B. Cooperate with laboratory personnel, and provide access to work and to manufacturer's facilities.

C. Provide incidental labor and facilities to provide access to work to be tested, to obtain and handle samples as selected by laboratory personnel at the site or at source of products to be tested, to facilitate tests and inspections, and for storage and curing of test samples.

D. Schedule all tests and inspections with the testing and inspections firm and to notify District and Project Inspector a minimum of 3 working days prior to expected time for operations requiring inspection and testing services. Do not allow work to be covered prior to inspection and testing.
E. Cooperate fully with the testing laboratory’s personnel and with special inspectors in inspecting any part of the construction and in taking any samples of materials required to be tested. Provide access to the work. The Contractor’s personnel shall furnish and cut or prepare all samples in the presence of either the testing laboratory personnel or the special inspectors and secure the witness’s initial on each sample prepared.

F. Notify the testing laboratory to send a bonded messenger to pick up the initialed samples the same day the samples were prepared. Alert the testing laboratory 3 working days in advance as to the times and location of the required sampling, tests and inspections so as to not delay the work of the project, and make sure that the required sampling, tests inspections are promptly completed.

1.11 INSPECTIONS AND TESTS

Required inspections and tests may include, but are not limited to, the following:

A. Testing Certificates to be provided by Contractor:
   1. Mill test reports for reinforcing steel.
   2. Mill test reports for cement.
   3. Weighmaster’s tickets for each load of transmit mixed concrete.
   4. Weighmaster’s affidavit.
   5. Certifications of welders.
   6. Certifications of materials.

B. Initial Testing Provided by District:
   1. Site Clearing: Test compaction of excavation backfill.
   2. Earthwork:
      a. Sample and test fill and base materials for compliance with specified requirements.
      b. Inspect placement of engineered fill.
      c. Inspect bottoms of footings and foundation trenches.
      d. Test compaction of each layer of engineered fill.
   3. Trenching:
      a. Inspect placement of trench backfill.
      b. Test compaction of trench backfill.
   4. Asphaltic Concrete Paving:
      a. Sample and test quality of paving and base if directed by District.
      b. Test compaction of paving and base if directed by District.
   5. Portland Cement Concrete Paving:
      a. Review mix designs.
b. Sample and test compressive strength of concrete.
c. Sample and test slump of concrete.

6. Concrete Reinforcing:
   a. Review mill tests.
   b. Sample and test unidentified reinforcing steel.
   c. Sample and test identified reinforcing steel.
   d. Inspect placement and installation of reinforcing steel.
   e. Inspect field welding of reinforcing steel.

7. Cast-In-Place Concrete:
   a. Sample and test cement.
   b. Sample and test aggregate.
   c. Review mix designs and confirm mix design proportions with weighmaster.
   d. Perform initial batch plant inspection.
   e. Inspect concrete placement.
   f. Sample and test slump of concrete.
   g. Test air content of concrete.
   h. Sample and test concrete for compressive strength.
   i. Test concrete for shrinkage.

8. Structural Steel:
   a. Review mill certificates for shapes and plates.
   b. Sample and test unidentified steel.
   c. Establish recommended procedures for shop and field welding.
   d. Inspect shop and field welding, including welded studs.
   e. Test full penetration welds.

9. Metal Fabrications:
   a. Inspect shop and field welding of load bearing fabrications.
   b. Test full penetration welds in load bearing fabrications.


C. The cost of the following initial tests, if required, will be deducted by the District from the Contract Price by Change Order.

1. Testing to establish equivalence of material not properly identified.
2. Testing to establish equivalence of substitutions.
3. Testing required to expedite Contractor's operations.
4. Testing relating to repair of work which fails to meet specifications.
5. Testing and inspection required to correct damage to material in shipping and erection.

PART 2 - PRODUCTS
Not Used

PART 3 - EXECUTION
Not Used

END OF SECTION 01411
SECTION 01415
MITIGATION MONITORING REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Specification Sections shall apply to this Section without limitation.

1.2 SUMMARY

A. This Mitigation Monitoring and Reporting Program (MMRP) was formulated based on the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) prepared for the Los Medanos College Improvement Implementation Project. This MMRP is in compliance with Section 1509 of the CEQA Guidelines, which requires that the Lead Agency “adopt a program for monitoring or reporting of the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects.” The MMRP lists mitigation measures recommended in the IS/MND and identifies mitigation monitoring requirements.

B. The District has attempted to insert these MMRP requirements into the various other Specification Sections that are related to the nature of each mitigation measure. This Section is included to provide a consolidated location for all of the CEQA requirements. Where measures are found in any of the Contract Documents that conflict with these measures, the more stringent measure shall apply.

1. Table 1 presents the mitigation measures identified for the Project. Each mitigation measure is numbered according to the topical section to which it pertains in the IS/MND. As an example, Mitigation measure AIR-1 is the first mitigation measure identified in the IS/MND for the Project.

a. Elements of the MMRP which have been stricken out do not apply to this project.

b. The first column of Table 1 identifies the mitigation measure from the IS/MND.

c. The second column, entitled “Action and Implementation Timing,” describes each mitigation measure.

d. The third column, “Party Responsible for Monitoring,” names the party ultimately responsible for ensuring that the mitigation measures are implemented.

e. The fourth column “Action by Monitor,” outlines the steps for monitoring the action identified in the mitigation measure.

f. The fifth column entitled “Monitoring Timing,” states the time the monitor must ensure that the mitigation measure has been implemented.

g. The last column will be used by the District to ensure that individual mitigation measures have been monitored.
### Table 1: LMC Mitigation Monitoring and Reporting Program

<table>
<thead>
<tr>
<th>Recommended Mitigation Measures</th>
<th>Recommended Mitigation Measures</th>
<th>Party Responsible for Implementing Mitigation</th>
<th>Party Responsible for Monitoring</th>
<th>Action by Monitor</th>
<th>Monitoring Timing</th>
<th>Verification of Compliance Name/Date</th>
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<tbody>
<tr>
<td>III. AIR QUALITY</td>
<td>AIR-1: Consistent with guidance from the BAAQMD, the District shall require contractors to include emissions control measures in construction specifications for the project. The District shall review the final construction specifications to verify that the requirements have been included prior to beginning grading and excavating activities for the project. The District shall verify via field inspection at least twice during construction that the measures are being implemented. The following actions are required: Idling time of diesel powered construction equipment shall be limited to 2 minutes; Alternative powered construction equipment (i.e., CNG, biodiesel, electric) shall be utilized when feasible; Add-on control devices shall be used such as diesel oxidation catalysts or particulate filters; Project construction shall be phased; and Operating hours of heavy duty equipment shall be minimized.</td>
<td>Implement all the emission control measures listed in Mitigation Measure AIR-1 during construction</td>
<td>Contra Costa Community College District</td>
<td>Contra Costa Community College District</td>
<td>1. Review final construction specifications to ensure all requirements listed in Mitigation Measure AIR-1 are included</td>
<td>1. Before grading begins</td>
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</tbody>
</table>

1. Visit project site at least twice to verify that emission control measures are being implemented
2. During project construction
<table>
<thead>
<tr>
<th>Recommended Mitigation Measures</th>
<th>Action and Implementation Timing</th>
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</table>
| AIR-2: Consistent with the guidance from the BAAQMD, the District shall include dust control measures in construction contracts and specifications for the project. The District shall verify via field inspection at least twice during construction of each project that the measures are being implemented. The following measures shall be required: The following controls shall be implemented at all construction sites: Water all active construction areas at least twice daily and more often during windy periods; active areas adjacent to existing land uses shall be kept damp at all times, or shall be treated with non-toxic stabilizers to control dust; Cover all trucks hauling soil, land, and other loose materials or require all trucks to maintain at least two feet of freeboard; Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, inactive construction areas, and staging areas at construction sites; Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites; water sweepers shall vacuum up excess water to avoid runoff-related impacts to water quality; Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets; | Implement the dust control measures listed in Mitigation Measure AIR-2 during construction | Contra Costa Community College District and construction contractor | Contra Costa Community College District | 1. Review final construction specifications to ensure all requirements listed in Mitigation Measure AIR-2 are included | 1. Before grading begins | Name:  
Date:  


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<tr>
<th>Recommended Mitigation Measures</th>
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<tr>
<td><strong>AIR-2 Continued</strong></td>
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<td>Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.);</td>
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<td>Install base rock at entryways for all existing trucks, and wash off the tires or tracks of all trucks and equipment in designated areas before leaving the site;</td>
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<td>Limit traffic speeds on unpaved roads to 15 mph;</td>
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<td>Install sandbags or other erosion control measures to prevent silt runoff to public roadways;</td>
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<td>Replant vegetation in disturbed areas as quickly as possible; and</td>
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<td>Suspend excavation and grading activity when sustained wind speeds exceed 25 mph.</td>
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<td>Sustained wind speed shall be determined by averaging observed values over a two-minute period. Wind monitoring by the construction manager shall be required at all times during excavation and grading activities.</td>
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<td><strong>AIR-3a: Implement Mitigation Measure AIR-1.</strong></td>
<td>See Mitigation Measure AIR-1</td>
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<td><strong>AIR-3b: Implement Mitigation Measure AIR-2.</strong></td>
<td>See Mitigation Measure AIR-2</td>
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<td>V. CULTURAL RESOURCES</td>
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<td>CULT-1: The District shall inform its contractor(s) of the possibility of encountering archaeological resources during subsurface excavations by including the following directive in contract documents: “If prehistoric or historical archaeological deposits are discovered during project activities, all work within 25 feet of the discovery shall be redirected and a qualified archaeologist contacted to assess the situation, consult with agencies as appropriate, and make recommendations regarding the treatment of the discovery. Project personnel shall not collect or move any archaeological materials or human remains and associated materials. Adverse effects to archaeological deposits shall be avoided by project activities. If such deposits cannot be avoided, they shall be evaluated for their California Register of Historical Resources eligibility.”</td>
<td>1. Include the directive described in Mitigation Measure CULT-1 in contract documents</td>
<td>2. Construction contractor</td>
<td>1. Contra Costa Community College District</td>
<td>1. Contra Costa Community College District</td>
<td>1. Verify that the appropriate language has been incorporated in contract documents</td>
<td>1. Before grading begins</td>
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</table>
| The Contra Costa Community College District shall verify that the language has been included in the contract documents. If the deposit is not eligible, a determination shall be made as to whether it qualifies as a “unique archaeological resource” under CEQA. If the deposit is neither a historical nor unique archaeological resource, avoidance is not necessary. If the deposit is eligible for the California Register, or is a unique archaeological resource, adverse effects shall be avoided or such effects must be mitigated. Mitigation may consist of, but is not necessarily limited to, systematic recovery and analysis of archaeological deposits; creation of a record for the resource; preparation of a report of findings; and an offer of the recovered archaeological materials to an appropriate curation facility. Public educational outreach may also be appropriate. Upon a completion of the assessment, the archaeologist shall prepare a report documenting the assessment methods and results, and provide recommendations for the treatment of the archaeological materials discovered. The report shall be submitted to the Contra Costa Community College District and the Northwest Information Center.
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<tr>
<td>CULT-2: The District shall inform its contractor(s) of the sensitivity of the project area for paleontological resources by including the following directive in contract documents: “The subsurface at the construction site may be sensitive for paleontological resources. If paleontological resources are encountered during project construction, all ground-disturbing activities within 25 feet shall be redirected and a qualified paleontologist contacted to assess the situation, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. Project personnel shall not collect or move any paleontological materials. Paleontological resources include fossil plants and animals, and such trace fossil evidence of past life as tracks. Ancient marine sediments may contain invertebrate fossils such as snails, clam and oyster shells, sponges, and protozoa; and vertebrate fossils such as fish, whale, and sea lion bones. Vertebrate land mammals may include bones of mammoth, camel, saber tooth cat, horse, and bison. Paleontological resources also include plant imprints, petrified wood, and animal tracks.”</td>
<td>1. Include the directive described in Mitigation Measure CULT-2 in contract documents&lt;br&gt;2. Evaluate any paleontological resources discovered during project construction as described in CULT-2 and submit report of findings to the District and a paleontological repository</td>
<td>1. Contra Costa Community College District&lt;br&gt;2. Construction contractor</td>
<td>1. Contra Costa Community College District&lt;br&gt;2. Contra Costa Community College District</td>
<td>1. Verify that the appropriate language has been incorporated in contract documents&lt;br&gt;2. Visit project site and verify that measures are being implemented and that any reports are submitted to a paleontological repository</td>
<td>1. Before grading begins&lt;br&gt;2. During project construction</td>
<td>Name: Date:</td>
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CULT-2 Continued

The Contra Costa Community College District shall verify that the language has been included in the contract documents. Adverse effects to such deposits shall be avoided by project activities. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. Paleontological resources are considered significant if they possess the possibility of providing new information regarding past life forms, paleoecology, stratigraphy, and geological formation processes. If the resources are not significant, avoidance is not necessary. If the resources are significant, project activities shall avoid disturbing the deposits, or the adverse effects of disturbance shall be mitigated. Mitigation may include monitoring, recording the fossil locality, data recovery and analysis, a final report, and accessioning the fossil material and technical report to a paleontological repository. Public educational outreach may also be appropriate. Upon completion of the assessment, a report documenting the assessment methods, findings, and recommendations shall be prepared and submitted to the Contra Costa Community College District, and, if paleontological materials are recovered, a paleontological repository, such as the University of California Museum of Paleontology.
CULT-3: If human remains are encountered, these remains shall be treated in accordance with HSC Section 7050.5. The project applicant shall inform its contractor(s) of the sensitivity of the project area for human remains by including the following directive in contract documents:

“If human remains are encountered during project activities, work within 25 feet of the discovery shall be redirected and the County Coroner notified immediately. At the same time, an archaeologist shall be contacted, if an archaeological monitor is not present, to assess the situation and consult with agencies as appropriate. Project personnel shall not collect or move any human remains and associated materials. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Most Likely Descendant to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods, which may include scientific removal and analysis of human remains and items associated with Native American burials.”

<table>
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<td>CULT-3: If human remains are encountered, these remains shall be treated in accordance with HSC Section 7050.5. The project applicant shall inform its contractor(s) of the sensitivity of the project area for human remains by including the following directive in contract documents: “If human remains are encountered during project activities, work within 25 feet of the discovery shall be redirected and the County Coroner notified immediately. At the same time, an archaeologist shall be contacted, if an archaeological monitor is not present, to assess the situation and consult with agencies as appropriate. Project personnel shall not collect or move any human remains and associated materials. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Most Likely Descendant to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods, which may include scientific removal and analysis of human remains and items associated with Native American burials.”</td>
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<th>Action by Monitor</th>
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<tr>
<td>1. Include the directive described in Mitigation Measure CULT-3 in contract documents</td>
<td>1. Contra Costa Community College District</td>
<td>1. Contra Costa Community College District</td>
<td>1. Verify that the appropriate language has been incorporated in contract documents</td>
<td>1. Before grading begins</td>
<td>Name: Date:</td>
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<tr>
<td>2. Stop work within 25 feet of human remains discovered during project construction; prepare and submit report of findings to the District and NWIC</td>
<td>2. Construction contractor</td>
<td>2. Contra Costa Community College District</td>
<td>2. Visit project site and verify that measures are being implemented and that any reports are submitted to NWIC</td>
<td>2. During project construction</td>
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CULT-3 Continued
The Contra Costa Community College District shall verify that the language has been included in the contract documents. Upon completion of the assessment, the archaeologist shall prepare a report documenting the assessment methods and results, and provide recommendations for the treatment of the human remains and any associated cultural materials, as appropriate and in coordination with the recommendations of the MLD. The report shall be submitted to the Contra Costa Community College District and the Northwest Information Center.
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<tr>
<td><strong>VI. GEOLOGY AND SOILS</strong></td>
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<td>GEO-1: Implement Mitigation Measure HYD-1.</td>
<td>See Mitigation Measure HYD-1.</td>
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| GEO-2: The District shall incorporate all recommendations of a final site-specific design-level geotechnical investigation, prepared by a licensed professional, into all engineering and construction plans submitted for the project, including recommendations for grading, placement of fill materials, pretreatment of soils, and avoidance of settlement and/or differential settlement of infrastructure and buildings caused by expansive soils and protection of iron, steel, metal and concrete from deterioration caused by contact with corrosive soils. | Incorporate recommendations from geotechnical investigations into development plans | Contra Costa Community College District | Contra Costa Community College District | Verify that recommendations from geotechnical investigations are incorporated into all development plans | Prior to construction | Name:  
Date: |
| **VII. HAZARDS AND HAZARDOUS MATERIALS** |                                 |                                             |                                 |                  |                  |                                     |
| HAZ-1a: Prior to demolition of structures on the site, a comprehensive lead-based paint survey shall be conducted. If any lead-based paint is identified, it shall be removed from the site in accordance with all applicable regulations, including Occupational Safety and Health Administration (OSHA) guidelines. The District shall verify that the survey has been conducted before beginning demolition of buildings. | Complete a lead-based paint survey as described in Mitigation Measure HAZ-1a | Contra Costa Community College District | Contra Costa Community College District | Verify that the survey has been conducted | Before demolition begins | Name:  
Date: |
| HAZ-1b: Prior to demolition of structures on the site, a complete Asbestos Hazard Emergency Response Act-Level Pre-Demolition Asbestos Survey shall be conducted. If asbestos is identified, a licensed asbestos abatement contractor shall be retained to abate identified asbestos-containing material in accordance with all applicable regulations. The District shall verify that the survey has been conducted before beginning demolition of buildings. | Complete an asbestos survey as described in Mitigation Measure HAZ-1b | Contra Costa Community College District | Contra Costa Community College District | Verify that the survey has been conducted | Before demolition begins | Name:  
Date: |
<p>| <strong>VIII. HYDROLOGY AND WATER QUALITY</strong> |                                 |                                             |                                 |                  |                  |                                     |</p>
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<th>Recommended Mitigation Measures</th>
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<th>Party Responsible for Implementing Mitigation</th>
<th>Party Responsible for Monitoring</th>
<th>Action by Monitor</th>
<th>Monitoring Timing</th>
<th>Verification of Compliance Name/Date</th>
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| HYD-1: The District shall prepare a Storm Water Pollution Prevention Plan (SWPPP) designed to reduce potential impacts to surface water quality through the construction and operational periods of the project including all on- and off-site improvements. The SWPPP shall be prepared by the Facilities Division of the CCCCDD and submitted to the Division of the State Architect prior to issuance of project approvals. The SWPPP must be maintained on-site and made available to Water Board staff upon request. The SWPPP shall include specific and detailed BMPs designed to mitigate construction-related and operational period pollutants. | Facilities Division of the District shall prepare and the Division of the State Architect shall approve a SWPPP that includes requirements listed in HYD-1 | Contra Costa Community College District | Contra Costa Community College District | Verify that the SWPPP has been prepared | Before construction begins | Name: 
Date: |
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<th>Recommended Mitigation Measures</th>
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<td>Construction Period: At a minimum, BMPs shall include practices to minimize the contact of construction materials, equipment, and maintenance supplies (e.g., fuels, lubricants, paints, solvents, adhesives) with stormwater. The SWPPP shall specify properly designed centralized storage areas that keep these materials out of the rain. An important component of the stormwater quality protection effort is the knowledge of the site supervisors and workers. To educate on-site personnel and maintain awareness of the importance of stormwater quality protection, site supervisors shall conduct regular tailgate meetings to discuss pollution prevention. The frequency of the meetings and required personnel attendance list shall be specified in the SWPPP. The SWPPP shall specify a monitoring program to be implemented by the construction site supervisor, which must include both dry and wet weather inspections. In addition, in accordance with State Board Resolution No. 2001-046, monitoring would be required during the construction period for pollutants that may be present in the runoff that are “not visually detectable in runoff.” Water Board personnel, who may make unannounced site inspections, are empowered to levy considerable fines if it is determined that the SWPPP has not been properly implemented.</td>
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<td>BMPs designed to reduce erosion of exposed soil may include, but are not limited to: soil stabilization controls, watering for dust control, perimeter silt fences, placement of fiber rolls, and sediment basins. The potential for erosion is generally increased if grading is performed during the rainy season as disturbed soil can be exposed to rainfall and storm runoff. If grading must be conducted during the rainy season, the primary BMPs selected shall focus on erosion control; that is, keeping sediment on the site. End-of-pipe sediment control measures (e.g., basins and traps) shall be used only as secondary measures. Entry and egress from the construction site shall be carefully controlled to minimize off-site tracking of sediment. Vehicle and equipment wash-down facilities shall be designed to be accessible and functional during both dry and wet conditions.</td>
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*Operational Period: (Post-Construction Storm Water Management)* The SWPPP shall include descriptions of the IMPs or BMPs to reduce pollutants in storm water discharges after all construction phases have been completed at the site (Post-Construction BMPs). Post-Construction BMPs include the minimization of land disturbance, the minimization of impervious...
HYD-1 Continued

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<td>Continued surfaces, treatment of storm water runoff using infiltration, detention/retention, bio-filter BMPs, use of efficient irrigation systems, ensuring that interior building drains are not connected to a storm sewer system, and appropriately designed and constructed energy dissipation devices. These must be consistent with all applicable post-construction storm water management requirements, policies, and guidelines. The discharger must consider site-specific and seasonal conditions when designing the control practices. Operation and maintenance of control practices after construction is completed shall be addressed, including short-and long-term funding sources and the responsible party. The SWPPP shall include a discussion of the program to inspect and maintain all BMPs as identified in the site plan or other narrative documents throughout the entire life of the project. A qualified person shall be assigned the responsibility to conduct inspections. Inspections shall be performed before and after storm events and once each 24-hour period during extended storm events to identify BMP effectiveness and implement repairs or design changes as soon as feasible depending upon field conditions. Equipment, materials, and workers must be available for rapid response to failures and emergencies. All corrective maintenance to BMPs shall be performed as soon as possible after the conclusion of each storm depending upon worker safety.</td>
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<td>The SWPPP shall include operational-period BMPs that would result in treatment of an appropriate percentage of the runoff from the project including all on- and off-site improvements. The SWPPP shall include as many LID BMPs as feasible. The Facilities Division of the CCCCD shall prepare and the Division of the State Architect shall approve the SWPPP, including operational period BMPs, prior to approval of the project plans.</td>
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<td>HYD-2: Implement Mitigation Measure HYD-1</td>
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<td>HYD-3: Implement Mitigation Measure HYD-1</td>
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<td>HYD-4: Implement Mitigation Measure HYD-1</td>
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**XI. NOISE**

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<tr>
<th>NOISE-1: The project shall implement the following noise reduction measures:</th>
<th>Implement the noise-reducing measures described in Mitigation Measure NOISE-1</th>
<th>Construction contractor</th>
<th>Contra Costa Community College District</th>
<th>Visit project site and verify that noise control measures are being implemented</th>
<th>During project construction</th>
<th>Name: Date:</th>
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</table>
PART 2 – PRODUCTS - Not Used.

PART 3 – EXECUTION - Not Used.

END OF SECTION 01415
SECTION 01416
SPECIAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
   A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in
      this document, and provisions in the General Conditions and other Division 1 Specification
      Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
   A. Section 01010 – “Summary of Work”
   B. Section 01290 – “Payment Procedures”
   C. Section 01330 – “Submittal Procedures”
   D. Section 01740 – “Warranties and Guaranties”
   E. Section 01780 – “Project Record Documents”
   F. Section 01820 – “Demonstration and Training”
   G. Divisions 2 through 33 Sections for Contract Closeout Procedure requirements for the work in
      those Sections.

1.3 SUMMARY
   A. In Compliance with CEQA requirements, the District conducted an Initial Study to ascertain if the
      project may have an effect on the environment. The Initial Study identified potential impacts on
      the environment. However, all potential impacts of the proposed Project can be avoided or
      reduced to a less-than-significant level by implementation of the following mitigation measures.
      Contractor shall conform with the following mitigation measures, including but not limited to,
      the following:
      1. Noise Control Plan
      2. Dust Control Plan
      3. Traffic Control Plan
      4. Spill Prevention, Control and Countermeasure Program
      5. Tree Protection Plan
      6. Migratory Bird Protection Plan
      7. Cultural Resources Protection Plan
   B. In no case shall the restrictions identified in this Section limit the Contractor's responsibility for
      compliance with all Federal, state, and local safety ordinances and regulations.

1.4 NOISE CONTROL
   A. Definitions
1. **Noise** is any audible sound which has the potential to annoy or disturb humans, or to cause an adverse psychological or physiological effect on humans.

2. **Daytime** refers to the period from 7 AM to 7 PM local time daily, except Sundays and Federal holidays.

3. **Evening** refers to the period from 7 PM to 10 PM local time daily, except Sundays and Federal holidays.

4. **Nighttime** refers to the period from 10 PM to 7 AM local time daily, as well as all day Sunday and Federal holidays.

5. **Nuisance Noise** refers to sound levels that annoy or disturb a reasonable person of normal sensitivities, but do not exceed the noise limits specified herein.

6. **Lot-line** refers to the line separating the campus from another parcel or from the street.

7. **Background Noise** shall be defined as the measured ambient noise level associated with all existing environmental, transportation, and community noise sources in the absence of any audible construction activity.

8. **dBA** shall be defined as the sound level (in decibels referenced to 20 micro-pascals) as measured using the A-weighting network on a sound level meter, in accordance with ANSI S1.4 Standards.

9. **Lmax** shall be defined as the maximum measured sound level at any instant in time.

10. **Leq** shall be defined as the equivalent sound level, or the continuous sound level that represents the same sound energy as the varying sound levels, over a specified monitoring period.

11. **L10** shall be defined as the sound level exceeded 10 percent of the time for a specified monitoring period.

12. **Slow** specifies a time constant or 1 second for the root-mean-square (RMS) detector used by a sound level meter, in accordance with ANSI S1.4 Standards.

13. **Impact noise** is noise produced from impact or devices with discernible separation in sound pressure maxima. Examples for impact equipment include, but are not limited to; blasting, clam shovel or chisel drops, pavement breakers, jackhammers, hoe rams, mounted impact hammers, and impact pile drivers (but not vibratory pile drivers).

B. The intent of this Section is to minimize construction noise within construction areas, lay-down areas, and communities adjacent to the construction site. To this end, the Contractor and all subcontractors, suppliers, and vendors, are required to comply with all applicable noise regulations, specification requirements, and the noise level limits specified herein.

C. The Contractor shall use equipment with efficient noise-suppression devices and employ other noise abatement measures such as enclosures and barriers necessary for the protection of the public, as necessary.

D. The Contractor shall schedule and conduct operations in a manner that will minimize, to the greatest extent feasible, the disturbance to the public in areas adjacent to the Work and to occupants of buildings in the vicinity of the Work.

E. After the Preconstruction Meeting and prior to the commencement of the Work at the Site, Contractor shall submit a Noise Control and Monitoring Plan for review and acceptance by the District.
1. The Noise Control and Monitoring Plan shall describe the noise monitoring and reporting procedure to be used during construction, the procedures for predicting construction noise levels prior to performing construction activities, and describe the noise reduction measures required to meet the noise level limitations and minimize nuisance noise conditions. Noise generating equipment shall not be operated prior to acceptance of the Noise Control and Monitoring Plan.

2. The Noise Control and Monitoring Plan shall identify and describe the following in detail:
   a. The receptor locations where noise monitoring will be performed. Include a site plan showing all locations.
   b. The type of noise level measurement device that will be used.
   c. The noise monitoring methods and procedures that will be used.
   d. The data reporting method that will be used.
   e. The response procedure and actions to be taken by the Contractor for any lot-line, educational facility, or equipment noise level that exceeds the noise limits specified in this Section. The response procedure may include, but not be limited to, use of additional noise reduction materials and equipment.
   f. The noise complaint response and resolution procedures.
   g. A description of the anticipated significant noise generating construction activities.
   h. An inventory of construction equipment to be utilized and the associated noise levels for each.

F. Submit a current laboratory calibration conformance certificate for the noise monitoring equipment to be used prior to performing any noise level monitoring. Submit updated certificates following subsequent yearly calibrations, or upon completion of repairs to the instrument, for the duration of this Contract.

G. Noise Control Measures: Contractor shall implement the following noise-control measures to reduce and control noise generated from construction, demolition, and construction related activities:
   1. Restrict noise-producing construction activities Monday through Friday between the hours of 7:00am to 3:30pm, or until 5:30pm with city engineers approval. Saturday from 8:00am to 5:00pm with city engineers approval. Construction on Sundays shall be avoided, if possible, and there will be no construction on public holidays without prior written request submitted to and written approval returned by the District, at its sole discretion. A decision by the District to deny Sunday or holiday work shall not be deemed to cause a delay in the Contract Time. When activities must occur outside the hours specified above, conform with notification requirements of this Section and utilize local barriers around equipment and other noise attenuating devices if necessary to limit noise to acceptable levels.
   2. Comply with all City of Brentwood requirements regarding both allowable hours of Work and noise level limitations.
   3. Contractor shall comply with applicable regulatory requirements for the operation of powered construction equipment during all phases of construction.
   4. All construction equipment shall have appropriate mufflers, intake silencers, and other required noise-control features, shall be properly maintained and in compliance with State standards.
5. Vehicles and other gas or diesel powered equipment shall be prohibited from unnecessary warming up, idling, and engine revving.

6. Impact tools shall utilize “quiet technology” to minimize noise.

7. Contractor shall provide and post signs at the Site giving the name and telephone number or e-mail address of the District and/or designated College Representative whom the public should contact regarding any noise complaints. If necessary due to complaints, Contractor shall provide additional noise-attenuating measures such as additional mufflers or engine shrouding.

H. Secure written permission from the District at least three (3) working days prior to using noisy and vibratory equipment, such as jackhammers, concrete saws, impact tools, and high frequency electrical equipment. Cooperate with District if the use of noisy equipment becomes objectionable to college employees and/or students.

I. The work must be conducted so that nearby residents will not be disturbed at any time during the Work including, but not limited to, the following requirements:

1. The Contractor shall perform all work within the permissible noise levels, day of week, or weekend and hour of day limitations, and within the guidelines established by applicable federal, state, and municipal codes, regulations, laws, and standards.

2. During the Work, the Contractor shall ensure that all noise generated from construction-related equipment and construction activity complies with applicable Contra Costa County and City of Brentwood noise standards and thresholds where technically feasible. Noise standards and thresholds of Contra Costa County and City of Brentwood are therefore included, by reference, in the Contractor’s contract.

3. In the event of complaints from nearby residents or the campus community, the Contractor shall measure noise levels at adjacent residential lot lines. In the event that construction noise exceeds the specified limits, the responsible construction activity shall cease until appropriate noise control measures are implemented. In the event that the measured noise level exceeds allowable limits as specified in this Section, or is resulting in nuisance conditions, the Contractor shall immediately alter operations or use noise reduction materials and methods to reduce noise levels or to alleviate the nuisance conditions.

4. Do not use loud vocal or mechanical signals. Use of outside speakers, loud radios and similar devices are prohibited.

5. Not Used.

6. Work shall be performed in a manner to prevent nuisance conditions such as noise which exhibits a specific audible frequency or tone (e.g., backup alarms, poorly maintained equipment, brake squeal, etc.) or impact noise (e.g., jackhammers, hoe rams). The District will make any final interpretation concerning whether or not nuisance noise conditions exist. Only the District representatives and specifically designated College representatives have the authority to stop the Work until nuisance noise conditions are resolved, without additional Contract Time or compensation for the Contractor.

1.5 DUST CONTROL PLAN

A. Contractor shall develop and submit, in accordance with Section 01330, a Dust Control Plan, and implement dust control measures to protect air quality during construction to control dust...
emissions generated during construction, implement the following Bay Area Air Quality Management District (BAAQMD) measures for construction emissions of particulate matter over 10 microns in size (PM10):

1. Water all active construction areas at least twice daily.
2. Cover all trucks hauling soil, sand and other loose materials, or require all trucks to maintain at least 2 feet of freeboard.
3. Apply water three times daily or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at the Site.
4. Sweep driveways and adjacent public streets daily (with water sweepers) if visible soil materials have been carried onto adjacent public streets.
5. Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 miles per hour.
6. Limit speed of vehicles to 10 miles per hour or less on the Site.
7. If Campus or neighborhood complaints regarding objectionable dust are received by the College, the Contractor shall take immediately action to abate such conditions.

1.6 TRAFFIC CONTROL PLAN

A. Contractor shall develop and submit a Traffic Control Plan, and implement the traffic control plan to minimize the effects of construction traffic on the Campus and surrounding residential areas, as appropriate. Submit the plan in accordance with Section 01330 to the District for review and approval.

B. The Construction traffic control plan will include, at a minimum, the following requirements:

1. Provide clearly marked pedestrian detours if any sidewalk or pedestrian walkway closures are necessary. Provide clear directional signage as required.
2. Provide clearly marked bicycle detours if bicycle routes must be closed, or if bicyclist safety would be otherwise compromised. Provide clear signage as required.
3. Provide crossing guards and/or flag persons as needed to avoid traffic conflicts and ensure both pedestrian and bicyclist safety at all times.
4. Use nonskid traffic plates over open trenches to minimize hazard.
5. Locate all stationary equipment as far away as possible from areas used heavily by vehicles, bicyclists and pedestrians.
6. Notify and consult with emergency service providers, including the Campus Police Department, and maintain clear, unobstructed access by whatever means necessary to expedite and facilitate the passage of emergency vehicles.
7. Obtain City of Brentwood approval for preferred construction traffic routing over public streets, location of temporary curb cuts, if any, and/or other construction traffic access and egress from public streets to the Site. Consult with District concerning preferred construction traffic routing prior to requesting City approval. Contractor shall be responsible for obtaining any required permits and for all associated costs.
8. Avoid routing construction traffic through residential areas to the extent feasible. Prohibit mobilization and demobilization of heavy construction equipment during AM and PM peak traffic hours, and pursuant to City of Brentwood requirements.
9. Provide access for drive ways and private roads outside the immediate construction zone by using steel plates or temporary backfill as necessary.

10. Prohibit construction worker parking in student parking lots and in residential areas.

C. Contractor shall notify the District, Project Inspector, Campus Police Department, city and county agencies, as applicable, a minimum of five (5) working days in advance of performing work which necessitates closing or interfering with traffic on public thoroughfares, parking areas, driveways and walks. Obtain written permission prior to effecting such closures and interruptions.

D. The District will designate an entrance to the Site for the Contractor’s use for the Work.

1.7 SPILL PREVENTION, CONTROL AND COUNTERMEASURE PROGRAM

A. Contractor shall prepare and implement a Spill Prevention, Control and Countermeasure Program (SPCCP) to minimize the potential for and effects from spills of hazardous, toxic or petroleum substances during construction and demolition activities. Submit a SPCCP Plan to the District in accordance with Section 01330 and obtain approval of the SPCCP before any construction or demolition activities begin at the Site.

B. Contractor shall routinely inspect the construction area to verify that the measures specified in the SPCCP are properly implemented and maintained. Inform the District immediately if there is a noncompliance issue and take immediate measures to restore compliance.

C. The federal reportable spill quantity for petroleum products, as defined in 40 CFR 110, is any oil spill that includes any of the following:
   1. Violates applicable water quality standards.
   2. Causes a film or sheen on or discoloration of the water surface or adjoining shoreline.
   3. Causes a sludge or emulsion to be deposited beneath the surface of the water or adjoining shorelines.

D. If a spill is reportable, notify the District’s Representative and take action to contact appropriate safety and clean-up crews to ensure that the SPCCP is followed.
   1. A written description of reportable releases must be submitted to the District’s Representative and to the San Francisco Bay Regional Water Quality Control Board (RWQCB). This submittal must contain a description of the spill, including the type of material and an estimate of the amount spilled, the date of the release, an explanation of why the spill occurred and a description of the steps taken to prevent and control future releases. Document the releases on a spill report form.
   2. If a reportable spill has occurred and results determine that project activities have adversely affected surface water or groundwater quality, the District will engage a registered environmental assessor at Contractor’s expense for a detailed analysis to identify the likely cause of contamination. This analysis will conform to American Society for Testing and Materials (ASTM) standards and will include recommendations for reducing or eliminating the source or mechanisms of contamination.
   3. Based on this analysis, the Contractor shall select and implement measures to control contamination, with a performance standard that groundwater quality must be returned to baseline conditions. These measures will be subject to approval by the District.
1.8 **TREE PROTECTION PLAN**

A. Develop and submit a Tree Protection Plan to the District in accordance with Section 01330 and obtain approval prior to Start or Work on site. The plan shall include full-size drawings of the Site and indicate all trees that may be impacted by the Work, and all trees that will require proactive protection from damage. Protective measures must be indicated in the plan and on the Drawings.

B. Definitions:

1. **Dripline:** The area on the ground from the trunk of any tree to the point directly below the outermost tips of the foliage of that tree.

2. **Root Protection Zone (“RPZ”):** The areas enclosed with tree protection fencing as designated on the Drawing(s).

3. **Tree damage:** Tree damage shall include, but not limited to, the following: Significant injury to the root system or other parts of a tree including burning, application of toxic substances, damaging through contact with equipment or machinery, changing the natural grade within the Dripline or RPZ, compacting the soil within the Dripline or RPZ, interfering with the normal water requirements of the tree, unauthorized trenching or excavating within the Dripline or RPZ, or unauthorized removal of more than 1/3 of the live wood, foliage or roots.

C. **Root Protection:** No storage of materials or equipment will be allowed within the Dripline. Whenever possible, excavation shall be on a radial line, diverging from the tree trunk. For items of Work delayed materially beyond the date of Substantial Completion, provide update submittal within 14 Days after acceptance, listing date of acceptance as start of warranty period.

D. **Exposure to harmful substances:** No storage or dumping of any substances that may be harmful to trees shall occur at any location on the Site.

E. **Where construction is to be performed in the vicinity of trees and shrubbery,** the Work shall be carried on in a manner that will cause minimum damage. District will designate trees that are to be removed. Under no circumstances are additional trees to be removed without written permission from District. Trees and shrubbery that are not to be removed shall be protected from injury or damage resulting from Contractor’s operations.

F. **Any tree that is removed without District’s permission or is irreparably damaged,** in the opinion of District, shall cost Contractor in damages [$100.00] per square inch of cross section, measured at 4 ½ feet above ground, but not less than [$250.00], such cost to be deducted from monies due or to become due under the Contract. If tree protection is not performed or is not performed adequately and District determines that a tree has been irreparably damaged, Contractor shall pay the same amount of damages as for unauthorized removal of a tree. Contractor shall immediately report all tree damage to District, so that District may determine applicable damages.

1.9 **MIGRATORY BIRD PROTECTION**

A. Conduct tree removal and building demolition outside of the migratory bird nesting season. The bird nesting season for migratory birds in this part of California is March 1st through July 31. See Section 01415, Table 1, Section IV, Biological Resources for more information on the bird nesting season.
B. If tree removal or building demolition must take place during the bird nesting season, these activities shall be preceded by a survey paid for by the District for nesting migratory birds by a certified Wildlife Biologist in the State of California. If bird nests are discovered in the trees or on the buildings, they shall not be removed while the nest(s) are active. Contractor shall plan and schedule to remove all trees and buildings during the non-bird nesting season, which is between August 1st and February 28th each year to avoid the need for such activities during the bird nesting season. Any delays as result of tree or building removal that could not occur during the bird nesting season due to active nests are the responsibility of the Contractor if said delays were within the control of the Contractor by performing the work in the non-bird nesting season.

1.10 CULTURAL RESOURCES PROTECTION PLAN

A. Develop and submit a Cultural Resources Protection Plan in accordance with Section 01330. If buried cultural resources, such as chipped or ground stone, historic debris, building foundations or human bones or paleontological resources are discovered inadvertently during ground-disturbing activities, Contractor shall avoid any further disturbance of the materials and immediately discontinue earthwork within 100 feet of the find. Contractor shall notify District’s Representative immediately upon encountering cultural resources. Contractor shall be prepared to move on to another location or phase of work, allowing sufficient time for District’s Representative to evaluate the nature and significance of the find and implement appropriate management procedures.

B. In the event that prehistoric human remains are encountered, further excavation or disturbance of the site shall cease immediately, pursuant to Health and Safety Code 7050.5. Contractor shall notify District’s Representative immediately upon encountering human remains. Contractor shall move on to another location or phase of Work to allow proper assessment of the situation.

C. If human remains of Native American origin are discovered during construction, it will be necessary to comply with State laws relating to the disposition of Native American burials, which fall under the jurisdiction of the NAHC (Public Resources Code (PRC) Section 5097. Consequently, if any human remains are discovered or recognized in any location other than a dedicated cemetery, there will be no further excavation or disturbance of the site or any nearby areas reasonably suspected to overlie adjacent human remains:

1. Until the Contra Costa County Coroner has been informed and has determined that no investigation of the cause of death is required;

2. If the remains are of Native American origin;
   a. The descendants of the deceased Native American(s) have made a recommendation to the landowner or the person responsible for the excavation work regarding means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98 or
   b. The NAHC has been unable to identify a descendent or the descendent failed to make a recommendation within 24 hours after being notified by the NAHC.

PART 2 - PRODUCTS
Not Used.

PART 3 - EXECUTION
Not Used.

END OF SECTION 01416
SECTION 01420
REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
   A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
   A. Section 01010 – “Summary of Work”
   B. Section 01312 – “Project Meetings”
   C. Section 01410 – “Regulatory Requirements”
   D. Section 01770 – “Contract Closeout Procedures”
   E. Division 2 through 33 for References requirements for the work in those Sections.

1.3 INDUSTRY STANDARDS
   A. Applicability of Standards: Unless the Contract Documents specify more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
   B. Publication Dates: Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.
   C. Conflicting Requirements: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.
      1. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.
   D. Copies of Standards: Each entity engaged in construction on the Project must be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not contained within the Contract Documents.
      1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source and make them available on request.
   E. Abbreviations and Acronyms for Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name
of the entities indicated in Gale Research's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."

F. Abbreviations and Acronyms for Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities.

H. Abbreviations and Acronyms for Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities.

I. Abbreviations and Acronyms for State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities.

PART 2 - PRODUCTS
Not Used.

PART 3 - EXECUTION
Not Used.

END OF SECTION 01420
SECTION 01540
SITE SECURITY AND SAFETY

PART 1 – GENERAL

1.1 RELATED DOCUMENTS
A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
A. Section 01010 – “Summary of Work”
B. Section 01311 – “Project Management and Coordination”
C. Section 01312 – “Project Meetings”
D. Section 01410 – “Regulatory Requirements”
E. Section 01412 – “Hazardous Materials”
F. Section 01416 – “Special Procedures”
G. Section 01500 – “Temporary Facilities and Control”
H. Section 01770 – “Contract Closeout Procedures”
I. Section 01780 – “Contract Record Documents”
J. Divisions 2 through 33 Sections for Site Security and Safety requirements for the work in those Sections.

1.3 SUMMARY
A. This Section specifies the requirements for Site safety and security.

1.4 CONTRACTOR RESPONSIBILITIES
A. The Contractor is constructive owner of Project site.
B. The Contractor shall be responsible for all damages to persons or property that occur as a result of its fault or negligence in connection with the prosecution of this Contract and shall take all necessary measures and be responsible for the proper care and protection of all materials delivered and work performed until Final Completion by the District.
C. All work shall be solely at the Contractor’s risk, with the exception of damage to the work caused by “acts of God” as defined in Public Contract Code Section 7105(b)(2).
D. The Contractor shall be solely responsible for initiating, maintaining and supervising all safety programs required by applicable law, ordinance, regulation or governmental orders in connection with the performance of the Contract, or otherwise required by the type or nature of the Work.
E. Without limiting or relieving the Contractor of its obligations hereunder, the Contractor shall require that its Subcontractors similarly initiate and maintain all appropriate or required safety programs. Prior to commencement of Work at the
Site, the Contractor shall provide the District with the Contractor’s proposed site specific safety plan for the Work for the District’s review.

F. Contractor shall take, and require all subcontractors to take, all necessary precautions for safety of workers on the Work and shall comply with all applicable federal, state, local and other safety laws, standards, orders, rules, regulations, and building codes to prevent accidents or injury to persons on, about, or adjacent to premises where Work is being performed and to provide a safe and healthful place of employment.

G. In addition to meeting all requirements of OSHA, Cal-OSHA, state, and local codes, Contractor shall furnish, erect and properly maintain at all times, as directed by District or required by conditions and progress of work, all necessary safety devices, safeguards, construction canopies, signs, audible devices for protection of the blind, safety rails, belts and nets, barriers, lights, and watchmen for protection of workers and the public, and shall post danger signs warning against hazards created by such features in the course of construction.

H. The Contractor and Subcontractors shall continuously protect the Work, the District’s property, and the property of others, from damage, injury, or loss arising in connection with operations under the Contract Documents. The Contractor and Subcontractors, at their own expense, shall make good any such damage, injury, or loss, except such as may be solely due to, or caused by, agents or employees of the District. The Contractor shall immediately repair or replace all property damaged or lost due to Contractor’s, or Subcontractor’s, failure to protect the Work or otherwise caused by Contractor or Subcontractor operations. A determination as to cause of damage or insurance or risk coverage at any level shall not delay repair or replacement. Contractor shall not rely on District insurance or risk coverage. If Contractor or Subcontractor disagrees with the District’s determination of cause, a claim may be filed in accordance with these Contract Documents.

I. Contractor shall maintain protection as necessary to protect the Work, as a whole and in part, and adjacent property and improvements from accidents, injuries or damage.

J. Contractor shall protect the Work, material, and/or equipment to be incorporated therein, whether in storage on or off the Site, and under the care, custody, or control of the Contractor or the Contractor’s Subcontractors.

K. Contractor shall correct any violations of safety laws, rules, orders, standards, or regulations. Upon the issuance of a citation or notice of violation by the Division of Occupational Safety and Health, such violation shall be corrected promptly.

L. Contractor shall require that Subcontractors participate in, and enforce, the safety and loss prevention programs established by the Contractor for the Project, which will cover all Work performed by the Contractor and its Subcontractors.

1. Subcontractors shall enforce the District’s and the Contractor’s instructions, laws, and regulations regarding signs, advertisements, fires, smoking, the presence of liquor, and the presence of firearms by any person at the Site.

2. Each Subcontractor shall designate a responsible member of its organization whose duties shall include loss and accident prevention, and who shall have the
responsibility and full authority to enforce the program. This person shall attend meetings with the representatives of the various Subcontractors employed to ensure that all employees understand and comply with the programs.

3. All Subcontractors and material or equipment suppliers shall cooperate fully with Contractor, the District, and all insurance carriers and loss prevention engineers.

4. Subcontractors shall immediately report in writing to the Contractor all accidents whatsoever arising out of, or in connection with, the performance of the Work, whether on or off the Site, which caused death, personal injury, or property damage, giving full details and statements of witnesses.

1.5 CONFORMANCE WITHIN ESTABLISHED LIMITS

A. The Contractor and Subcontractors shall confine their construction equipment, the storage of materials, and the operations of workers to the limits indicated by laws, ordinances, permits, and the limits established by the District, or the Contractor in the case of Subcontractors, and shall not unreasonably encumber the premises with construction equipment or materials.

1.6 CONTRACTOR NOTICES

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

1.7 SITE SAFETY OFFICER

A. Contractor shall designate a responsible member of its organization on the Work, whose duty shall be to enforce the Contractor’s Safety program Plan, post information regarding protection and obligations of workers and other notices required under occupational safety and health laws, to comply with reporting and other occupational safety requirements, and to protect the life, safety and health of workers. The name and position of person so designated shall be reported to District in writing by Contractor within ten (10) days of award of the Contract.

B. District’s representative(s) shall be allowed access to accident/injury and illness reports, inspection reports, scheduling and construction meetings, and safety meetings.

1.8 SAFETY PROGRAM PLAN

A. Prior to commencing Work at the Site, Contractor shall submit a Safety Program Plan specifically tailored for this Project and this Site that has been reviewed and approved by an Industrial Hygienist certified by the American Board of Industrial Hygiene or a Certified Safety Professional. The Safety Program Plan shall include the name, certification number, and certification seal of the Industrial Hygienist or Certified Safety Professional. Comply with the Safety Program and all applicable federal, state, and local regulation codes, rules, law and ordinances during the course of the Work.

B. The Contractor’s Safety Program Plan shall include all actions and programs necessary for compliance with California or federally statutorily mandated workplace safety programs, including without limitation, compliance with the California Drug Free Workplace Act of 1990 (California Government Code SS 8350 et seq.)
C. Plan shall comply with the requirements of the Occupational Safety and Health Act, and other applicable federal, state and local standards.

D. Contractor shall keep copies of all health and safety-related plans on the Site at all times.

E. Receipt and/or review of the Safety Program Plan by District shall not relieve Contractor of any responsibility for complying with all applicable safety regulations.

F. It is essential that Contractor and each Subcontractor implement an effective and vigorous site specific Safety Program for the Work.

G. The Contractor shall have sole responsibility for Project safety, and shall be solely responsible for providing a safe workplace.

H. Safety Program Plan Components:
   1. Injury and Illness Prevention Program (IIPP): Conforming to the General Industrial Safety Orders (CCR Title 8, Division 1, Chapter 4, Subchapter 7, Section 3203), and the California Labor Code (Section 6401.7).
   2. Site-Specific Safety and Health Plan (SSHP): This Plan shall describe the health and safety procedures that shall be implemented during the Work in order to ensure safety of the public and those performing the Work. Follow the guidelines for a SSHP listed in CCR Title 8, Division 1, Chapter 4, Subchapter 7, Section 5192, Item (b)(4)f.
   3. Permit-Required Confined Space Program: (CCR Title 8, Division 1, Chapter 4, Subchapter 7, Section 5157). Permit-required space entry is allowed only through compliance with a permit-required confined space program meeting the requirements of Section 5157 of the General Industrial Safety Orders. During entry operations, or at the conclusion of entry operations, verbally notify Engineer of the permit space program followed, and of any hazards confronted or created in permit-required spaces during entry operations.
   4. A written and certified workplace hazard assessment as required by OSHA and Cal OSHA, updated on a regular basis, and maintained on site. The certified hazard assessment shall be made available immediately upon request by the District, the Architect, or the Inspector of Record.

I. Supply sufficient hard hats to properly equip all employees, workers, and visitors. Hard hats shall be mandatory as per CAL OSHA Construction Safety orders.

J. Whenever an exposure exists, appropriate personal protective equipment (PPE) shall be used by all affected personnel. Contractor shall provide PPE to all personnel under Contractor’s direction and responsibilities.

K. After review by District, the implementation and enforcement of all Safety-related plans shall become the responsibility of the Contractor and Site Safety Officer. The Contractor shall notify the District in writing of any changes to Safety-related plans.

1.9 SAFETY PRECAUTIONS

A. The Contractor shall be solely responsible for initiating and maintaining reasonable precautions for safety of, and shall provide reasonable protection to prevent damage injury or loss to:
1. Employees on the Work and other persons who may be affected thereby
2. The Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor’s Subcontractors or Sub-subcontractors
3. Other property or items at the site of the Work, or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction. The Contractor shall
4. take adequate precautions and measures to protect existing roads, sidewalks, curbs, pavement, utilities, adjoining property and improvements thereon (including without limitation, protection from settlement or loss of lateral support), and to avoid damage thereto. Without adjustment of the Contract Price or the Contract Time, the Contractor shall repair, replace or restore any damage or destruction of the foregoing items as a result of performance or installation of the Work.
5. The Contractor shall at all times maintain good housekeeping practices to reduce the risk of fire damage.
6. Good housekeeping practices shall be maintained continually on all areas of the Site and the Work. District may request that the Contractor hire additional staff or help until housekeeping in a work or storage area is improved. All scrap materials, rubbish and trash shall be removed daily from in and about the building and shall not be permitted to be scattered on adjacent property.

B. Suitable storage space shall be provided outside immediate building areas for storing flammable materials and paints. Excess flammable liquids being used inside the building shall be kept in closed metal containers and be removed from the building during unused periods.

C. A fire extinguisher shall be available at each location where cutting or welding is being performed. Where electric or gas welding or cutting work is done, interposed shields of incombustible material shall be used to protect against fire damage due to sparks and hot metal. When temporary heating devices are used, a watchman shall be present to cover periods when other workmen are not on the premises.

D. The Contractor shall provide fire extinguishers in accordance with all OSHA and Cal OSHA requirements, and the recommendations NFPA Bulletins Nos. 10 and 241.

1.10 REQUIREMENTS FOR EXISTING SITES

A. Deliver materials to building area over route(s) approved by the District.

B. Take preventive measures to eliminate objectionable dust, noise, or other disturbances.

C. Con confines apparatus, the storage of materials, and the operations of workers to limits indicated by law, ordinances, permits or directions of Architect; and not interfere with the Work or unreasonably encumber premises or overload any structure with materials; and enforce all instructions of District and Architect regarding signs, advertising, fires, and smoking and require that all workers comply with all regulations while on the Site.

D. Take care to prevent disturbing or covering any survey markers, monuments, or other devices marking property boundaries or corners. If such markers are disturbed by accident, they shall be replaced by a licensed land surveyor or civil engineer, and all
lawfully required maps and records shall be filed with county and local authorities at no cost to the District. All related filing and plan check fees shall be paid by Contractor.

E. Contractor shall take adequate precautions to protect existing roads, sidewalks, curbs, pavements, utilities, adjoining property and structures (including, without limitation, protection from settlement or loss of lateral support), and to avoid damage thereto, and repair any damage thereto caused by construction operations. All permits, licenses, or inspection fees required for such repair Work shall be obtained and paid for by Contractor.

F. The Contractor, at Contractor’s expense, will remove all mud, water, or other elements as may be required for the proper protection of existing improvements, and prosecution of the Work.

G. Protect all other property at the Site or adjacent thereto as required, such as trees, shrubs, lawns, walks, pavement, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

1.11 SAFETY AND EMERGENCY CONDITIONS

A. Emergency Action: In an emergency affecting the safety of persons or property, the Contractor shall take any action necessary, at the Contractor’s discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided herein. Emergency conditions shall be any condition at the Site which has the actual or potential for significant adverse effects to persons or property, whether or not resulting from the Contractor’s operations.

B. Accident Reports: The Contractor shall promptly report in writing to the District all accidents arising out of or in connection with the Work, which caused death, personal injury, or property damage, giving full details and statements of any witnesses. In addition, if death, serious personal injuries, or serious property damages are caused, the accident shall be reported immediately by telephone or messenger to the District and Campus Police Department.

C. The District’s Representatives and Project Inspector, as appropriate, shall be notified of the existence of such a condition, but shall not be called upon to perform any emergency service. The fact that the District may not respond to the emergency condition shall not be used as an excuse by the Contractor to neglect immediate action; nor will the District or its Representatives be liable for any resulting condition. The fact that a representative of the Contractor may not be present when emergency conditions occur shall not relieve the Contractor from an immediate response to the situation which shall return the disruption to normalcy.

D. If the emergency circumstances are not the result of any fault or neglect of the Contractor, the Contract time shall be adjusted to reflect the actual direct effect of such actions to the then critical path of the Construction Progress Schedule. The foregoing notwithstanding, adjustments of the Contract Price or the Contract Time for actions taken by the Contractor in response to emergency circumstances shall be subject to the Contractor’s strict compliance with all other applicable provisions of the Contract Documents relating to notices and time for delivery of notices.
1.12 SAFETY SIGNS AND BARRICADES

A. The Contractor shall erect and maintain, as required by existing conditions and conditions resulting from performance of the Contract, reasonable safeguards for safety and protection of property and persons, including, without limitation, posting danger signs and other warnings against hazards, promulgating safety regulations and notifying Districts and users of adjacent sites and utilities.

B. Contractor shall properly protect the Work:
   
   1. With lights, guard rails, fencing, temporary covers and barricades.
   2. Enclose excavations with proper barricades.
   3. Brace and secure all parts of the Work against to protect against inclement weather and to prevent accidents.

C. Provide such additional forms of protection that may be necessary under during the course of the Work.

D. Contractor shall provide and maintain in good condition all protective measures required to adequately protect the public from hazards resulting from the Work. When regulated by Building Code, Cal OSHA, or other authority, such legal requirements for protection shall be considered as minimum requirements. Contractor shall be responsible for the protection in excess of such minimum requirements as required.

E. Contractor shall prevent unauthorized persons from the entering the Work Site(s).

1.13 CONTROL OF SITE

A. Contractor shall ensure that no alcohol, firearms, weapons, or controlled substances are present on the Project Site. Contractor shall immediately remove from the Site and terminate from this Project the employment of any employee found in violation of this provision.

1.14 SITE SECURITY

A. Contractor shall take and be fully responsible for all reasonably required measures to protect and maintain the security of persons, existing facilities, and property at the Site, including prevention of theft, loss, and/or vandalism by persons lawfully present on the Site, including non-working times. Contractor’s measures shall include, at a minimum, maintaining a log of all persons entering and leaving the Site, who they represent, what they are delivering, and to whom.

B. No claim shall be made against District by reason of any act of an employee or trespasser, and Contractor shall repair all damage to District’s property resulting from Contractor’s failure to provide adequate security measures.

C. But for immediate access to and from the Contractor controlled Site and staging area(s), the access gates shall remain closed and locked at all times. Contractor shall appoint one person to monitor access through the gate and maintain the sign-in/out list. Alternatively, Contractor may provide a full-time security guard at the gate to control access and maintain the sign-in/out list. The sign in/out list shall be available to District at anytime upon request. If District determines that the gate has been left unlocked, Contractor shall, if requested by District, provide a full time guard at no additional expense to the District.
D. The Contractor and the Subcontractors shall use only those ingress and egress routes designated by the District, observe the boundaries of the Site designated by the District, park only in those areas designated by the District, which areas may be on or off the Site, and comply with any parking control program established by the District, such as furnishing license plate information and placing identifying stickers on vehicles.

E. Contractor shall supply all security fencing, barricades, lighting, and other security measures as required to protect and control the Site.

F. The Contractor shall be responsible for providing security services for the Site as needed for the protection of the Site and as determined in the District’s sole discretion.

1.15 OPERATORS OF MOBILE EQUIPMENT SAFETY

A. Under Federal and State Safety requirements, Contractor must certify that all operators of mobile equipment including but not limited to forklifts, cranes, man-lifts, scissor and boom lifts, and similar equipment are required to have been trained and/or certified on the proper operation of such equipment. Copies of equipment training and certification records shall be forwarded, upon request, to the District.

1.16 SAFETY REQUIREMENTS

A. Contractor shall meet and comply with requirements of current local, State and Federal regulations.

B. Contractor shall meet and comply with the following rules:
   1. The Contractor will provide and maintain at the Site first-aid supplies that comply with the current Occupational Safety and Health Regulations.
   2. Hard hats shall be worn at all times. (This includes welders when using welding hoods)
   3. Sleeved shirts shall be worn at all times. (No tank tops)
   4. If required, Fire Retardant Clothing (FRC) shall be supplied by Contractor for all their employees.
   5. One Hundred Percent (100%) Fall Protection Policy: All subcontract employees shall comply with Fall Protection Policy. The Policy simply states “Anytime employees are working from an unprotected elevation of six (6) feet or more, fall protection must be used.” Working, as stated above, means while traveling, stationary, or anytime exposed to a fall from a surface not protected by approved handrails, cable or some other approved fall elimination device. Adherence to this policy is a requirement of your Subcontract.

C. Hazards Control:
   1. When use or storage of any hazardous materials or equipment, or unusual method is necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel. The Contractor shall notify the District any time that explosives or hazardous materials are expected to be stored on Site. Location of storage shall be coordinated with the District and local fire authorities.
   2. Store volatile wastes in covered metal containers and remove from premises daily.
3. Prevent accumulation of wastes that create hazardous conditions.
4. Provide adequate ventilation during use of volatile or noxious substances.

D. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
   1. Do not burn or bury rubbish or waste material on the Site.
   2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
   3. Do not dispose of wastes into streams or waterways.

E. Provide accident information on the forms provided by Contractor. This information shall be provided on the same day as the occurrence of said incident and shall be submitted to District within a reasonable time.

1.17 ADDITIONAL SAFETY CONTROLS

A. According to industry practices, it is the responsibility of the Contractor and subcontractors of every tier to exercise reasonable care to prevent work-related injuries and property and equipment damage at the Site, as well as minimize risk to the public and third-party property. The Contractor, all sub-contractors, suppliers, and installers shall undertake loss control prevention practices according to the requirements set forth by federal, state and city laws, statutes, and the specific procedures developed for this Project.

B. Contractors and subcontractors participating in the project will be expected to comply with the following safety and loss control requirements:
   1. All sub-contractors, suppliers, and installers shall identify their contact person(s) to the Contractor.
   2. Follow District procedures regarding dealing with the media, including, but not limited to, TV, Radio, and Newspaper.
   3. All construction employees will be required to be attired in workpants, shirt and appropriate boots or closed toe shoes.
   4. Smoking is prohibited on the Site.
   5. Controlling access to the construction site is a very high priority, and Contractors will be required to take whatever preventative measure, such as barriers, fencing, etc., as outlined in the Contract Documents.
   6. Construction personnel cannot enter District property other than the construction site unless accompanied by District personnel, and they are allowed only ‘incidental’ contact with students. Violations of these requirements by any construction employee will result in a mandatory background check of that employee – including fingerprinting – as required by state law.
   7. Fall protection is mandatory on all projects in accordance with CAL OSHA, OSHA and any other Local, State, and Federal appropriate code and requirements.
   8. Personal radios, headsets, walkmans and CD players are not allowed on the Site.
   9. All Contractors must attend the pre-construction safety meeting.
10. No sexual reference or preference shall be permitted on any piece of clothing or the hardhat. Any employee observed disregarding this policy shall be removed from the Site until further notice from the District.

11. Contractor personnel and subcontractor personnel at all levels will refrain from interacting with Campus staff or students unless required to prevent an unsafe situation. Personnel found speaking to staff or students for any reason unrelated to the Work or Safety shall be removed from the Site and not be allowed to return.

12. All Contractors’ employees shall park in their designated parking area. Any sticker attached to the employees’ vehicle that displays any form of sexual preference or reference shall be removed prior to parking at the Site. Each employee will provide their license plate number to the Contractor. Any employee disregarding this policy shall be removed from the Site until further notice from the District.

13. The Contractor shall control the break time activities of the employees to assure the cleanup of all soda cans, food wrappers, plastic bottles, or food containers from the break area. Such areas shall be cleaned immediately after the break and all waste placed in trash receptacles.

14. Theft or willful damage to any property of the District, student, or other Campus or District personnel will be prosecuted fully by the District.

15. No guns, switchblades, or knives with blades greater than two inches shall be allowed on the Site. Any employee disregarding this policy shall be removed from the Site until further notice from the District.

C. The Contractors and all subcontractors, suppliers and installers participating in the Project will further be expected to comply with the following safety and loss control requirements:

1. All Contractor, subcontractors, supplier, and installer personnel shall comply with all District, local, state, and federal emergency responder directions in the event of an emergency or disaster.

2. Any Contractors’ employee observed providing or selling cigarettes or other smoking materials to students shall be removed from the Site until further notice from the District.

3. All Contractors will agree to conduct and fund post-injury drug screening of their employees. Those employees failing the test will be removed permanently from the Site.

4. The District has the right to instruct the Contractor to correct an unsafe act or condition. If the Contractor fails to correct the unsafe act or condition within the requested time frame, the District or its representative may have the condition corrected and bill the non-compliant contractor, supplier, subcontractor, or installer for the costs associated with the correction.

5. The District may require a follow-up meeting or contact if there is a death, serious and willful claim, serious disabling injury, adverse loss experience, major fire, or serious third party claim.

6. Any contractor displaying, in the opinion of the Contractor or District, a repeated disregard for safety can be removed from the Site.
D. All Contractors will advise those non-English speaking employees in their native language either in a written format or via an interpreter of these policies.

1.18 HAZARD COMMUNICATION PROGRAM SAFETY

A. Contractor shall have a copy of the Contractor’s Hazard Communication Program which shall be forwarded to the District and a copy is required to be in the possession of the Contractor on the Site. Documentation of employee Hazard Communication Training must be established by the Contractor prior to commencement of work.

B. Any potential hazardous material or chemical brought onto the project is required to be accompanied by a Material Safety Data Sheet (MSDS). Copies of the MSDS shall be forwarded to the District, and Project Inspector before the product is brought onto the Site.

C. Contractor is required to have material safety data sheets available in a readily accessible place at the Site for any material requiring a material safety data sheet per the Federal “hazard communication” standard, or employees’ “right-to-know law.” The Contractor is also required to properly label any substance brought into the Site, and require that any person working with the material, or within the general area of the material, is informed of the hazards of the substance and follows proper handling and protection procedures.

D. Contractor is required to comply with the provisions of California Health and Safety Code section 25249, et seq., which requires the posting and giving of notice to persons who may be exposed to any chemical known to the State of California to cause cancer. The Contractor agrees to familiarize itself with the provisions of this section, and to comply fully with its requirements.

E. Contractor shall notify the District and Project Inspector before any chemical/material creating noxious or toxic fumes is used.

1.19 SHORING AND STRUCTURAL LOADING

A. The Contractor shall not impose structural loading upon any part of the Work under construction or upon existing construction on or adjacent to the Site in excess of safe limits, or loading such as to result in damage to the structural, architectural, mechanical, electrical, or other components of the Work.

B. The design of all temporary construction equipment and appliances used in construction of the Work and not a permanent part thereof, including, without limitation, hoisting equipment, cribbing, shoring, and temporary bracing of structural steel, is the sole responsibility of the Contractor. All such items shall conform with the requirements of governing codes and all laws, ordinances, rules, regulations, and orders of all authorities having jurisdiction.

C. The Contractor shall take special precautions, such as shoring of masonry walls and temporary tie bracing of structural steel work, to prevent possible wind damage during construction of the Work. The installation of such bracing or shoring shall not damage the Work in place or the Work installed by others. Any damage which does occur shall be promptly repaired by the Contractor at no cost to the District.
D. The Contractor is required to provide shoring as required to protect existing buildings and other structures, such as, but not limited to, the Existing Library when the Contractor installs nearby new utilities. All shoring for existing structures shall be designed by a licensed California Structural Engineer, and submitted to the District prior to any work occurring in the vicinity of the existing structure(s). Contractor shall also be responsible to place monitoring points on the Existing Library by a California Licensed Surveyor prior to the start of work to monitor any possible movement during the course of construction. Prior to, during and after nearby utilities have been installed, the Contractor’s California Licensed Surveyor shall survey the pre-established survey points to confirm the building did not move during the installation of the nearby utility work.

E. The Contractor is responsible to provide all temporary shoring for utility trenching activities, and other temporary shoring as required by law to install new improvements. All temporary shoring noted above shall be designed by a California Licensed Civil Engineer, other than the structural shoring required by a Licensed Structural Engineer in Paragraph 1.19D above.

1.20 SAFETY AND ELECTRICAL STANDARDS

A. The Contractor shall comply with all safety and electrical standards to ensure that all its employees are protected by Ground Fault Circuit interrupters as required, throughout the course of the Contractor’s work.

B. The Contractor is responsible for installation of any and all temporary power service for the project and shall provide it with Ground Fault Interrupter Protection with no additional cost to the District.

1.21 HAZARDOUS SUBSTANCES

A. No asbestos or asbestos-containing products shall be used in this construction or in any tools, devices, clothing, or equipment used to effect this construction. See Section 01412, Hazardous Materials and other related Contract Documents.

B. The Contractor shall not receive, use or store at the Site any hazardous substance unless contained in a container labeled with the original label applied by the Manufacturer of such substance. The Contractor shall maintain at the Site and forward to the District and Project Inspector copies of the most current material safety data sheets with respect to each hazardous substance received, used or stored at the Site by the Contractor.

C. The Contractor shall immediately forward to the District and Project Inspector any updated material safety data sheets.

D. The Contractor shall properly label and inform the District and Project Inspector of, any pipes or piping systems containing hazardous substances used or maintained at the Site by the Contractor. Prior to the receipt of such materials at the Site, the Contractor shall submit a list of all materials which the Contractor intends to receive, use or store at the Site that are classified as hazardous substances pursuant to applicable federal, state or local Employee or Community Right to Know statutes, regulations or requirements.
1.22 SAFETY SURVEYS

A. Inspector of Record may conduct periodic safety surveys of the Project. Any safety discrepancy observed will be reported to the appropriate Contractor Site Safety Representative for immediate correction.

B. District, Architect, and/or Inspector of Record safety surveys do not, without any limitation, relieve the Contractor of their primary responsibility to self-inspect the Work and equipment, and to conduct the Work in a safe manner.

C. Contractor shall provide the District, and Project Inspector with Monthly Contractor Accident Statistics Reports.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION 01540
1. **General**

1.1. These Geotechnical Requirements have been prepared for the purpose of bid and have been derived from the District’s soils report and updates prepared by Kleinfelder, dated September 8, 2017 and revised on August 21, 2018. Such reports have been submitted to the DSA as part of the Permit Set documents, and is available for inspection by the Contractor, but is not part of the Contract Documents and is made available solely for the convenience of the Contractor. The site plan showing the locations of borings, cone penetration tests (CPTs), and trenches and the logs of test borings, CPT profiles and trench logs showing a record of the data obtained by the District’s investigation of subsurface conditions is included in the above referenced report. These soils borings and logs are made available for the convenience of the Contractor, but are not part of the Contract Documents, but represent only the opinion of the District as to the character of the materials and ground water levels encountered on the date drilled/performed. The Contractor can only rely on the “technical data” as described in Section 00210, Paragraph 1.5.

1.2. This Specification Section includes the following:

1.2.1 Clearing, stripping, grubbing, and preparing areas to be filled

1.2.2 Selecting materials for fill

1.2.3 Placing, spreading, and compacting fill

1.2.4 Completing subsidiary work necessary to conform to lines, grades, and slopes shown on Contract Drawings

1.2.5 Protecting the soil in slab and foundation areas from drying out between grading and construction

1.3 Tests and observations shall be made by a representative from the Geotechnical Engineer (hereafter Geotechnical Engineer Representative) during grading so that the Geotechnical Engineer Representative can perform observations and tests to confirm that grading was performed according to the Drawings and Specifications of this Contract.

1.4 The Geotechnical Engineer Representative shall be notified at least two working days prior to placement of fill; so arrangements for testing and observation can be made.

1.5 No grading operations and/or placement of fill performed by Contractor without inspection by the Geotechnical Engineer Representative will be accepted.

1.6 The Contractor shall be responsible to protect open excavations and open trenches during or following seasonal rainfall.  Contractor shall be responsible to mitigate excessively over-
optimum (wet) soil moisture conditions caused by the Contractor’s failure to protect open excavations and open trenches by any of the following as part of their original Contract Price:

1.6.1 Frequent spreading and mixing during warm dry weather;

1.6.2 Mixing with lime, lime-fly ash, or cement product, approved by the Geotechnical Engineer. However, none of these products are allowed to be used in any tree protection zones, or within twice the diameter of any tree protection zones shown on the drawings.

1.6.3 Mixing with lime, lime-fly ash, or cement product, approved by Geotechnical Engineer and the District’s Arborist;

1.6.4 Stabilizing with aggregate, geotextile stabilization fabric and/or geo-grid; shall be evaluated and approved by Geotechnical Engineer Representative.

1.7 When unfavorable weather conditions necessitate interrupting filling and grading operations, areas shall be prepared by compaction of surface and grading to avoid collection of water. Adequate temporary drainage shall be provided to prevent erosion. After interruption, compaction specified in last layer shall be verified or reestablished before resuming work.

2. Testing

2.1 The American Society for Testing and Materials (ASTM) Test Procedure D 1557- (latest revision) shall be the standard test to define maximum densities for all compaction of fill. All densities shall be expressed as relative compaction in terms of the maximum dry density obtained in the laboratory by the foregoing standard procedure.

2.2 Field density tests shall be performed according to ASTM Test Procedures D 6938-08A. The locations and number of field density tests shall be selected by the Geotechnical Engineer Representative.

3. Clearing, Stripping, Grubbing, and Subexcavation to Prepare Areas to be Filled

3.1 Trees, roots, vegetation, and organic surficial soil shall be removed from structural areas unless specified otherwise by the Geotechnical Engineer. The depth of organic surficial soil to be removed will be recommended by the Geotechnical Engineer Representative, but for purposes of the original Contract Price, should be estimated as 3 inches. Stripping shall extend a minimum of 5 feet laterally beyond building lines (defined as the outside perimeter of the building walls or footing outer limits, whichever results in the greatest building envelope, and 2 feet beyond flatwork and pavement, where feasible.

3.2 Strippings are defined as surface vegetation and organic surficial soil. Strippings may not be used in engineered fill unless specifically authorized and observed by the Geotechnical Engineer Representative. Stripping may be stockpiled for landscaping use, with the approval of the District and Architect.
3.3 Soil deemed soft or unsuitable by the Geotechnical Engineer Representative shall be removed. Loose fills and surface soil sloughs shall also be excavated.

3.4 Underground structures such as old foundations, abandoned pipelines, septic tanks, and leach fields shall be legally removed from the Site.

3.5 The final stripping and excavation shall be approved by the Geotechnical Engineer Representative before further grading is started.

3.6 Demolition and removal of the former foundations may result in disturbance to the subsoil to a depth of twelve (12) inches below previously existing slab or footings/grade beams (see recommendation in Geotechnical Report, Section 3.04). This disturbed zone must be properly remolded in order to prepare a uniform compacted fill pad prior to placing new fill to establish the new building subgrade. The actual depth and lateral extent of the subexcavation required shall be determined in the field by the Geotechnical Engineer Representative.

3.7 The subexcavated subgrade soil to receive fill shall be moisture-conditioned and compacted to the following requirements:

- Minimum relative compaction: 90 percent
- Minimum moisture content: 2 percent over optimum

Scarification and moisture conditioning of intact rock areas may be waived by the Geotechnical Engineer Representative.

4. Selecting Fill

4.1 The Geotechnical Engineer shall evaluate suitability of materials for compacted fills. The material shall be a soil or soil-rock mixture, free of organic matter or other deleterious substances. Within 3 feet of finished grade, the compacted fill shall contain no rocks or lumps over 3 inches in diameter and none that are more than 15 percent larger than 2-1/2 inches. Rocks greater than 3 inches in diameter shall be placed in deep fills as approved by the Geotechnical Engineer Representative; so that they are not nested and so compaction may be achieved around them.

4.2 If imported materials are needed or desired by the Contractor, or when “non-expansive” fill is specified, they must be approved by the Geotechnical Engineer Representative prior to transporting the fill to the project. The proposed import fill shall be submitted to the Geotechnical Engineer for approval and appropriate testing no less than 5 working days before the expected delivery to the Site. Unless otherwise exempted by the Geotechnical Engineer, they shall meet the requirements per Section 3.04 of the Geotechnical Report.

5. Placing, Spreading, and Compacting Fill

5.1 The fill shall be placed in uniform lifts of not more than 8 inches in uncompacted thickness. Each layer shall be spread evenly and shall be thoroughly blade mixed during spreading to
obtain uniformity of material. Before compaction begins, the fill shall be brought to a water content (as directed by the Geotechnical Engineer Representative) that will permit required compaction by either (1) aerating the material if it is too wet, or (2) spraying the material with water if it is too dry.

5.2 After each layer has been placed, mixed, and spread evenly, it shall be compacted, except as noted for pavement subgrade (see Paragraph 10 in this specification section) as follows:

Minimum relative compaction: 90 percent, or as noted elsewhere.

Minimum moisture content: 2 percent over optimum for clay soils and at near optimum moisture content for “Non-expansive” fill and granular soils.

5.3 The Contractor shall use appropriate equipment to compact the fill to the specified density. Compacting shall be performed while the fill is within the specified range of moisture content. Each layer shall be compacted over its entire area, and the compacting equipment shall make enough passes to achieve the required density.

5.4 Fill placed on slopes shall be compacted by means of suitable equipment. Benching of the slopes shall be done in increments of 3 to 5 feet in height until the fill is brought to its specified height, or as determined by the Geotechnical Engineer Representative. To permit proper compaction of the outer limits of fill slopes, the slopes should be over built about 1 foot horizontally and then cut back to grade.

5.5 When sheepsfoot rollers are used for compaction, the density tests shall be taken in the compacted material below the surface disturbed by the roller. When these tests indicate that the density of any layer of fill, or portion thereof, is below the required density, it shall be reworked until the required compaction has been obtained.

5.6 Soil shall not be placed or compacted during periods of rain or on ground which is not drained of water. Soil which has been moistened by rain or other cause shall not be compacted until the moisture content is within the limits specified in Paragraph 5.2 above, or as approved by the Geotechnical Engineer Representative.

5.7 Proof-roll finish subgrade below the building slabs and pavements and where requested by the Geotechnical Engineer Representative, with a heavy pneumatic-tire (e.g. loaded water truck) to identify soft pockets and areas of excessive yielding. Do not proof-roll wet or saturated subgrade.

5.8 Building pad subgrade and foundation excavations require periodic moistening to prevent drying of the subgrade soil. The Geotechnical Engineer Representative must check moisture conditions in the subgrade soil and foundation excavations 48 hours prior to the placement of rock base or concrete.
6. **Backfilling Trenches**

6.1 Geologic exploratory trenches (or other depressions), if any, within the proposed building or pavement areas, shall be re-excavated and backfilled to meet the requirements for compacted fill, as specified above.

6.2 The utility trenches extending under the perimeter foundation and concrete slabs-on-grade require backfilling or plugging with impermeable soils at the building line and extending two feet into and beyond the building line. Trench backfill will be compacted to a minimum 90 percent relative compaction at a minimum of 2 percent over-optimum moisture content, except the upper 8-inches of backfill beneath pavement areas shall be compacted to a minimum of 93 percent relative compaction. Ponding (flooding) or jetting of trench backfill is not permitted.

6.2 Utility trenches that parallel the sides of the buildings shall be placed so that they do not extend below a line sloped down and away at a slope of 2H:1V (horizontal to vertical) from the bottom outside edge of the perimeter foundations (i.e., the base of the grade beam systems or the base of the exterior footings for the reinforced slab on grade floors).

6.3 Trench Excavation and Shoring: The Contractor shall provide the District and the Geotechnical Engineer with a letter identifying the company’s “Competent Person” overseeing excavation activities, and a copy of the company’s current OSHA permit. The Contractor shall also submit for approval a trench excavation safety plan conforming to Sections 5-1.02A and 7-1.01E of the California State Standard Specifications.

7. **Removing Subsurface Pipes**

7.1 The Geotechnical Engineer Representative shall designate the methods of removal of subsurface pipes. Depending upon depth and location, one of the following methods shall be specified:

7.1.1 Pipes larger than 6 inches in inside diameter or as shown on the Drawings shall be removed, and the trench shall be filled and compacted according to applicable requirements for compacting native soil (Paragraph 3 of this specification section) or fill (Paragraph 5 of this specification section).

7.1.2 Pipes less than 6 inches in diameter may be left in place unless they interfere with new construction provided they are filled with a sand cement slurry or cement grout.

7.2 If discovered as a differing site condition, any existing wells on the Site shall be filled, buried and capped according to the requirements of the local regulatory agency. The final elevation of the top of the well casing shall be a minimum of 36 inches below any adjacent grade at the completion of grading or filling. Under no circumstances should structural foundations be placed over the capped wells unless otherwise permitted by the Geotechnical Engineer Representative.
8. **Grading Slopes**

8.1 Slopes shall be graded at gradients no steeper than 2:1 (horizontal to vertical) for fill and cut, unless approved by the Geotechnical Engineer Representative.

8.2 After the slopes have been graded, they shall be track-rolled, and provisions shall be made for planting the slopes for erosion control. Drainage facilities shall be constructed to prevent water from flowing over slopes. No slope shall be left to stand through a winter season without erosion control.

9. **Installing Subdrains**

9.1 For subdrains, the contractor shall provide and install perforated pipe Standard Designation Ratio (SDR) 23.5 or equivalent approved by the Geotechnical Engineer and filter material for subdrains as shown on the Drawings or as directed by the Geotechnical Engineer. The following restrictions apply:

9.1.1 Clay drain tile, concrete drain tile and perforated clay pipe shall not be permitted. Use no wyes, tees, or other joints of these materials.

9.1.2 Porous concrete pipe, perforated asbestos-cement pipe, bituminous fiber or pipe of other materials shall be permitted only on written authorization of the Geotechnical Engineer.

9.1.3 The Contractor shall use Caltrans Class 2 permeable material, or as otherwise approved by the Geotechnical Engineer. Where the use of 1/2 by 3/4 inch drain rock is allowed, it must be wrapped within a filter fabric approved by the Geotechnical Engineer, unless otherwise permitted by written authorization from the Geotechnical Engineer. Filter fabric is not needed if Caltrans Class 2 permeable material is used.

9.1.4 Unless recommended otherwise by the Geotechnical Engineer Representative, the Contractor shall use pipes not less than 4 inches in diameter for lateral drains up to 50 feet in length. Use pipes of not less than 6 inches in diameter for lateral drains greater than 50 feet in length. Larger minimum pipe diameters may be specified by the Geotechnical Engineer during construction.

9.1.5 All retaining walls must be drained by providing a perforated horizontal pipe (SDR 35, or equivalent) behind the wall or other method deemed acceptable by the Geotechnical Engineer. The subdrain pipe must be placed no greater than 2 inches off the bottom of a gravel drain placed at the top of the heel of the wall footing and drained to an acceptable outlet. The subdrain pipe must be a minimum of 4-inches in diameter and lie at a minimum 1 percent slope gradient. The minimum 12-inch gravel drain composed of Caltrans Class 2 permeable material shall extend to within 18-inches of the surface, with the remainder of backfill consisting of compacted, relatively impervious, native soil material.
10. **Pavement**

10.1 The original ground on which the fill and pavement section are to be placed shall be plowed or scarified at least 12 inches and until the surface is free from ruts, hummocks or uneven features, which would tend to prevent compaction. The pavement sections presented in the Drawings and Specifications are preliminary and are subject to modification based on the results of R-value tests performed on the subgrade soils after grading is completed. The pavement section requires the following construction criteria:

10.1.1 Remove organic and deleterious materials from all pavement subgrade. Areas of existing asphaltic concrete section that are disturbed from existing tree roots may require additional subexcavation and recompaction, and even the placement of subgrade stabilization geotextile fabric in order to provide a stable subgrade.

10.1.2 Moisture condition the upper 12 inches of subgrade soil and compact it to a minimum relative compaction of 95 percent and to a moisture content of at least 2 percent over the optimum moisture content. All pavement subgrade should be stable with no “pumping’ at the time the base rock is placed, and will be “proof-rolled under as requested and under the review of the Geotechnical Engineer.

10.1.3 Use only good quality materials of the type and minimum thickness specified. All baserock shall meet the Caltrans Standard Specifications for Class 2 baserock and should be angular in shape.

10.1.4 Compact the baserock uniformly to a minimum relative compaction of 95 percent.

10.1.5 Place the asphaltic concrete only during periods of fair weather and not raining when the free air temperature is within the prescribed limits as set forth by the Asphalt Concrete Institute.

10.1.6 Compact all trench backfill under the pavement to reduce fill settlement and minimize pavement damage that may result from such settlement. Mechanical compaction is required. Compaction by jetting or ponding is not permitted.

10.1.6 Provide adequate drainage or V-ditch systems to prevent surface water from migrating into the subgrade pavement soil from behind curb-and-gutter sections. For areas where pavement abuts landscaping, the concrete curb shall be extended a minimum of 2 inches below the base of the baserock to form a cut-off wall to prevent water from migrating into the baserock.

11. **Dewatering**

11.1 The Contractor shall anticipate the need to dewater the Site and therefore, dewatering equipment necessary to drain and keep excavations free of water under all circumstances shall be provided, operated, and removed by the Contractor when work is completed.
11.2 Contractor shall obtain the Geotechnical Engineer’s approval of the proposed method of dewatering, and comply with all requirements, including the payment of any fees or charges by the City of Brentwood or agency having jurisdiction, and to legally dispose of surface and groundwater.

11.3 Surface water shall be prevented from flowing into the excavations. Accumulated water shall be promptly removed.

11.4 Dewatering systems shall be maintained in-place until construction work below groundwater level is completed.

12. Foundations

12.1 Foundation excavations shall be per the lines and grades shown on the Drawings.

12.2 The Geotechnical Engineer Representative must review the foundation excavation for acceptance prior to the placement of reinforcement steel. Where the bearing soils are determined to be too soft, overexcavation and replacement with lean concrete or compacted engineered fill will be required.

12.3 The Geotechnical Engineer Representative must determine if bearing soils are at an acceptable moisture condition. Moisture condition includes drying soils that are too wet and adding water to soils that are too dry.

13. Unusual Conditions

13.1 If unusual conditions occur during grading, the Geotechnical Engineer shall be immediately notified for recommendations.

END OF SECTION 01552
SECTION 01 56 39

TREE AND PLANT PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes general protection and pruning of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.

B. Description of Work:
   1. Protection of existing trees and vegetation to remain.
   2. Trimming of existing trees.
   4. Removal and re-installation of existing trees.

C. Traffic:
   1. Do not interfere with or close public ways without permission of the Owner’s Representative.
   2. Do not interfere with adjacent private properties without permission of the Owner’s Representative.

D. Site Utilities:
   1. Advise utility companies of excavation activities before starting excavations.
   2. Locate and identify underground utilities passing through work area before starting work.
   3. In event unidentified underground utilities are encountered during work, advise utility owner immediately before proceeding. Add any new utility information to project record drawings for actual location.
   4. Protect all existing-to-remain utilities.
   5. Do not interrupt existing utilities without advance notice to and approval from the Owner’s Representative.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified arborist and tree service firm.

B. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.
C. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work and for removal and re-installation of existing trees.

D. Existing Conditions: Documentation of existing trees and plantings indicated to remain and/or relocate, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.
   1. Use sufficiently detailed photographs.
   2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.

1.4 QUALITY ASSURANCE

A. Arborist Qualifications: Certified Arborist as certified by the International Society of Arboriculture (ISA) and having performed similar services for a minimum of five (5) years.

B. Tree Service Firm Qualifications: An experienced tree service firm that has successfully completed temporary tree and plant protection work similar to that required for this Project and that will assign an experienced, qualified arborist to Project site during execution of the Work.

C. Contractor shall be liable for the loss in value due to damaged trees and for repair costs resulting as determined by the Owner’s Representative. Due to the irreplaceable nature of many existing trees and vegetation, the liability to the General Contractor shall be set at $500.00 minimum per tree. The Trunk Formula method for Northern California established by the International Society of Arboriculture will be used to compute the actual value. Other vegetation lost due to construction activity and/or neglect shall be replaced by General Contractor in kind with similar size, potted plant stock to match existing prior to construction.

1.5 PROJECT CONDITIONS

A. The following practices are prohibited within protection zones:
   1. Storage of construction materials, debris, or excavated material.
   2. Parking vehicles or equipment.
   3. Foot traffic.
   4. Erection of sheds or structures.
   5. Impoundment of water.
   6. Excavation or other digging unless otherwise indicated.
   7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

B. Do not direct vehicle or equipment exhaust toward protection zones.

C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

1.6 Definitions

A. Caliper: Diameter of a trunk measured by a diameter tape at six (6) inches above the ground for trees up to, and including, four (4) inch size; and twelve (12) inches above the ground for trees larger than four (4) inch size.
B. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction, and indicated on Drawings.

C. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, and defined by a circle concentric with each tree with a radius equal to the diameter of the drip line unless otherwise indicated.

D. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

PART 2 - PRODUCTS

2.1 TREE PROTECTION PROTECTIVE FENCE

A. Existing shrubs and/or trees to remain on the school site shall be protected with a five (5) foot high orange plastic snow fence. Fence shall be mounted on two (2) inch diameter lodge pole posts driven into the ground every six (6) feet to a depth of at least two (2) feet. Fence shall be erected and installed around the perimeter dripline of each shrub, tree or groups of shrubs or trees to remain.

B. During planting and irrigation operations, protective fencing is not required beneath existing to remain trees and shrubs that fall within the newly landscaped and/or irrigation area.

2.2 TOPSOIL

A. Natural or cultivated top layer of the soil profile or manufactured topsoil; containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than one (1) inch in diameter; and free of weeds, roots, and toxic and other non-soil materials.

2.3 ORGANIC MULCH

A. Free from deleterious materials and suitable as a top dressing for trees and shrubs, consisting of shredded bark, three (3) inches to ½ inch in size, natural in color.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Erosion and Sedimentation Control: Examine the site to verify that temporary erosion- and sedimentation-control measures are in place. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.

B. For the record, prepare written report, endorsed by arborist, listing conditions detrimental to tree and plant protection.

3.2 PREPARATION

A. Locate and clearly identify trees, shrubs, and other vegetation to remain. Tie a 1-inch blue-vinyl tape around each tree trunk at 54 inches above the ground.

B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.
C. Tree-Protection Zones: Mulch areas inside tree-protection zones and other areas if indicated within Drawings.
   1. Apply 3-inch average thickness of organic mulch. Do not place mulch within 6 inches of tree trunks.

3.3 TREE- AND PLANT-PROTECTION ZONES

A. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones before materials or equipment are brought on the site and construction operations begin in a manner that will prevent people from easily entering protected area except by entrance gates. Construct fencing so as not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation.
   1. Plastic Protection Zone Fencing: Neatly install protection zone plastic fabric by securing to posts with plastic bands or steel wires, a minimum of two per post, additionally if required to withstand typical construction activity.
   2. Posts: Set or drive posts into ground one-third the total height of the fence without concrete footings. Where a post is located on existing paving or concrete to remain, provide appropriate means of post support acceptable to Owner’s Representative.
   3. Access Gates: Install as necessary; adjust to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

B. Protection-Zone Signage: Install protection-zone signage in visibly prominent locations in a manner approved by Owner’s Representative. Install one sign spaced approximately every 50 feet on protection-zone fencing, but no fewer than two signs with each facing a different direction.

C. Maintain protection zones free of weeds and trash.

D. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Owner’s Representative.

E. Maintain protection-zone fencing and signage in good condition as acceptable to Owner’s Representative and remove when construction operations are complete and equipment has been removed from the site.
   1. Do not remove protection-zone fencing, even temporarily, to allow deliveries or equipment access through the protection zone.
   2. Temporary access is permitted subject to preapproval in writing by arborist if a root buffer effective against soil compaction is constructed as directed by arborist. Maintain root buffer so long as access is permitted.
   3. Temporary access is permitted for landscape irrigation and planting operations.

3.4 EXCAVATION

A. General: Excavation and trenching shall be performed at a minimum, in accordance with these specifications and per Drawings and Details and in accordance with recommendations from project Arborist retained by Contractor.
B. Trenching near Trees: Where utility trenches are required within protection zones, hand excavate under or around tree roots or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral tree roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots as required for root pruning.

C. Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3 inches (75 mm) back from new construction and as required for root pruning.

D. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.

3.5 ROOT PRUNING

A. Prune roots that are affected by temporary and permanent construction. Prune roots as follows:
   1. Cut roots manually by digging a trench and cutting exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots.
   2. Cut Ends: Coat cut ends of roots more than 1-1/2 inches in diameter with an emulsified asphalt or other coating formulated for use on damaged plant tissues and that is acceptable to arborist.
   3. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
   4. Cover exposed roots with burlap and water regularly.
   5. Backfill as soon as possible.

B. Root Pruning at Edge of Protection Zone: Prune roots flush with the edge of the protection zone, by cleanly cutting all roots to the depth of the required excavation.

C. Root Pruning within Protection Zone: Avoid cutting trenches within shrub and/or tree protection zone. If trenching is unavoidable, cut trenches with an air spade tool to expose roots without cutting them. Roots encountered smaller than two (2) inches in diameter may be cut, not torn for removal. Cleanly cut roots as close as possible to excavation. Roots larger than two (2) inches in diameter shall remain.

3.6 CANOPY PRUNING

A. Prune branches that are affected by temporary and permanent construction. Prune branches as follows and under the direction of project Arborist:
   1. Prune trees to remain to compensate for root loss caused by damaging or cutting root system. Provide subsequent maintenance during Contract period as recommended by arborist.
   2. Prune trees for long-term structural integrity.
   3. Prune trees as required for clearance above nearby structures, pathways and driveways or streets.
4. Pruning Standards: Prune trees according to ANSI A300 (Part 1).
5. Cut branches with sharp pruning instruments; do not break or chop.
6. Do not apply pruning paint to wounds.

B. Chip removed branches and dispose of off-site.

3.7 REGRADING

A. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.

B. Lowering Grade within Protection Zone: Where new finish grade is indicated below existing grade around trees, slope grade away from trees as recommended by arborist unless otherwise indicated.
   1. Root Pruning: Prune tree roots exposed by lowering the grade. Do not cut main lateral roots or taproots; cut only smaller roots. Cut roots as required for root pruning.

C. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.

D. Minor Fill within Protection Zone: Where existing grade is 2 inches or less below elevation of finish grade, fill with topsoil. Place topsoil in a single uncompacted layer and hand grade to required finish elevations.

3.8 FIELD QUALITY CONTROL

A. Inspections: Engage a qualified arborist to direct plant-protection measures in the vicinity of trees, shrubs, and other vegetation indicated to remain, to over-see removal and re-installation of existing plant material and to prepare inspection reports.

3.9 REMOVE AND RE-INSTALL EXISTING TREES

A. Plant material noted on Drawing to be transplanted shall be carefully removed from planting area and planted in new location indicated on Planting Plan. Removal shall consist of digging around the dripline of each plant to be transplanted and to the depth where roots are present. Plant and rootball shall be carefully moved to new planting pit.

B. Re-install transplanted plant material to location indicated on Drawing as follows:
   1. Excavate circular pits with sides sloped inward. Trim base leaving center area raised slightly to support root ball and assist in drainage. Do not further disturb base. Scarify sides of plant pit smeared or smoothed during excavation. Excavate approximately planting pit sizes twice the width of the planting pot and equal to the depth of the planting pot.
   2. Carefully install root ball without damaging root ball or plant.
   3. Set rootball onto compacted native soil so the rootball sits one (1) inch above adjacent finish grade.
   4. Amend backfill soil per tree planting detail and landscape planting specifications.
   5. Place planting soil around root ball in layers, tamping to settle mix and eliminate voids and air pockets. When pit is approximately one-half backfilled, water thoroughly before
placing remainder of backfill. Repeat watering until no more water is absorbed. Water again after placing and tamping final layer of planting soil.

6. Stake tree(s) per tree planting detail.

3.10 REPAIR AND REPLACEMENT

A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Owner’s Representative.
   1. Submit details of proposed root cutting and tree and shrub repairs.
   2. Have arborist perform the root cutting, branch pruning, and damage repair of trees and shrubs.
   3. Treat damaged trunks, limbs, and roots according to arborist's written instructions.
   4. Perform repairs within 24 hours.
   5. Replace vegetation that cannot be repaired and restored to full-growth status, as determined by Owner's Representative.

B. Trees: Remove and replace trees indicated to remain that are more than 25 percent dead or in an unhealthy condition before the end of the maintenance period or are damaged during construction operations that the Owner's Representative determines are incapable of restoring to normal growth pattern.
   1. Provide new trees of same size and species as those being replaced for each tree that measures three (3) inches or smaller in caliper size.
   2. Provide new trees of 48" box size and species as those being replaced for each tree that measures greater than three (3) inches. In addition, the liability to the General Contractor shall be set at $500.00 minimum per tree. The Trunk Formula method for Northern California established by the International Society of Arboriculture must be used to compute the actual value.
   3. Plant and maintain new trees as specified in Section 32 90 00 "Planting."

C. Soil Aeration: Where directed by the Owner’s Representative, aerate surface soil compacted during construction. Aerate 10 feet beyond drip line and no closer than 36 inches to tree trunk. Drill two (2) inch diameter holes a minimum of 12 inches (300 mm) deep at 24 inches o.c. Backfill holes with an equal mix of augered soil and sand.

3.11 REMOVAL OF EXISTING VEGETATION AND/OR TREES:

A. Contractor shall remove and demolish from the site trees and vegetation indicated on the Drawings. Additional trees and vegetation conflicting with work require written approval by Owner or Architect.

B. Tree removal shall include entire tree above grade and roots below grade. At a minimum, roots shall be removed one (1) inch and larger in diameter within a five (5) foot radius of the tree trunk location. Exact depth shall be determined in accordance with and as required for building and hardscape work included under this contract.

C. Contractor shall fill depressions caused by tree removal with on-site or approved import topsoil fill material in planting areas or engineered fill beneath proposed hardscape and/or building pads as specified in geotechnical report. Do not fill with tree debris, sawdust or
grindings. Properly dispose of any vegetation debris in a legal and acceptable manner off Owner's property.

D. Properly dispose of tree debris off site in an acceptable manner.

END OF SECTION 01 56 39
SECTION 01572
STORM WATER POLLUTION PREVENTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED DOCUMENTS SPECIFIED IN OTHER SECTIONS

A. Section 01010 – “Summary of Work”
B. Section 01050 – “Field Engineering”
C. Section 01330 – “Submittal Procedures”
D. Section 01410 – “Regulatory Requirements”
E. Section 00700 - General Conditions Article 13.12, Storm Water Pollution Prevention
F. Divisions 2 through 33 Sections for Storm Water Prevention Plan requirements for the work in those sections.

1.3 BACKGROUND

A. Storm drains discharge directly to creeks and the Bay without treatment. Discharge of pollutants (any substance, material, or waste other than uncontaminated storm water) from this project into the storm drain system is strictly prohibited by the State Water Resources Control Board (SWRCB) Order 2009-0009 DWQ (Order) and California Regional Water Quality Control Board (RWQCB) Water Quality Control Plan San Francisco Bay Basin Plan (Basin Plan).

B. This specification is applicable to this Project since it will disturb (e.g., digging, trenching, grading, clearing, filling) one or more acres of land surface. Contractor shall calculate and confirm the disturbed soil acreage and submit calculations to the District.

C. This specification also covers Linear Underground/Overhead Projects as regulated by the Order.
D. Area of land surface disturbance includes but is not limited to:
   1. Clearing of the land both for access (i.e. access roads) to the site as well as preparing the site for constructing the project,
   2. Constructing access roads to the Site,
   3. Grading of the Site in total,
   4. Equipment staging area, maintenance area, and construction easement if they occur atop a
soil surface which has not been included in the calculation for area of soil disturbance,
5. Material and/or soil stockpiles if atop a soil surface (not if atop an impervious surface such as concrete or asphalt),
6. Area of asphalt or concrete pavement removal if it is removed entirely to the soil surface,
7. Area that is related to demolition and removal of existing structures if that demolition and removal is to the soil surface.
8. Concrete truck clean-out areas if atop a soil surface.

1.4 SUMMARY OF WORK

A. Provide storm water pollution prevention plan as specified and as required by appropriate regulatory authorities, complete.

B. Work in this section includes all labor, equipment, and materials necessary for the preparation, implementation, maintenance, and monitoring of the Storm Water Pollution Prevention Plan (SWPPP). Principal items of work included herein include, but are not limited to:
   1. Plan administration, maintenance, update, and termination.
   2. Placement of erosion/pollution control devices (where applicable).
   3. Maintenance and monitoring of control devices.
   4. Miscellaneous related work necessary for plan compliance.
   5. Reports and certificates.

C. Work under all other sections of this specification shall comply with the requirements of this section. All trades working on the Project need to be aware of and in compliance with the SWPPP.

D. All materials that can potentially enter and/or pollute storm water discharges and the generation of non-storm water discharges shall be in compliance with the SWPPP. Representative materials and procedures include erosion control of construction vehicles and equipment, and general construction debris potentially entering the storm drain system’s natural flow course.

1.5 REQUIREMENTS

A. The State Water Resources Control Board uses the Storm Water Multiple Application and Report Tracking System (SMARTS) SMARTS web based application for storm water permit processing and tracking. The Contractor shall input data and upload documents required for storm water permit compliance. The program is also responsible for processing, reviewing, updating, terminating Notices of Intent (NOIs), annual reports, and maintaining the billing status of each discharger. SMARTS has been developed to provide an online tool to assist dischargers in submitting their NOIs, NECs, NOTs, and Annual Reports, as well as, viewing/printing Receipt Letters, monitoring the status of submitted documents, and viewing their application/renewal fee statements. The system will also allow the Regional Board and State Board staff to process and track the discharger submitted document is a user account and password protected system where a valid user account and password is needed to access the system. Prepare Permit
Registration Documents according to the requirements found in this section. Electronically submit these documents to the District at least 15 working days prior to the land surface disturbance at the Site. Once the documents are approved, the Contractor shall upload the required data and documents to the SMARTS web site.

B. Provide a Qualified Storm-Water Pollution Prevention Plan (SWPPP) Developer (QSD) and a Qualified SWPPP Practitioner (QSP) for SWPPP development and implementation as defined in the Order ("Qualified" means the developer and/or practitioner possesses the necessary professional license, i.e. Professional Engineer, Geologist, etc. and has passed any exam(s) required to obtain the QSD/QSP certification. Refer to the specific requirements as shown within the SWRCB General Construction Permit and regulations). The QSD or QSP shall input and maintain data and documents in the SMARTS web site to ensure compliance with the state storm permit at all times.

C. Provide all material, labor, equipment, for installation, implementation, and maintenance of all surface-water pollution prevention measures. This work includes the following:

1. Furnishing, placing, and installing effective measures for preventing erosion and runoff of soil, silts, gravel, hazardous chemicals or other prohibited materials defined by the SWRCB and RWQCB.
2. Managing on-site construction materials in such a manner as to prevent said materials from contacting storm water or wash water and running off-site into the storm drain system.
3. Complying with applicable standards and regulations for water pollution and erosion control.
4. Include post-construction storm water pollution prevention structures in the storm water pollution prevention plan. Contractor shall use construction drawings as the reference for post-construction BMPs.

D. Contractor will not be required to maintain post-construction pollution prevention structures. However, Contractor is required to provide operations and maintenance documents to the District at the end of construction.

E. In this section, the term "storm drain system" shall include storm water conduits, storm drain inlets and other storm drain structures, street gutters, channels, watercourses, creeks, lakes, and the San Francisco Bay.

F. Sanitary sewer discharge regulations are intended to provide protection of the sanitary sewer system and appropriate municipal utility water pollution control plant. In this specification, "sanitary sewer" shall include any sanitary sewer manhole, clean-out, side sewer or other connection to the area wastewater treatment plant.
G. Contractor shall have storm drain pollution prevention measures in place and follow this specification anytime rain is predicted in the San Francisco Bay Area by the National Oceanic and Atmospheric Administration (NOAA) prediction for rain at or above 50%. It is the responsibility of the Contractor to be prepared for a rain event at all times required by the Order, to be aware of weather predictions, and to perform actions triggered by prediction of such rain events. The District is not responsible for informing the Contractor of rain predictions. In the event the Project is determined to be a Risk Level two or higher project by the Contractor’s QSD/QSP, the Contractor must create a Rain Even Action Plan (REAP) anytime rain is predicted (50% or greater chance as mentioned above) within 48 hours. The QSP must implement the REAP and have it on-site no later than 24 hours prior to the rain event.

H. Construction site sanitary sewer blockage will likely result in a back-up and overflow to the storm drain system. The Contractor shall immediately notify the District and the Project Inspector of record if there is a clogged sanitary sewer, and implement a plan to re-direct sewage if an overflow of the sanitary sewer will result in sewage discharge to the storm drain.

I. Contractor shall not allow any non-storm water to enter the storm drain system. Non-storm water includes domestic supply water used to wash streets, painting and drywall equipment, tools, equipment, or vehicles. Except for certain fire-line flushing and testing procedures, contact the District for discharge approval.

1.6 REGULATIONS AND STANDARDS

A. Contractor shall comply with the following applicable regulations:
   2. “San Francisco Bay Basin (Region 2) Water Quality Control Plan” (Basin Plan), California Regional Water Quality Control Board,
   3. California State Water Resources Control Board NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES, Order 2009-0009 DWQ (Order) and all Amendments.

B. Contractor shall comply with industry-standard guidelines on storm drain pollution prevention, such as:
   1. “Erosion and Sediment Control Field Manual” California Regional Water Quality Control Board (RWQCB)—San Francisco Bay Region.

1.7 SUBMITTALS/DELIVERABLES

A. Prepare Permit Registration Documents (PRD) according to the requirements found in Attachment B of the Order. Submit these documents to the District electronically at least 20 working days prior to the soil disturbance at the Site. Some or all of the following documents may be required, depending on the site Risk calculation, monitoring requirements, construction phase storm water treatment systems, and post-construction storm water treatment structures:
1. Storm Water Pollution Prevention Plan created by the Contractor’s QSD
2. Site Map
3. Post-construction water balance form
4. Risk Calculation
5. Active Treatment Systems plans (based on Risk Level determined in PRD)
6. Others as may be required by the State Water Resources Control Board Order 2009 0009 DWQ.
7. Erosion control and water pollution control drawings based on actual construction phasing and staging locations. Contractor shall use construction drawings and requirements from the construction general permit as the reference for these drawings.

B. The Notice of Intent (NOI) will be completed by the District following electronic upload of the approved documents to the SMARTS web site by the Contractor.

C. Monitoring Reports. Monitoring sampling results reports are mandated according to the Risk Level and specific characteristics of the Site as prescribed in the Order. Contractor shall determine the required monitoring reports according to the Order and submit a list of such documents to the District and the SMARTS database. When the Project is underway, the Contractor shall produce the mandated reports electronically and submit them to the District and SMARTS electronically within 2 days of the conclusion of the rain event, and within 1 day of Numeric Action Level exceedance.

D. Annual Reports. Contractor shall determine the required information according to the Order and electronically submit the Annual Report electronically to the District and the SWRCB via SMARTS database.

E. Notice of Termination. Contractor shall determine the required information according to the Order and electronically submit Notice of Termination documents to the District and the SWRCB via the SMARTS database.

F. Complete and provide the Post-Construction Water Balance Performance Standard Spreadsheet as found in Appendix 2/2.1 of the Order.

1.8 ENVIRONMENTAL ENFORCEMENT

A. State, regional, and local agencies have authority to enforce, through codified regulations, any portions of this Section that if not implemented may violate applicable regulations. Agency enforcement may include but is not limited to: citations, orders to abate, bills for cleanup costs and administration, civil suits, and/or criminal charges. Contract compliance action by the District shall not be constructed to void or suspend any enforcement actions buy these or other regulatory agencies.

PART 2 - MATERIALS

2.1 GENERAL
A. Provide materials as required for execution of the Work required by the approved Stormwater Pollution Prevention Plan, prepared by the Contractor’s QSD

PART 3 - EXECUTION

3.1 GENERAL

A. Report any hazardous or unknown material spills immediately to a District Representative. If a spill occurs after hours or on a weekend, contact the campus Police Department. The Contractor is responsible for ensuring that its employees and subcontractors (if any) working on site are aware of the location of the campus phone nearest the Site. The Contractor is also responsible for creating the necessary spill reports outlined in the construction general permit and must upload them to SMARTS.

B. Adhere to the requirements of the Order.

3.2 SPILL PREVENTION AND CONTROL

A. The Contractor shall keep spill cleanup materials, such as rags or absorbents, readily accessible on-site.

B. The Contractor shall immediately contain and prevent leaks and spills from entering storm drains, and properly clean up and dispose of the waste and cleanup materials. If the waste is hazardous, the Contractor shall dispose of hazardous waste only at authorized and permitted Treatment, Storage, and Disposal Facilities, and use only licensed hazardous waste haulers to remove the waste off-site, unless quantities to be transported are below applicable threshold limits to transportation specified in State and Federal regulations.

C. The Contractor shall not wash any spilled material into streets, gutters, storm drains, or creeks and shall not bury spilled hazardous materials.

D. The Contractor shall report any hazardous materials spill to Emergency 911.

3.3 DE-WATERING AND SEDIMENT MANAGEMENT AND NONHAZARDOUS MATERIAL/WASTE MANAGEMENT

A. If storm water or groundwater in site excavations or drilled holes, (e.g., trenches, pits, pier holes, footings), needs to be removed, it shall be made clean by filtering, settling, or other method capable of removing solids and suspended particles from this water prior to discharge to the storm drain system. The Contractor shall ensure that this discharge complies with all applicable provisions of the Basin Plan.

B. If excavation water is domestic supply water, or the water is contaminated with a hazardous substance, then the Contractor shall dispose of according to guidance from the District. For disposal authorization, the Contractor shall contact the District to determine the discharge requirement.
C. If the Contractor suspects the presence of contaminated groundwater, or domestic supply water, the Contractor shall immediately notify the District. The Contractor shall not attempt to pump out or treat any material suspected of containing a hazardous material or petroleum product.

D. Designated Area:
   1. The Contractor shall propose designated areas of the Site, for approval by the Engineer, suitable for material delivery, storage, and waste collection that, to the maximum extent practicable, are near construction entrances and away from catch basins, gutters, drainage courses, and creeks.

E. Granular Material:
   1. The Contractor shall store granular material at least ten feet away from catch basin and curb returns.
   2. The Contractor shall not allow granular material to enter the storm drains or creeks.
   3. When rain is forecast within 24 hours or during wet weather, the Engineer shall require the Contractor to cover granular material with a tarpaulin and to surround the material with sand bags.

F. Dust Control: The Contractor shall use reclaimed water if available to control dust on a daily basis or as directed by the QSP. If reclaimed water is not available, Contractor to use domestic water.

3.4 HAZARDOUS MATERIAL/WASTE MANAGEMENT

A. Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with City, State and Federal regulations.

B. Store hazardous materials and wastes in secondary containment and cover them during wet weather.

C. Follow manufacturer’s application instructions for hazardous materials and do not use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours.

D. Arrange for appropriate disposal of all hazardous waste.

E. See Specification Section 01412, Hazardous Materials for more information and requirements.

3.5 SANITARY SEWER DISCHARGE POINT IDENTIFICATION

A. If the Contractor will be disposing of water from a settling operation, or any other water approved by the District for sanitary sewer disposal, the Contractor will verify with the Buildings and Grounds Department that the manhole used for disposal is a sanitary sewer and not a storm drain. (Note: do not assume that a manhole is a sanitary sewer, even if the words “sanitary sewer” is embossed on it. Sometimes utility maps and manhole cover designations are incorrect.)

3.6 WATER MAIN AND SANITARY SEWER LINE BREAK CONTINGENCY PLAN
A. If working on or near a water main line or sanitary sewer line, the Contractor shall have a written emergency response plan that states procedures for responding to a break and release of supply water to the storm drain system. This plan shall be made part of the SWPPP. The Contractor shall meet the following requirements:

1. Water Main Work
   a. Determine the direction of water flow if the main were to break.
   b. Build a containment berm between the work area and the storm drain inlet(s) that the water would flow into. Make the containment structure large enough to hold the water so that it can be pumped to a sanitary sewer.
   c. Build this containment structure before digging.
   d. If there is a water main break, pump the water that collects in the containment structure to a sanitary sewer.
   e. If the containment fails, prevent chlorinated water from entering the storm drain system.
   f. Put in place, before digging, sediment control structures upstream of drain inlets and at drain inlets.
   g. If a break occurs, contact the District and Project Inspector of record immediately. Include in the plan the phone numbers of the District and Project Inspector contact information.

2. Sanitary Sewer Line Work.
   a. Determine where the sewage will flow if the work could cause a blockage.
   b. Build a containment structure between the work area and the storm drain inlet(s) that the sewage water would flow into. Make the containment structure large enough to hold the sewage flow so that it can be pumped to a sanitary sewer.
   c. Build the containment before working on the sewer line. Put in place, before digging, solids (toilet paper, etc.) control structures upstream of drain inlets and at drain inlets.
   d. If a sewage blockage occurs, pump it to a sanitary sewer, and do not allow it to flow into the storm drain system.
   e. If the containment fails, prevent chlorinated water from entering the storm drain system by placing dechlorination sodium sulfite tablets in the sewage according to Attachment 2 of this Section).
   f. If a sewage blockage or spill occurs contact the District and Project Inspector of record immediately.

3. Excavation Work. This Paragraph applies to Contractors that excavate in the vicinity of sanitary sewer lines and cause or discover a sewage spill, leak or blockage.
   a. Immediately notify the District. The District will immediately notify Project Inspector. Include in the plan the phone numbers of the District and Project Inspector contact information.

3.7 PAVING OPERATIONS

A. Project Site Management:
   1. When rain is forecast within 24 hours or during wet weather, the District or the QSP may prevent the Contractor from paving.
   2. The QSP may direct the Contractor to protect drainage courses by using control
measures, such as earth dike, straw bale, straw wattles, and sand bag, to divert runoff or trap and filter sediment.
3. The Contractor shall place drip pans or absorbent material under paving equipment when not in use.
4. The Contractor shall cover catch basins and manholes when paving or applying seal coat, tack coat, slurry seal, or fog seal.
5. If the paving operation includes an on-site mixing plant, the Contractor shall comply with the County’s General Industrial Activities Storm Water Permit requirements.

B. Paving Waste Management: The Contractor shall not sweep or wash down excess sand (placed as part of a sand seal or to absorb excess oil) into gutters, storm drains, or creeks. Instead, the Contractor shall, either collect the sand and return it to the stockpile, or dispose of it in a trash container. The Contractor shall not use water to wash down fresh asphalt concrete pavement.

3.8 SAW CUTTING

A. During saw cutting, the Contractor shall cover or barricade catch basins using control measures, such as filter fabric, straw bales, sand bags, and fine gravel dams, to keep slurry out of the storm drain system. When protecting a catch basin, the Contractor shall ensure that the entire opening is covered.

B. The Contractor shall vacuum saw cut slurry and pick up the waste prior to moving to the next location or at the end of each working day, whichever is sooner.

C. If saw cut slurry enters catch basins, the Contractor shall remove the slurry from the storm drain system immediately.

3.9 CONTAMINATED SOIL MANAGEMENT

A. The Contractor shall look for contaminated soil as evidenced by site history, discoloration, odor, differences in soil properties, abandoned underground tanks or pipes, or buried debris. If the Project is not within an area of known soil contamination and no evidence of soil contamination is found, then testing of the soil shall only be required if directed by the District.

B. If the Project is within an area of known soil contamination or evidence of soil contamination is found, then soil from grading or excavation operations shall be tested by the District’s testing agency. The soil shall be managed as required by designated agency.

3.10 CONCRETE, GROUT, AND MORTAR WASTE MANAGEMENT

A. Material Management: The Contractor shall store concrete, grout, and mortar away from drainage areas and ensure that these materials do not enter the storm drain system.

B. Concrete Truck/Equipment Wash Out:
1. The Contractor shall not wash out concrete trucks or equipment into streets, gutters, storm drains, or creeks.
2. The Contractor shall perform washout of concrete trucks or equipment off-site.
3.11 PERSONNEL TRAINING

A. The Contractor shall train its employees working on the Site on the requirements contained in this Section. The Contractor shall document this training in writing. District representatives for the Site will request to see the training materials and records at the onset of work.

B. The Contractor shall inform all subcontractors (if any) of the water pollution prevention requirements contained in this specification and include appropriate subcontract provisions to ensure that these requirements are met.

3.12 LIST OF CONTRACTORS DESIGNATED SWPPP CONTACTS AND PHONE NUMBERS

A. Provide a list of employees that will be responsible for preparing, implementing and updating the SWPPP, including, but not limited to, the name of the Contractor’s QSD and the Contractor’s QSP

END OF SECTION 01572
SECTION 01610
BASIC PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
   A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in
      this document, and provisions in the General Conditions and other Division 1 Specification
      Sections shall apply to this Section without limitation.

1.2 RELATED DOCUMENTS SPECIFIED IN OTHER SECTIONS
   A. Section 01010 – “Summary of Work”
   B. Section 01030 – “Alternates”
   C. Section 01400 – “Quality Control Requirements”
   D. Section 01625 – “Product Options and Substitutions”
   E. Section 01770 – “Contract Closeout Procedures”
   F. Divisions 2 through 33 Sections for Basic Product Requirements for the Work in those Sections.

1.3 SUMMARY
   A. This Section describes the basic requirements for the selection, handling, and storage of products
      to be used in the Project.

1.4 PRODUCTS
   A. All products are to be new and not previously incorporated into or used in any other project or
      facility. Products salvaged or recycled from other projects are not considered new products and
      are not permitted.
   B. The term product, as used in the Contract Documents, includes materials, equipment, systems,
      and like terms of similar intent.
   C. Products include materials, machinery, components, equipment, fixtures and systems forming
      the Work and purchased for incorporation into the Work.
   D. Products do not include machinery and equipment used for preparation, fabrication, conveying
      and erection of the work. Products may also include existing materials or components required
      for reuse.
   E. Do not reuse materials and/or equipment removed from existing premises except as specifically
      permitted by the Contract Documents.
   F. Provide interchangeable components of the same manufacturer, for similar components.
   G. Named products are items identified in the Contract Documents by manufacturer’s product
      name, including make or model number or other designation shown or listed in manufacturer’s
      published product literature that is current as of date of the Contract Documents.
1.5 **TRANSPORTATION AND HANDLING**

A. Transport and handle products in accordance with manufacturer’s instructions.

B. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.

C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, and/or other damage.

1.6 **SHIPPING REQUIREMENTS**

A. Preparation for Shipment: All equipment shall be suitably packaged to facilitate handling and to protect against damage during transit and storage. All equipment shall be boxed, crated, or otherwise completely enclosed and protected during shipment, handling, and storage. All equipment shall be protected from exposure to the elements and shall be kept dry at all times.

B. Painted and coated surfaces shall be protected against impact, abrasion, discoloration, and other damage. Painted and coated surfaces which are damaged prior to acceptance of equipment shall be repainted to the satisfaction of District at the expense of Contractor. Any refinished items shall carry the warranty specified in the Contract Documents for new items.

C. Grease and lubricating oil shall be applied to all bearings and similar items.

D. Identification: Before shipping, each item of equipment shall be tagged or marked as identified in the delivery schedule or on the Shop Drawings. Complete packing lists and bills of material shall be included with each shipment.

1.7 **PRODUCT DELIVERY, STORAGE, AND HANDLING**

A. Store products only in staging area per provisions of the Contract Documents.

B. Handle, store, and protect products in accordance with manufacturer’s instructions, with seals and labels intact and legible. Store sensitive products in weather-tight, climate-controlled enclosures.

C. For exterior storage of fabricated products, place on appropriate supports, above ground.

D. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.

E. Store loose granular materials on solid flat surfaces in a well-drained area.

F. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

G. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.

H. Deliver, store and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer’s written instructions.

I. Schedule product deliveries to minimize long-term storage at the Site and to prevent overcrowding of construction spaces.
J. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.

K. Deliver products to Site in an undamaged condition in manufacturer’s original sealed container or other packaging system, complete with intact and legible labels and instructions for handling, storing, unpacking, protecting, and installing.

L. Contractor shall comply with the following without limitation:

1. Contractor shall bear the responsibility for delivery of equipment, spare parts, special tools, and materials to the Site and shall comply with the requirements specified herein and provide required information concerning the shipment and delivery of the materials specified in the Contract Documents. These requirements also apply to any sub-suppliers making direct shipments to the Site. Acceptance of the equipment shall be made only after it is installed, tested, placed in operation and found to comply with all the specified requirements.

2. All items shall be checked against packing lists immediately on delivery to the Site for damage and for shortages. Damage and shortages shall be remedied with the minimum of delay.

3. No metalwork (including miscellaneous steel shapes and reinforcing steel) shall be stored directly on the ground. Masonry products shall be handled and stored in a manner to hold breakage, chipping, cracking, and spilling to a minimum. Cement, lime, and similar products shall be stored off the ground on pallets and shall be covered and kept completely dry at all times. Pipe fittings and valves may be stored out of doors, but must be placed on wooden blocking. PVC pipe, geo-membranes, plastic liner, and other plastic materials shall be stored off the ground on pallets and protected from direct sunlight.

4. Electrical equipment and all equipment with antifriction or sleeve bearings shall be stored in weather-tight structures maintained at a temperature above 60 degree Fahrenheit. Electrical equipment controls and insulation shall be protected against moisture and water damage. All space heaters furnished in or with equipment shall be connected and operated continuously or according to manufacturer’s requirements.

5. Equipment having moving parts such as gears, bearings, and seals, shall be stored fully lubricated with oil, grease, etc., unless otherwise instructed by the manufacturer. Manufacturer’s storage instructions shall be carefully followed.

6. When required by the equipment manufacturer, moving parts shall be rotated a minimum of twice a month to ensure proper lubrication and to avoid metal to metal “welding”. Upon installation of the equipment, Contractor shall, at the discretion of District, start the equipment at one-half load for an adequate period of time to ensure that the equipment does not deteriorate from lack of use.

7. When required by the equipment manufacturer, lubricant shall be changed upon completion of installation and as frequently as required thereafter during the period between installation and acceptance. New lubricants shall be put into the equipment by Contractor at the time of acceptance.

8. Equipment and materials shall not have any pitting, rust, decay, or other deleterious effects of storage when installed in the Work.
9. In addition to the protection specified for prolonged storage, the packing of spare units and spare parts shall be as for export packing and shall be suitable for long-term storage in a damp location. Each spare item shall be packed separately and shall be completely identified on the outside of the container.

10. Handling: Stored items shall be laid out to facilitate their retrieval for use in the Work. Care shall be taken when removing the equipment for use to ensure the precise piece of equipment is removed and that it is handled in a manner that does not damage the equipment.

11. Store products to allow for inspection, measurement, and/or counting of units.

12. Store materials in a manner that will not endanger adjacent Work.

13. Store products that are subject to damage by the elements, under cover in a weather-tight enclosure above ground, with ventilation adequate to prevent condensation.

14. Store cementitious products and materials on elevated platforms.

15. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.

16. Comply with product manufacturer’s written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.

17. Protect stored products from damage.

18. Protect liquids from freezing.

PART 2 - PRODUCTS
Not Used

PART 3 - EXECUTION
Not Used

END OF SECTION 01610
SECTION 01625
PRODUCT OPTIONS AND SUBSTITUTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
A. Section 01010 – “Summary of Work”
B. Section 01311 – “Project Management and Coordination”
C. Section 01400 – “Quality Control Requirements”
D. Section 01610 – “Basic Product Requirements”
E. Section 01722 – “Execution Requirements”
F. Section 01780 – “Project Record Documents”
G. Division 2 through 33 Sections for specific requirements for Materials and Equipment (Product Options and Substitutions) for the work in those Sections.

1.3 SUMMARY
A. This Section includes administrative and procedural requirements concerning product options and substitutions.

1.4 GENERAL
A. The term product, as used in the Contract Documents, includes materials, equipment, systems, and like terms of similar intent.
B. All products are to be new and not previously incorporated into or used in any other project or facility. Products salvaged or recycled from other projects are not considered new products and are not permitted.
C. Named products are identified in the Contract Documents by manufacturer’s product name, make or model number, and/or other specific designation.
   1. Do not use materials and/or equipment removed from existing premises, except as specifically permitted by the Contract Documents.
1.5 PRODUCT SELECTION AND SUBSTITUTION REQUIREMENTS

A. Substitutions are defined as any changes in products, materials, equipment, and/or methods of construction from those required by the Contract Documents, and that are proposed by the Contractor.

B. When only one product is specified, and unless the Specifications state that no substitution is permitted, whenever the Contract Documents indicate any specific article, device, equipment, product, material, fixture, patented process, form, method, or type of construction or any specific name, make, trade name, or catalog number, with or without the words “or equal,” such specification shall be deemed to be used for the purpose of facilitating description of the material, process, or article desired and shall be deemed to be followed by the words “or equal” unless the Contract Documents specify “no substitution allowed”, “no equal”, “no equivalent”, “to match campus standard”, “single source,” or other language with similar meaning, in which case no substitutions will be allowed.

1. Pursuant to Paragraph 3.11.4 of the General Conditions, the apparent lowest responsive and responsible bidder may, within three (3) work days after bid opening offer any material, process, article, etc., which shall be materially equal or better in every respect to that so indicated or specified (“Specified Item”) and will completely accomplish the purpose of the Contract Documents.

C. For products specified by naming only one manufacturer and including the words “no substitutions allowed”, “no equal”, “to match campus standard”, “single source” and/or other phrase with similar meaning:

1. There is no product option due to necessity to match existing products or systems, to meet other design criteria or dependencies, or to comply with established standards. No substitution will be allowed.

2. If product becomes unavailable due to no fault of Contractor, submit Request for Substitution, including all information required herein.

D. When more than one product is specified, and in the absence of language stating “no substitutions allowed”, “no equal”, “to match campus standard”, “single source,” or other phrase with similar meaning:

1. Select products of any named manufacturer meeting all specified requirements, or submit a request for substitution at time of bid.

2. If product becomes unavailable due to no fault of Contractor, submit Request for Substitution (RFS), including all information required herein.

E. For products specified by naming one or more products followed by the words “or approved equal”:

1. Select products of any named manufacturer meeting all specified requirements, or submit a request for substitution at time of bid.

F. For products specified only by reference standard, select any product meeting or exceeding all requirements of the specified standard.
G. Compatibility of product options: If Contractor is given an option of selecting between two or more products for use on the Project; product selected shall be compatible with products previously selected, even if previously selected products were also options.
   1. Contractor shall be responsible for providing products and construction means and methods that are compatible with the products and construction means and methods of other contractors.

H. Products Specified which are Commercially Unavailable. If the Contractor fails to make a request for substitutions for products, at the time of submitting bids to the District, and such products subsequently become commercially unavailable, the Contractor may request a substitution for such commercially unavailable item.
   1. The decision to grant this request is solely at the District’s discretion. The written approval of the District, consistent with the procedure for Change Orders, shall be required for the use of a proposed substitute material.
   2. The District may condition its approval of the substitution upon the delivery to District of an extended warranty or other assurances of adequate performance of the substitution as well as an equitable deduction in the contract price should the substituted item cost less than the Specified Item.
   3. All risks of delay due to the approval of a requested substitution by the DSA, or any other governmental agency having jurisdiction, shall be on the requesting party. All additional costs, all procurement and construction delays, and all costs for review by the Architect or its consultants shall be the responsibility of the Contractor and will be deducted from Contractor’s pay request.

I. Substitution Request Form. All requests for substitutions of products, materials, or processes in place of a Specified Item must be submitted in writing on the District’s Substitution Request Form (“Request Form”) within three (3) work days after bid opening. The Request Form must be accompanied by evidence as to whether the proposed substitution meets the requirements of the Contract Documents as specified herein.

J. After bids are opened, the apparent lowest responsive and responsible bidder shall provide, within ten (10) days of opening such bids, any and all Drawing, Specifications, samples, performance data, calculations, and other information, as required herein to assist the Architect and the District in determining whether the proposed substitution is acceptable. The burden of establishing these facts shall be upon the bidder.

K. After the District’s receipt of such evidence by the bidder, the District will make its final decision as to whether the bidder’s request for substitution for any Specified Items will be granted. The decision as to whether a proposed request for substitution is equal to a Specified Item shall be at the sole discretion of the District.
   1. Any request for substitution that is granted by the District shall be documented and processed though a Change Order.
   2. The District may condition its approval of any substitution upon delivery to the District of an extended warranty or other assurances of adequate performance of the substitution.
3. Any and all risks of delay due to approval by the DSA or any other governmental agency having jurisdiction shall be on the bidder.

4. In the event that the bidder has agreed in the Request Form to provide the Specified Item and the District denies the bidder’s requested substitution for a Specified Item, the bidder shall provide the Specified Item without any additional cost or charge to the District.

L. If the Architect and District accept a proposed substitution, the Contractor agrees to pay for all engineering and design services, including, without limitation, compensation to the Architect and affected engineers for their required time to process such substitution through the Division of the State Architect, if required, and to make all changes and adjustments in materials or the work of all trades directly or indirectly affected by the substituted item or items at no cost to the District.

M. Substitutions will not be considered for acceptance (or, at the District’s sole discretion, District may make Contractor solely responsible for all resulting costs, expenses and other consequences of a substitution) when a substitution:
   1. Results in delay meeting established construction milestones and/or Phase completion dates.
   2. Is indicated or implied on submittals without formal Substitution Request from Contractor.
   3. Is requested directly by a Subcontractor or supplier.
   4. Acceptance will require substantial revision to the Contract Documents.
   5. Disrupts the Contractor’s Work progress or ability to perform efficiently.

N. Substitute products shall not be ordered without written acceptance of Architect and District.

O. Architect and/or District shall determine acceptability of proposed substitutions and reserve right to reject proposals due to insufficient information.

P. Accepted substitutions will be evidenced by a Change Order. All Contract Document requirements apply to all Work involving substitutions.

Q. Coordinate all substitute products with Contractor’s Construction and Submittal Schedules.

1.6 PRODUCTS WITH NO SUBSTITUTION ALLOWED

A. No substitutions shall be allowed for District standard products. District standard products include:
   1. Schlage door locksets and latchsets
   2. Fire Alarm: Siemens
   3. Access Control: Software House
   4. Building Management System: ALC
1.7 PRODUCT SUBSTITUTION REQUESTS: REQUIRED INFORMATION

A. Requests for substitutions of products, materials, or processes in place of a specified item must in writing on the District’s Substitution Request Form at the time of submitting bids to the District.

B. Except as provided in the Contract Documents with respect to “or equal” items, District will consider a Contractor’s substitution request only when the specified product or products become unavailable due to no fault of Contractor.

C. Requests for review of proposed substitute items will not be accepted from anyone other than Contractor.

D. A Request for Substitution shall state the extent, if any, to which the evaluation and acceptance of the proposed substitute will prejudice Contractor’s achievement of Substantial Completion of the Work or any Phase of the Work on time pursuant to the completion dates specified in the Contract Documents, and whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with the District for Work on the Project.)

E. Substitution Product List: Submit a list, in tabular form, showing specified product(s) and requested substitute product(s). Include generic names of products required, and manufacturer’s proprietary name for each product. Provide all product data for each requested substitute product, variations from specified product, and other pertinent data as specified herein.

F. Submit separate submittals (four copies) for each product substitution requested, to include the following:
   1. A statement either explaining why the specified product cannot be provided or why the Contractor is proposing a substitution.
   2. Product identification, including specification section number, and title.
   3. Manufacturer’s literature, including product data and specifications.
   4. Physical samples, as applicable
   5. Color chart, as applicable.
   6. Name and address of similar projects on which product has been used, and dates of installation.
   7. Name, address, and telephone number of supplier, installer, and manufacturer’s representative.
   8. Construction methods: Include detailed description with drawings or other illustrations as required for clarity.
   9. Provide product availability information with projected delivery date.
   10. A completed Substitution Request Form (see Section 01340 “Administrative Forms and Logs”) for each product substitution requested. Submittals with an incomplete Substitution Request Form will be returned to the Contractor without review.
11. A detailed comparison of the proposed substitution with specified product, listing all variations including all dimensional, weight, service requirements, and functional differences, if any. If variation(s) from the specified product is not identified in the submittal, it may be rejected.

12. Indicate available maintenance, repair, and replacement services for substitute products.

13. Contractor shall state whether the substitute will require a change in any of the Contract Documents (or provisions of any other direct contract with District for work on the Project) to adapt the design for the proposed substitute, and whether or not incorporation or use of the substitute in connection with Work is subject to payment of any license fee or royalty.

14. Contractor shall provide an accurate cost comparison of the proposed substitution with the specified product and identify the net change in Contract Price related to use of the proposed substitution.
   a. The cost comparison shall include, but not be limited to, an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, and include costs for redesign and/or claims of other contractors affected by the resulting change.
   b. Architect or District may require Contractor to furnish additional cost data concerning the proposed substitute.

15. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by District and separate contractors that will be necessary to accommodate proposed substitution.

16. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.

17. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.

18. Submit complete information identifying any changes to the Contractor’s Baseline CPM Schedule required as a result of the proposed substitution.
   a. If specified product or method of construction cannot be provided within Contract Time, include letter from manufacturer, on manufacturer’s letterhead, stating lack of availability or other reason for delays in delivery.
      I) Contractor’s certification that proposed substitution complies with requirements in the Contract Documents.

19. Contractor’s waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

1.8 CONTRACTOR’S REPRESENTATION AND WARRANTY

A. Contractor’s Substitution Request constitutes a representation and warranty that Contractor complies with all of the following requirements:
1. Contractor has investigated proposed product and determined that it meets or exceeds, in all respects, the requirements for the specified product.

2. Contractor shall provide the same warranty for substitution as for specified product.

3. Contractor shall coordinate installation and make all other changes that may be required for Work to be integrated and complete in all respects.

4. Contractor waives claims for any additional costs which may subsequently become apparent.

5. Contractor shall compensate District for any Construction Document revisions and/or agency approval costs associated with any product substitution. Any such compensation shall be deducted from the Contract Price by the District via Change Order.

6. Contractor shall be responsible for maintaining the Baseline CPM Schedule and for recovering any time lost due to a product substitution.

7. Contractor shall be responsible for any Baseline CPM Schedule delay caused by late ordering of available specified products caused by Substitution Requests that are subsequently rejected by the District.

8. Contractor shall compensate District for all costs, including extra costs for performing Work under Contract Documents, extra cost to other contractors, and any claims brought against District, caused by late Product Substitution Requests.

1.9 ARCHITECT’S ACTION

A. Architect shall respond in writing to Contractor within (10) working days of receipt of a Substitution Request. Architect’s response shall include a list of unacceptable product selections and a brief explanation of reasons for this action. Architect’s response, or lack of response, does not constitute a waiver of requirement to comply with the Contract Documents.

B. Architect shall notify Contractor in writing of decision to accept or reject Contractor’s requested substitution.

C. If necessary, Architect may request additional information or documentation for evaluation of Substitution Request. Architect shall notify Contractor of acceptance or rejection of proposed substitution within (5) working days of receipt of additional information or documentation.

1.10 ADMINISTRATIVE REQUIREMENTS

A. Specified products, materials, or systems for Project may include engineering or on-file standards required by the regulatory agency. Contractor’s substitution of products, materials or systems may require additional engineering, testing, reviews, approvals, assurances, or other information for compliance with regulatory agency requirements, or both. Contractor shall provide all agency approvals or other additional information required and pay additional costs for required District services made necessary by the substitution at no increase in Contract Price or Contract Time, and as a part of substitution proposal.
PART 2 – PRODUCTS
Not Used

PART 3 – EXECUTION
Not Used

END OF SECTION 01625
SECTION 01710
CLEANING REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions of General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
A. Section 01400 – “Quality Control Requirements”
B. Section 01500 – “Temporary Facilities and Controls”
C. Section 01505 – “Construction Waste Management”
D. Section 01572 – “Storm Water Pollution Prevention Plan”
E. Section 01722 – “Execution Requirements”
F. Section 01770 – “Contract Closeout Procedures”
G. Divisions 2 through 33 Sections for specified Cleaning Requirements for the work in those Sections.

1.3 DISPOSAL OF MATERIALS
A. See Section 017419 (Construction Waste Management) for additional requirements.
B. As part of the scope of Work included within the Contract Price, Contractor shall be fully responsible for disposing of all construction debris, dirt and spoils resulting from the Work.
C. All waste materials, debris, dirt and rubbish shall be disposed of at sites to be chosen by Contractor in accordance with applicable local, state and federal regulations and requirements of the Contract Documents. Also see Sections 017419 and 01412.
D. Contractor is cautioned that both the County of Contra Costa and cities within the County have regulations governing the disposal of rubble, broken pavement, and similar materials.
E. Contractor shall become familiar with the requirements of the agency having jurisdiction over any contemplated disposal site and shall comply with requirements.
F. Under no circumstances shall rubbish, debris, waste, dust, dirt or surplus materials be allowed to accumulate in the building or on the Site, and all such shall be removed continually as the Work progresses and by the end of each day’s Work.

1. Materials: In occupied building areas, only sufficient materials and flammable or toxic substances necessary for the Work being performed that day or shift shall be brought into the building and work areas. In no case shall flammable or toxic substances be stored in the building, and these substances shall be immediately removed from the building when not needed and not later that the end of the day’s Work.

2. Splattering or spilling of material shall be promptly cleaned up at time of occurrence.
G. Contractor shall provide sweeping whenever silt from Site is carried over to adjacent pedestrian paths, parking lots, and streets within the Campus as well as public thoroughfares surrounding the Campus.

H. Failure to maintain a clean and orderly Site may necessitate action by the District. In the event that the Contractor fails to clean up and maintain the project in a clean and orderly manner, the District may clean the Site and charge the Contractor for such cleaning costs. Any cleaning costs incurred by District will be deducted from the Contract Price by Change Order.

I. All trash, debris, waste, and excess soil resulting from performance of the Work shall be disposed of at sites to be chosen by Contractor in accordance with applicable local, state, and federal regulations. If Contractor elects to dispose of soil on any private property, a permission letter shall be obtained from the property owner and presented to District prior to disposal. Contractor is advised that the property owner is required to obtain a fill permit from the applicable government agency(ies). In addition, placement of fill in wetland areas is subject to permit procedures of the US Army Corps of Engineers. At the completion of Work, a letter from each affected property owner releasing Contractor, Contra Costa County, District, and District consultants from any future liability.

1.4 FINAL CLEANING

A. District’s Representative’s Inspection: Provide District at least twenty-four (24) hours advance notice of readiness for inspection.

B. Any deficient cleaning, as determined by District’s Representative, shall be immediately corrected as directed by District at Contractor’s expense.

C. Contractor shall execute final cleaning prior to final inspection, using only properly skilled workers.

D. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from exposed interior and exterior finished surfaces.

E. Repair, patch, and touch up marred surfaces to match adjacent finishes.

F. Clean interior and exterior surfaces exposed to view; remove temporary labels, stains and foreign substances, clean and/or polish all transparent and glossy surfaces,

G. Vacuum carpeted and soft surfaces.

H. Remove waste and surplus materials, rubbish, and construction facilities from Site.

I. Wash and shine mirrors.

J. Ventilating systems:
   1. Clean permanent filters and replace disposable filters of units operated during construction; in addition, clean ducts, blowers, and coils when units have been operated without filters during construction.
   2. Clean ducts, blower, and coils of units operated during construction.

K. Clean surfaces of equipment; remove excess lubrication.

L. Clean plumbing fixtures to a sanitary condition

M. Vacuum and wipe inside of electrical panels and cabinetwork.

N. Clean light fixtures and lamps.

O. Broom clean interior spaces.
P. Clean, damp mop, wax and polish resilient and hard-surfaced floors as specified.

Q. Remove waste, debris and surplus materials from site. Clean grounds; remove stains, spill, and foreign substances from paved areas and sweep clean. Rake clean other exterior surfaces.

R. Use cleaning materials which will not create hazards to health or property or cause damage to the Work. Use cleaning materials and methods recommended by the manufacturers of the products to be cleaned.

S. Contractor shall not use nor permitted to use any kind of material/cleaning chemical that are not permitted for use in the State of California, or not permitted by the Health Department

T. Schedule operations to prevent dust and other contaminants resulting from cleaning operations from adhering to wet or newly finished surfaces.

U. Clean roofs, gutters, downspouts and drainage systems.

V. Interior surfaces and areas where Work is performed shall be left in vacuum clean condition with all dust, dirt, stains, hand marks, paint spots, plaster droppings, and other blemishes and defects completely removed. To the extent of Contractor’s operations, use or materials, the following requirements apply to all areas where Work is performed:

1. Walls: Bare and painted surfaces shall be cleaned and free of dust, lint, streaks, or stains.

2. Hardware and metal surfaces shall be cleaned and polished using non-corrosive and non-abrasive materials.

3. Glass: New glass and soiled existing glass shall be washed and polished both sides and left free of dirt and spots. Labels shall be removed.

4. Ceilings shall be clean and free of stains, handmarks, and defacing.

5. Fixtures and Equipment: New mechanical and electrical fixtures and like items shall be cleaned and polished. Lighting fixtures shall be free of dust, dirt, stains, or waste material. Equipment and machinery shall be cleaned, serviced, and ready for use. Existing items shall be cleaned as required including ventilating supply and return equipment in walls and ceilings.

6. Surfaces not mentioned shall be cleaned according to the intent of this Section and as required for District’s Representative’s approval.

PART 2 – PRODUCTS
Not Used

PART 3 – EXECUTION
Not Used

END OF SECTION 01710
SECTION 01722

EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
   A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in
      this document, and provisions in the General Conditions and other Division 1 Specification
      Sections shall apply to this section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
   A. Section 01010 – “Summary of Work”
   B. Section 01050 – “Field Engineering”
   C. Section 01055 – “Conformance Surveying”
   D. Section 01311 – “Project Management and Coordination”
   E. Section 01710 – “Cleaning Requirements”
   F. Section 01770 – “Contract Closeout Procedures”
   G. Divisions 2 through 33 Sections for Execution Requirements for the work in those Sections.

1.3 SUMMARY
   A. This Section includes Administrative and General procedural requirements governing execution
      of the Work including, but not limited to, the following:
      1. Construction layout
      2. General installation of products
      3. Coordination of District-installed products
      4. Starting and adjusting
      5. Protection of installed construction
      6. Correction of the Work

PART 2 - PRODUCTS
Not Used

PART 3 - EXECUTION

3.1 EXAMINATION
   A. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator
      present where indicated, for compliance with requirements for installation tolerances and other
      conditions affecting performance. Record all observations in writing.
      1. Written Report: Where a written report listing conditions detrimental to performance of
         the Work is required by other Sections, include the following:
a. Description of the Work
b. List of detrimental conditions, including substrates
c. List of unacceptable installation tolerances
d. Recommended corrections

2. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.

3. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.

4. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

B. Existing Site and/or Building Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning Work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.

1. Before construction, verify the location and points of connection of all utility services for each Phase of the Work and the entire Project.

C. Existing Utilities: The existence and location of underground and other utilities and construction indicated in the Contract Documents as existing are not guaranteed. Prior to beginning the Work, investigate and verify the existence and location of all underground utilities and/or other improvements affecting the Work.

1. Before construction, verify the location and invert all elevations at points of connection of sanitary sewer, storm sewer, and water-service piping; and all underground electrical services.

2. Furnish location data for work related to Project that must be performed by public utilities serving Site.

3.2 PREPARATION

A. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a written request for information (RFI) to the District and a copy to the Architect.

B. Existing Utility Information: Furnish information to the District and a copy to the Architect that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Contractor shall coordinate with authorities having jurisdiction.

C. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, Contractor shall investigate and verify all dimensions of other construction by field measurements before fabrication. Contractor shall coordinate fabrication schedule with construction progress to avoid delaying the Work.

D. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Contract Documents. Contractor shall be responsible for all coordination and measurements including means and methods of Construction.
3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, Contractor shall verify layout information and Field condition in relation to the Contract documents. Notify District and copy the Architect immediately of any discrepancies.

3.4 INSTALLATION

A. Contractor shall locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
   1. Make vertical work plumb and make horizontal work level.
   2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
   3. Conceal pipes, ducts, and wiring in furnished areas, unless otherwise indicated.
   4. Maintain minimum headroom clearance of eight feet in spaces without a suspended ceiling.

B. Contractor shall comply with manufacturer’s written instructions and recommendations for installing products in applications indicated.

C. Contractor shall install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for performance until accepted by District.

D. Contractor shall conduct construction operations, so no part of the Work is subjected to damage or loading in excess of that expected during normal conditions of occupancy.

E. Tools and Equipment: Do not use tools or equipment that produces harmful noise levels. Contractor shall comply with noise requirements in Section 01416, Special Procedures.

F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.

H. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.

I. Allow for building movement, including thermal expansion and contraction.

J. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to the Site in time for installation.

K. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

L. Hazardous Materials: Use only products, cleaners, and installation materials that are not classified as or considered hazardous.
3.5 DISTRICT-INSTALLED PRODUCTS

A. Site Access: Provide access to Site for District’s construction forces.

B. Coordination: Coordinate construction and operations of the Work with work performed by District construction forces.
   1. Baseline CPM Schedule: Inform District of Contractor’s preferred schedule for District’s portion of the Work. Adjust Baseline CPM Baseline CPM Schedule based on a mutually agreeable timetable. Provide timely notice (i.e., at least 14 calendar days) to the District if changes to schedule are required due to differences in actual construction progress.
   2. Pre-installation Conferences: Include District’s construction forces at pre-installation conferences covering portions of the Work that are to receive District’s work. Attend pre-installation conferences conducted by District’s construction forces if portions of the Work depend on District’s construction forces.

3.6 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer’s written instructions for temperature and relative humidity.

3.7 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements Section 01730, Cutting and Patching.
   1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Restore permanent facilities used during construction to their specified condition. See also Section 01500, Temporary Facilities and Controls.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

E. Remove and replace chipped, scratched, and/or broken glass or reflective surfaces.

END OF SECTION 01722
SECTION 01730

CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this section without limitation.

B. Individual Product Specification Sections:
   1. Cutting and patching incidental to work of the section.
   2. Advance notification to other sections of openings required in work of those sections.
   3. Limitations on cutting structural members.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS

A. Section 01311 – “Project Management and Coordination”

B. Section 01710 – “Cleaning Requirements”

C. Section 01722 – “Execution Requirements”

D. Divisions 2 through 33 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

1.3 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.

B. Patching: Fitting and repair work required to restore surfaces to new or original conditions after installation of other Work.

1.4 RESPONSIBILITIES

A. Contractor shall be responsible for all cutting, fitting, and patching, including associated excavation and backfill, required to complete the Work. This includes, but is not limited to:
   1. Making parts fit together properly
   2. Removal and replacement of defective Work
   3. Removal and replacement of Work not conforming to requirements of Contract Documents
   4. Provide routine penetrations of non-structural surfaces for installation of piping and electrical conduit
   5. Attaching new materials to existing improvements
   6. Painting (or other finishes) to match adjacent or existing conditions

B. Contractor shall not cut or alter any part of the Work in such a way that endangers or compromises the integrity of the Work, the work of others, or the Project.
1.5 QUALITY ASSURANCE

A. Requirements for Cutting and Patching relating to structural elements: Do not cut and/or patch structural elements in a manner that would alter their structural design characteristics.

1. Obtain written approval of the cutting and patching proposal from the Structural Engineer of Record prior to cutting and/or patching any structural elements. Structural elements include, but are not limited to:
   a. Foundation construction
   b. Structural Concrete
   c. Structural Steel
   d. Wood Framing
   e. Bearing and retaining walls
   f. Stair systems
   g. Roofing and framing systems
   h. Glue lam beam
   i. Shear wall systems

2. Where cutting and patching Work involves adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure. Contractor shall be responsible for any costs associated with required Structural Engineer and/or DSA reviews and approvals.

B. Operational Limitations: Do not cut and patch operating elements or related components in a manner that would result in reducing their capacity to perform as intended. Do not cut and patch operating elements or related components in a manner that would result in increased maintenance or decreased operational life or safety.

C. Visual Requirements: Do not cut and patch exposed Work in a manner that would, in the Architect or District’s opinion, reduce the building’s aesthetic qualities. Do not cut and patch construction in a manner that would result in visual evidence of cutting and patching. Remove and replace construction cut and patched in a visually unsatisfactory manner as directed by District.

D. Contractor shall ensure that all cutting, fitting, and patching shall achieve the security, strength, weather protection, and appearance for aesthetic match, efficiency, operational life, maintainability, safety of operational elements, and the continuity of existing fire ratings as required by the Contract Documents.

E. Contractor shall ensure that cutting, fitting, and patching shall successfully duplicate undisturbed adjacent profiles, materials, textures, finishes, colors, and that materials shall match existing construction. Where there is dispute as to whether duplication is successful or has been achieved to a reasonable degree, the District’s decision shall be final.

F. Operational Elements: Do not cut and patch operating elements and/or related components in a manner that results in reducing their capacity to perform as intended, results in increased maintenance requirements, that decreases operational life, or that affects system or component safety. Operating elements include, but are not limited to the following:
1. Fire-suppression systems.
2. HVAC systems.
3. Control systems.
4. Mechanical systems piping and ducts.
5. Air smoke barriers
6. Telephone and communication systems.
7. Electrical wiring systems.
8. Primary operational systems and equipment.

G. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or those results in increased maintenance or decreased operational life or safety. Miscellaneous elements include, but are not limited to the following items:
1. Exterior curtain wall construction
2. Equipment supports
3. Noise-and vibration-control elements and systems
4. Water, moisture, or vapor barriers
5. Membranes and flashings
6. Vessels, and equipment

1.6 PAYMENT FOR COSTS

A. Cost caused by ill-timed or defective cutting and patching Work or Work not conforming to Contract Documents, including costs for additional services of the District and its consultants will be borne by the Contractor and deducted from the Contract Price via Change Order by the District.

B. Cost of Work cutting and patching Work performed upon approval from the District, other than defective or nonconforming Work, will be paid by District via written Change Order.

1.7 WARRANTY

A. Existing Warranties: Remove, replace, cut, patch, and repair materials and surfaces damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties of any affected Work.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Contractor shall provide for replacement and restoration of any Work affected by cutting and patching operations. Contractor shall comply with the Contract Documents and with the Industry Standard(s), for the type of Work involved. If not specified, Contractor shall first recommend a product of a manufacturer or appropriate trade association for approval by the District.
B. Materials to be cut and patched include those damaged by Contractor in the performance of the Work.

C. Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible. If identical materials are unavailable or cannot be used, use materials whose installed performance will equal or exceed that of existing materials and that are visually compatible in the sole opinion of the District.

PART 3 - EXECUTION

3.1 INSPECTION

A. Contractor shall inspect existing conditions of the Site and the Work, including elements subject to movement or damage during cutting and patching, excavating and backfilling. After uncovering Work, Contractor shall inspect conditions affecting the installation of new products.

B. Contractor shall report unsatisfactory or questionable conditions in writing to District as indicated in the Contract Documents, and shall proceed with Work as directed by District.

3.2 PREPARATION

A. Contractor shall provide adequate shoring, bracing and supports as required to maintain structural integrity for all portions of the Project during cutting and patching operations.

B. Contractor shall provide devices and means and methods to protect other portions of Project from damage during cutting and patching operations.

C. Contractor shall provide all necessary protection from weather and extremes of temperature and humidity for the Project, including without limitation, any work that may be exposed by cutting and patching Work. Contractor shall keep excavations free from water.

D. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

E. Do not cut existing pipe, conduit, or ductwork serving existing buildings and/or other improvements that are scheduled to be removed or relocated until provisions have been made to bypass them. Maintain all active existing services at all times.

3.3 PERFORMANCE

A. With respect to performance, Contractor shall:

1. Execute cutting and patching Work to provide finished installation complying with specified tolerances and matching adjacent finishes.

2. Execute cutting and patching using means and methods that will prevent damage to other Work, and that will result in proper surfaces to receive installation of repairs and/or new Work.

3. Execute cutting, demolition, patching, excavating, and backfilling by methods that will prevent damage to other Work and damage from settlement or other movement.

4. Contractor shall employ original installer or fabricator to perform cutting and patching for:

   a. Weather-exposed surfaces and moisture-resistant elements such as roofing, sheet metal, sealants, waterproofing, and other similar Work.
b. Exposed finished surfaces

5. Contractor shall fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces. Contractor shall conform to Contract Document requirements for penetrations. If a discrepancy exists between applicable Code requirements and the Contract Documents, the more stringent requirement shall apply.

6. Completed cutting and patching Work shall not affect the integrity of fire walls, ceilings, floors, smoke barriers, shafts, and similar components.

7. Contractor shall restore Work which has been cut or patched. Contractor shall install new products to provide completed Work in accordance with requirements of the Contract Documents and as required to match adjacent areas and surfaces.

8. Contractor shall refinish all continuous surfaces to nearest intersection as necessary to match the new finish to any existing finish.

9. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage adjacent Work to remain. If possible, review proposed procedures with original Installer and comply with his written recommendations.
   
   a. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

   b. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.

10. Concrete and Masonry: cut using a cutting machine, such as an abrasive saw or a diamond-core drill.

11. Excavating and Backfilling: Comply with requirements in applicable specification sections where required by cutting and patching operations.

12. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.

13. Proceed with patching after construction operations requiring cutting are complete.

14. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.

15. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.

16. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
   
   a. Clean all materials affected by cutting and patching operations before applying finishes.

   b. Restore any damaged pipe covering to original condition.

   c. Floors and Walls: Where walls or partitions that are removed extend from one finished area into another, patch and repair floor and wall surfaces in the both spaces. As
required to provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials as necessary to achieve uniform color and appearance.

d. Where patching occurs on a painted surface, apply specified primer and intermediate coats over the patch. Apply final coat over entire unbroken surface containing the patch. Provide additional coats as required until patched area blends completely with adjacent surfaces.

17. Ceilings: Patch, repair, or re-hang in-place ceilings as necessary to provide a level, planar surface of uniform appearance.

18. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weather-tight condition and results in a uniform visual appearance.

B. Cleaning: Clean areas, spaces, materials, and/or equipment where cutting and patching Work is performed. Completely remove dirt, dust, cuttings, paint, mortar, oils, putty, adhesive, and any other similar materials.

C. Alterations to Existing Work:

1. Existing work shall be cut, drilled, altered, removed, or temporarily removed and replaced as necessary for performance of work under the Contract. Work that is replaced shall match similar existing work. Structural members shall not be cut or altered, except where noted on drawings, without authorization of the Structural Engineer. Work remaining in place, which is damaged or defaced during this contract, shall be restored to the condition existing at time of award of contract.

2. Discolored or unfinished surface exposed by removal of existing work and indicated to be the final exposed surfaces shall be refinished or the material shall be replaced as necessary to make contiguous work uniform and harmonious. Work out of alignment, where exposed by removal of existing work, shall be called to the District’s attention with a copy to the Architect’s.

END OF SECTION 01730
SECTION 01740
WARRANTIES/GUARANTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED DOCUMENTS SPECIFIED IN OTHER SECTIONS

A. Section 01010 – “Summary of Work”
B. Section 01770 – “Contract Closeout Procedures”
C. Section 01780 – “Project Record Documents”
D. Section 01820 – “Demonstration and Training Procedures”
E. Divisions 2 through 33 Sections for Warranties/Guaranties requirements for the Work in those Sections.

1.3 SUMMARY OF WORK

A. Contractor hereby warrants and guaranties to District all Work performed on this Project, including all material and equipment incorporated therein, as set forth below:

B. Pursuant to the requirements of this Section and other sections of the Contract Documents, Contractor agrees to unconditionally warranty and guaranty the quality and adequacy of all of Work provided under this Contract including, without limitation, all labor, materials and equipment provided by the Contractor and Subcontractors of all tiers in connection with the Work.

C. Contractor’s Warranty and/or Guaranty shall become effective on the first day following District’s issuance of a written Notice of Substantial Completion or on such other date as may be specified elsewhere in the Contract Documents, and once effective, the Warranties and/or Guaranties shall remain operative and shall bind Contractor as further described herein for a period of one (1) year, and/or more as specified in the Contract Documents.

D. All Contractor Warranties and/or Guaranties must be reviewed and accepted by District.

E. Neither final payment nor use or occupancy of the Work performed by the Contractor shall constitute an acceptance of Work not done in accordance with Contract Documents, nor relieve Contractor of liability in respect to any express warranties and/or guaranties or responsibilities for faulty materials or workmanship.

F. Contractor shall remedy any defects in the Work and repair any associated damage resulting therefrom, and pay all costs for any such Work which shall become evident within any Project Warranty and/or Guaranty period. If any Work is found to be defective within any Project
Warranty and/or Guaranty period, Contractor shall, without cost to District, promptly correct such defective Work.

G. Contractor shall remove any defective Work rejected by District and replace it with Work that complies in all respects to the requirements of the Contract Documents. Remove and replace any damage to other Work or the Work of others resulting therefrom.

H. If Contractor fails to promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, District may have the defective Work corrected or the rejected Work removed and replaced. Contractor shall pay for all costs, losses and damages caused by or resulting from such removal and replacement within the Warranty and/or Guaranty period.

I. Where Contractor fails to correct defective Work, or defects are discovered outside the Warranty and/or Guaranty period, District shall have all rights and remedies granted by law.

J. Inspection of the Work shall not relieve Contract of any of its obligations under the Contract Documents. Even though equipment, materials, or Work required to be provided under the Contract Documents have been inspected, accepted, and paid for, Contractor shall, at its own expense, replace or repair any such equipment, material, or Work found to be defective or otherwise not to comply with the requirements of the Contract Documents up to the end of the guaranty period.

K. These Warranties and/or Guaranties are in addition to any other warranty or guaranty requirements contained in the Contract Documents, and not in lieu of any other liability imposed on Contractor under the Contract Documents and governing laws with respect to Contractor's duties, obligations, and performance under the Contract Documents.

1.4 FORMAT

A. Contractor shall separate each warranty and/or guaranty with index tab sheets keyed to a Table of Contents listing, providing full information and using separate typed sheets as necessary. Contractor shall list each applicable and/or responsible subcontractor, supplier, and/or manufacturer, with name, address, telephone number, fax number, and e-mail of each responsible principal.

1. Bind warranties and guaranties and bonds in heavy-duty, 3-ring vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8 ½-by 11-inch paper.

2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty and/or guaranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number, fax number, and e-mail of installer.

3. Identify each binder on the front and spine with the typed or printed title “WARRANTIES".
   a. Project name and number
   b. Architect’s name
   c. Contractor’s name

B. Contractor shall provide two (2) sets of binders for all Warranties/Guaranties and shall include:

1. Contractor, subcontractor, and equipment supplier shall provide Warranties and Guaranties on their original company letterhead with original signature.
2. Contractor shall provide original Warranties and Guaranties. Photo copies, fax and e-mail copies are not acceptable.

C. Contractor shall organize warranty and guaranty documents into an orderly sequence based on the table of contents of the Project Manual.

1.5 PREPARATION

A. Contractor shall obtain warranties and guaranties, executed in duplicate by each applicable and/or responsible subcontractor(s), supplier(s), and manufacturer(s), within fifteen (15) days after Substantial Completion. Except for items put into use with District’s permission, Contractor shall leave date of beginning of time of warranty or guaranty blank until the date of completion is determined by District.

B. Contractor shall verify that documents are in proper original form, contain full information, and are notarized, when required.

C. Contractor shall co-sign and co-execute all Warranties and Guaranties.

D. Contractor, subcontractor, and equipment supplier must provide warranties/guaranties on their original company letterhead with original authorized principal charge signature. (Fax copy and e-mail will not be acceptable.)

E. Contractor shall provide additional copies of each warranty and/or guaranty to include in operation and maintenance manual. Photocopies are acceptable for this purpose.

F. For items of work delayed beyond date of Substantial Completion, Contractor shall provide updated submittal within ten (10) days after acceptance, listing the date of acceptance by District as start of the warranty and/or guaranty period.

G. Contractor must complete all warranty and guaranty submittals as required by the Contract Documents prior to District approval of Contractor’s final application for Payment.

1.6 WARRANTY AND GUARANTRY MANAGEMENT

A. Warranty and Guaranty Management Plan

1. Develop a warranty and guaranty management plan which contains information relevant to Specification Section 01740, Warranties/Guaranties. At least 30 days before the planned Substantial Completion date, conduct a pre-warranty conference and, submit the warranty and guaranty management plan for District approval. Include within the warranty and guaranty management plan all required actions and documents to assure that the District receives all warranties and guaranties to which it is entitled. The plan must be in narrative form and contain sufficient detail to render it suitable for use by future maintenance and repair personnel, whether tradesmen, or of engineering background, not necessarily familiar with this contract. The term "status" as indicated below must include due date and whether item has been submitted or was accomplished. Warranty and guaranty information made available during the construction phase must be submitted to the District for approval prior to each monthly pay estimate. Assemble approved information in a binder and submit to the District upon acceptance of the Work. The construction warranty and guaranty period will begin on the date of Substantial Completion and continue for the full product warranty and guaranty period. A joint 4
month and 9 month warranty and guaranty inspection will be conducted, measured from Substantial Completion, by the Contractor, District, and the Campus Representative. Include within the warranty and guaranty management plan, but not limited to, the following:

a. Roles and responsibilities of all personnel associated with the warranty and guaranty process, including points of contact and telephone numbers within the organizations of the Contractors, subcontractors, manufacturers or suppliers involved.

b. Listing and status of delivery of all Certificates of Warranty and Guaranty for extended warranty and guaranty items, to include roofs, HVAC balancing, pumps, motors, transformers, and for all commissioned systems such as fire protection and alarm systems, sprinkler systems, lightning protection systems, etc.

c. A list for each warranted equipment, item, feature of construction or system indicating:
   i) Name of item.
   ii) Model and serial numbers.
   iii) Location where installed.
   iv) Name and phone numbers of manufacturers or suppliers.
   v) Names, addresses and telephone numbers of sources of spare parts.
   vi) Warranties and Guaranties and terms of warranty and/or guaranty. Include one-year overall warranty of construction. Items which have extended warranties or guaranties must be indicated with separate warranty and guaranty expiration dates.
   vii) Cross-reference to warranty and guaranty certificates as applicable.
   viii) Starting point and duration of warranty and guaranty period.
   ix) Summary of maintenance procedures required to continue the warranty and guaranty in force.
   x) Cross-reference to specific pertinent Operation and Maintenance manuals.
   xi) Organization, names and phone numbers of persons to call for warranty and guaranty service.
   xii) Typical response time and repair time expected for various warranted equipment.

d. The Contractor’s plans for attendance at the 4 and 9 month post-construction warranty and guaranty inspections conducted by the District.

e. Procedure and status of tagging of all equipment covered by extended warranties and guaranties.

f. Copies of instructions to be posted near selected pieces of equipment where operation is critical for warranty and guaranty and/or safety reasons.

B. Pre-Warranty Conference

1. At least thirty calendar days prior to Contract Substantial Completion, and at a time designated by the District, meet with the District Representatives to develop a mutual understanding with respect to the requirements of this section. Communication procedures for Contractor notification of construction warranty and guaranty defects,
priorities with respect to the type of defect, reasonable time required for Contractor response, and other details deemed necessary by the District for the execution of the construction warranty and guaranty will be established/reviewed at this meeting. In connection with these requirements and at the time of the Contractor's quality control completion inspection, furnish the name, telephone number and address of a licensed and bonded company which is authorized to initiate and pursue construction warranty and guaranty work action on behalf of the Contractor. This point of contact will be located within the local service area of the warranted construction, be continuously available, and be responsive to District inquiry on warranty and guaranty work action and status.

2. This requirement does not relieve the Contractor of any of its responsibilities in connection with other portions of this provision.

C. Contractor's Response to Construction Warranty and Guaranty Service Requirements

1. Following oral or written notification by the District, respond to construction warranty and guaranty service requirements in accordance with the "Construction Warranty And Guaranty Service Priority List" and the three categories of priorities listed below. Submit a report on any warranty and guaranty item that has been repaired during the warranty and/or guaranty period. Include within the report the cause of the problem, date reported, corrective action taken, and when the repair was completed. If the Contractor does not perform the construction warranty and/or guaranty within the timeframes specified, the District will perform the work and back-charge Contractor.

   a. First Priority Code 1. Perform onsite inspection to evaluate situation, and determine course of action within 4 hours, initiate work within 6 hours and work continuously to completion or relief.

   b. Second Priority Code 2. Perform onsite inspection to evaluate situation, and determine course of action within 8 hours, initiate work within 24 hours and work continuously to completion or relief.

   c. Third Priority Code 3. All other work to be initiated within 3 work days and work continuously to completion or relief.

   d. The "Construction Warranty and Guaranty Service Priority List" is as follows:

      Code 1-Air Conditioning Systems
      (1) Recreational support.
      (2) Air conditioning leak in part of building, if causing damage.
      (3) Air conditioning system not cooling properly.

      Code 1-Doors
      (1) Overhead doors not operational, causing a security, fire, or safety problem.
      (2) Interior, exterior personnel doors or hardware, not functioning properly, causing a security, fire, or safety problem.

      Code 3-Doors
      (1) Overhead doors not operational.
      (2) Interior/exterior personnel doors or hardware not functioning properly.

      Code 1-Electrical
      (1) Power failure (entire area or any building operational after 1600 hours)
      (2) Security lights
      (3) Smoke detectors
Code 2-Electrical
(1) Power failure (no power to a room or part of building).
(2) Receptacle and lights (in a room or part of building).

Code 3-Electrical
Street lights.

Code 1-Gas
(1) Leaks and breaks.

Code 1-Heat
(1) Area power failure affecting heat.
(2) Heater in unit not working.

Code 2-Kitchen Equipment
(1) Dishwasher not operating properly.
(2) All other equipment hampering preparation of a meal.

Code 1-Plumbing
(1) Hot water heater failure.
(2) Leaking water supply pipes.

Code 2-Plumbing
(1) Flush valves not operating properly.
(2) Fixture drain, supply line to commode, or any water pipe leaking.
(3) Commode leaking at base.

Code 3-Plumbing
Leaky faucets.

Code 3-Interior
(1) Floors damaged.
(2) Paint chipping or peeling.
(3) Casework.

Code 1-Roof Leaks
Temporary repairs will be made where major damage to property is occurring.

Code 2-Roof Leaks
Where major damage to property is not occurring, check for location of leak during rain and complete repairs on a Code 2 basis.

Code 2-Water (Exterior)
No water to facility.

Code 2-Water (Hot)
No hot water in portion of building listed.

Code 3-All other work not listed above.

D. Warranty and/or Guaranty Tags

1. At the time of installation, tag each warranted or guaranteed item with a durable, oil and water resistant tag approved by the District. Attach each tag with a copper wire and spray with a silicone waterproof coating. The date of Substantial Completion and the Contractor
Authorized signature must remain blank until the date the District makes a determination of Substantial Completion. Show the following information on the tag:

**WARRANTY/GUARANTY INFORMATION**

a. Type of product/material______________________________.
b. Model number______________________________________.
c. Serial number______________________________________.
d. Contract number______________________________________.
e. Warranty/Guaranty period______ (months) from ___________ to__________________.
f. Inspector's signature__________________________________.
g. Construction Contractor________________________________.
   Address______________________________
   Telephone number__________________________.
h. Warranty or Guaranty contact______________________________
   Address______________________________
   Telephone number__________________________.
i. Warranty or Guaranty response time priority code__________________________

j. WARNING - PROJECT PERSONNEL TO PERFORM ONLY OPERATIONAL MAINTENANCE DURING THE WARRANTY PERIOD.

**PART 2 - PRODUCTS**

Not Used.

**PART 3 - EXECUTION**

Not Used.

**END OF SECTION 01740**
SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1  GENERAL

1.1  SECTION INCLUDES

A. Special requirements for waste management during demolition and construction operations.
   1. Salvaging nonhazardous waste.
   2. Recycling nonhazardous waste.
   3. Disposing of nonhazardous waste.

B. Environmental protection requirements, both on-site and off-site, during demolition and
   construction operations.

1.2  RELATED SECTIONS

A. Section 01500 – Temporary Facilities and Controls.
B. Section 01572 – Storm Water Pollution Prevention.
C. Section 01610 – Basic Product Requirements.
D. Section 01 81 13 – Sustainable Design Requirements; for LEED requirements.
E. Section 02 41 00 – Demolition.
F. Division 04 and 09 Sections: For disposition of masonry and stone waste and excess
   materials.
G. Division 31 Sections: For disposition of waste resulting from site clearing and removal of
   above- and below-grade site improvements.

1.3  REFERENCES

A. The publications listed below form a part of this specification to the extent referenced. The
   publications are referred to in the text by the basic designation only. Refer to Section 01420
   for definitions, acronyms, and abbreviations.

B. Standards, manuals, and codes refer to the latest edition of such standards, manuals, and
   codes in effect as of the date of issue of this Project Manual, unless indicated otherwise in
   CBC Chapter 35 and CFC Chapter 80.

C. Referenced Standards:
   1. ASTM E2114-01 – Standard Terminology for Sustainability Relative to the Performance
      of Buildings.
      Renovations.
1.4 WASTE REDUCTION GOALS

A. Develop and implement a construction and demolition waste management plan.

B. The Owner has set a waste minimization goal for the project, within the limits of the construction schedule, contract sum, and available materials, equipment, products, and services.

C. Minimize the amount of construction waste generated. The project goal is to recycle, salvage, or reuse at least [50 percent and three material streams] [75 percent and four material streams], as applicable, of the waste generated that may otherwise be disposed in a solid waste disposal facility (landfill).

D. Divert waste generated by construction, demolition, and land clearing activities from disposal through reuse (salvage) and recycling.

E. Reduce waste generated using effective construction resource management practices in materials estimating, ordering, shipping, storage, installation, and disposal.

F. Manage construction waste using best management practices to prevent contaminated, and polluting storm water run-off.

1.5 DEFINITIONS

A. Definitions pertaining to sustainable development: As defined in ASTM E2114 and as specified in this Section.


C. Class III Landfill: A landfill that accepts non-hazardous waste such as household, commercial, and industrial wastes, including construction, remodeling, repair, and demolition operations.

D. Construction Waste: As defined in Title 14, CCR, Section 17225.15. Includes waste building materials, packaging and rubble resulting from construction, remodeling, repair, and demolition operations on pavements, houses, commercial buildings and other structures.

E. Construction and Demolition (C&D) Waste: Solid waste that is a portion of the construction waste stream and are source separated or separated for reuse solid waste and recyclable materials, including commingled and separated materials resulting from construction work that are not hazardous, and contains no more than one percent putrescible waste by volume.

F. Conversion Rate: The rate set forth in the standardized Conversion Rate Table (see table at end of this Section) for use in estimating the volume or weight of materials identified in the Construction Waste Management Plan.

G. Divert: To use material for any purpose other than disposal in a landfill or transformation facility.

H. EA: Enforcement Agency as defined by California Public Resources Code (PRC) Section 40130.
I. Environmental Pollution and Damage: The presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances; or degrade the utility of the environment for aesthetic, cultural, or historical purposes.

J. Hazardous Materials: Any material that is regulated as a hazardous material in accordance with 49 CFR 173, requires a Material Safety Data Sheet (MSDS) in accordance with 29 CFR 1910.1200, or which during end use, treatment, handling, storage, transportation or disposal meets or has components which meet or have the potential to meet the definition of a Hazardous Waste in accordance with 40 CFR 261 and Title 22 CCR, Section 66261.3 et seq. Hazardous materials include pesticides, biocides, and carcinogens as listed by recognized authorities, such as the Environmental Protection Agency (EPA) and the International Agency for Research on Cancer (IARC).

K. Hazardous Waste: As defined in 40 CFR 261 and Title 22 CCR, Section 66261.3 et seq.

L. Putrescible Waste: Solid waste capable of being decomposed by micro-organisms with sufficient rapidity as to cause nuisance because of odors, vectors (insects, rodents, or any other animal capable of transmitting causative agents of human disease), gasses, or other offensive conditions, and include materials such as, but not limited to food wastes, offal and dead animals.

M. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

N. Recycle: To remove a waste material from the Project site to another site for remanufacture into a new product for reuse by others.

O. Recycling: The process of sorting, cleaning, treating, and reconstituting materials for the purpose of using the material in the manufacture of a new product. Can be conducted on-site (as in the grinding of concrete and reuse on-site).

P. Recycling Facility: An operation that can legally accept materials for the purpose of processing materials into an altered form for the manufacture of a new product. Recycling facilities have their specifications for accepting materials.

Q. Reuse: Making use of a material without altering its form.

R. Salvage: Recovery of materials for on-site reuse or donation to a third party.

1.6 SUBMITTALS

A. General: Submit in accordance with Section 01 33 00.

B. Special Environmental Requirements Submittals: Submit in accordance with Section 01 81 13 and as required by LEED – NC v4, LEED 2013 for New Construction and Major Renovations, MR Prerequisite 2 and Credit 5. Submit the following:
   2. LEED Letter Template, signed by Contractor, tabulating the total waste material, quantities diverted and the means by which diverted, and declaring that the credit requirements have been met.
   3. Submit certifications from C&D Recycling Facilities that will receive C&D debris.
C. Pay Application Requirements as described in this Section including but not limited to: Waste Management Log, receipts, invoices, weigh tickets and a summary sheet.

1.7 QUALITY ASSURANCE

A. C&D Recycling Facility Qualifications:
   1. Operations legally qualified to accept C&D waste in compliance with CIWMB rules and regulations and the local Enforcement Agency. A list of C&D Recycling Facilities is available through the CIWMB and its Internet recyclers’ database www.ciwmb.ca.gov/ConDemo/Recyclers.

B. Regulatory Requirements: Comply with CIWMB and local EA rules and regulations.

C. Monitoring:
   1. Maintain log of each load, of each category item diverted from landfill. Log in separately debris sent to a Class III landfill and materials sent to recycling facilities.
      a. Include in log: type of load, load volume, recycling/hauling service, date accepted by recycling service or by landfill.
      b. Owner reserves the right to audit the log at any time, retain all weight tickets, and receive copies of receipts and invoices.
      c. Units of measure: Use same units as stated in the approved plan good faith estimate of construction waste which would be generated if no remedial methods were implemented.
   2. Project Inspector shall monitor removal of C&D debris to verify the required material designated to be recycled are being properly sorted and removed from site to be delivered to recycling facility. Contractor shall coordinate with Project Inspector to have all loads, recycled and non-recycled, verified prior to off-haul. Project Inspector shall initial all receipts, invoices, manifests and weigh tickets.
   3. Additional Pay Application Requirements: Submit the following as a requirement for pay application:
      a. Waste Management Log with attached receipts, invoices, weigh tickets and a summary sheet duly initialed by Project Inspector.
      b. Certification letter stating that, under the penalty of perjury, all materials removed from the site during the billing period are included in the waste management log, summary sheet, and attachments.
      c. Failure to submit these requirements with pay application will prohibit processing of pay application.
   4. Coordination, Meetings, Training: Comply with provisions specified in this Section.

1.8 CONSTRUCTION WASTE MANAGEMENT PLAN

A. Within 14 days after receipt of Notice of Award and prior to any waste removal from the project site, Contractor shall develop and submit to Architect and Owner a Construction and Demolition Waste Management Plan as specified in this Section for review.

   1. Establish waste diversion goals for the project by identifying at least five materials (both structural and non-structural) targeted for diversion. Approximate a percentage of the overall project waste that these materials represent.
2. Specify whether materials will be separated or commingled and describe the diversion strategies planned for the project. Describe where the material will be taken and how the recycling facility will process the material.

B. The Construction Waste Reduction Plan shall, as a minimum, address the following:

1. The plan must include an overall project waste diversion goal and identify at least five kinds of materials that will be diverted from landfills or incinerations.

2. Statement of Waste Management Goals indicating objective to reuse, salvage, and recycle of at least [50 percent and three material streams] [75 percent and four material streams], as applicable, of the waste generated.

3. Provide a good faith estimate of total project construction waste to be generated if no diversion methods were implemented. Identify name of landfill(s) where project construction waste would normally be disposed of, tipping fees, and estimated cost of disposing project construction waste in landfill(s).

4. Calculate quantities using the Conversion Rate Table included in this Section.

5. Types and estimated quantities (where reasonably available) of salvageable materials that are expected to be generated during demolition and construction activities.

6. Methods to be used to salvage or reuse materials on-site. Methods shall include one or more of the following options: contracting with a deconstruction specialist to salvage all or most materials generated, and reuse of materials on-site or in new construction.

7. Methods to be used to recycle materials. Methods shall include one or more of the following: requiring subcontractors to take materials back for recycling at a permitted facility, contracting with a full service recycling service to recycle all or most materials at a permitted facility, processing and reusing materials on-site.

8. Identify C&D recycling facilities that will receive C&D debris. Include as attachments each recycling facility’s specifications for accepting materials.

9. Describe construction site facilities, implements, and procedures for collecting, separating, storing, and hauling, each type of C&D debris. Clearly label recycling containers – post acceptable/unacceptable materials. Identify hauler(s) of each particular debris item, who have agreed to accept and divert designated item from landfill.

10. As a minimum, the following materials shall be reused or recycled:
   a. Land clearing debris.
   b. Asphalctic concrete.
   c. Concrete.
   d. Metals.
   e. Wood.
   f. Plywood, oriented strand board (OSB), medium density fiberboard (MDF), and other wood sheet materials.
   g. Rigid foam.
   h. Window glass.
   i. Gypsum board.
   j. Acoustical ceiling panels.
   k. Carpet and pad.
   l. Paint (through hazardous waste outlets).
m. Piping: steel, copper, plastic, and cast iron.

n. Fluorescent lights and ballasts.

o. Cardboard, paper, plastic film, and packaging.

p. Job-shack wastes, including office paper, cardboard, glass, plastic, and aluminum beverage cans.

11. Describe methods to prevent storm water run-on from contacting stored construction waste. Methods may include but not limited to berms, secondary containment, and covered dumpster/roll-offs. Where dumpsters are used, include number of dumpsters and frequency of pick-up.

C. Plan Implementation

1. Waste Management Coordinator: Contractor shall designate an on-site party (or parties) responsible for instructing workers and overseeing and documenting results of the Waste Management Plan for the Project.

   a. Waste Management Coordinator Qualifications: LEED Accredited Professional by U.S. Green Building Council (USGBC). Waste management coordinator may also serve as LEED coordinator.

2. Maintain log of each load, of each category item diverted from landfill. Log in separately debris sent to a Class III landfill and materials sent to recycling facilities.

   a. Include in log type of load, load volume, recycling/hauling service, date accepted by recycling service or by landfill.

   b. Owner reserves the right to audit the log at any time, retain all weight tickets, and receive copies of receipts and invoices.

   c. Units of measure: Use same units as stated in the approved plan “good faith” estimate of construction waste which would be generated if no remedial methods were implemented.

3. Materials Handling:

   a. Materials to be recycled shall be protected from contamination, and shall be handled, stored and transported in a manner that meets the requirements set by the designated facilities for acceptance.

4. Separation Facilities:

   a. Designate a specific on-site area or areas to facilitate separation of materials for potential reuse, salvage, recycling, and return.

   b. Keep waste bin areas neat and clean. Clearly mark bins. Do not commingle non-recyclable waste with materials designated for reuse or recycling.

   c. For separation at an off-site facility that uses facility average diversion rates, those diversion rates must be regulated by a local or state government authority, and a documenting letter stating such shall be provided as part of the LEED documentation.

5. Training and Coordination:

   a. Furnish copies of the Waste Management Plan to all on-site supervisors, each subcontractor, Owner, and Architect.

   b. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all entities at the appropriate stages of the Project.
c. Meetings: Include construction waste management on the agenda of regularly scheduled job-site meetings.

6. Transportation:
   a. A description of the means of transportation of the recyclable materials (whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler and removed from the site) and destination of materials. Provide an estimate of how often bins will need to be emptied.
   b. Transport materials in covered trucks to prevent contamination of product or littering or polluting of surrounding areas.

D. Waste Reduction Strategies:
   1. Include in supply agreements with vendors, a waste reduction provision, specifying a preference for reduced, returnable, and/or recyclable packaging.
   2. Use detailed material estimates to reduce risk of unplanned and potentially wasteful cuts.
   3. Store materials properly to avoid moisture damage or other damage to materials as well as outdated. Materials that become wet or damp due to improper storage shall be replaced at Contractor's expense.

1.9 SPECIAL PROGRAMS

A. Contractor shall be responsible for final implementation of programs involving tax credits or rebates or similar incentives related to recycling, if applicable to the Project. Revenues or other savings obtained for recycled, reused or salvaged materials shall accrue to Contractor.

B. Contractor shall document work methods and recycled, reused or salvaged materials that qualify for tax credits, rebates and other savings.

1.10 SUBSTITUTIONS

A. Should Contractor desire to use procedures, materials, equipment, or products that are not specified but meet the intent of these specifications and are equal to the products specified in all aspects to reduce materials waste, Contractor shall propose these substitutions under provisions of Section 01 60 00.

1.11 CONVERSION TABLE

A. Use the following conversion table for the necessary conversion of material quantities.

<table>
<thead>
<tr>
<th>Material</th>
<th>Lbs/cu.yd</th>
<th>Tons/cu.yd</th>
<th>Cy/ton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood</td>
<td>300</td>
<td>0.15</td>
<td>6.7</td>
</tr>
<tr>
<td>Cardboard</td>
<td>100</td>
<td>0.05</td>
<td>20</td>
</tr>
<tr>
<td>Drywall</td>
<td>500</td>
<td>0.25</td>
<td>4</td>
</tr>
<tr>
<td>Concrete/Asphalt</td>
<td>1400</td>
<td>0.7</td>
<td>1.4</td>
</tr>
<tr>
<td>Mixed Waste</td>
<td>350</td>
<td>0.175</td>
<td>5.7</td>
</tr>
</tbody>
</table>

Source: Resource Efficient Building (1994), Metro Solid Waste Department, Portland, Oregon
PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement waste management plan as approved by Architect and Owner. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

3.2 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

B. Burning: Do not burn waste materials on Owner's property.

C. Disposal: Transport waste materials off Owner's property and legally dispose of them off-site.

END OF SECTION
SECTION 01770
CONTRACT CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
A. Section 01010 – “Summary of Work”
B. Section 01290 – “Payment Procedures”
C. Section 01310 – “Construction Scheduling”
D. Section 01321 – “Photographic Documentation”
E. Section 01330 – “Submittal Procedures”
F. Section 01410 – “Regulatory Requirements”
G. Section 01710 – “Cleaning Requirements”
H. Section 01722 – “Execution Requirements”
I. Section 01740 – “Warranties and Guaranties”
J. Section 01780 – “Project Record Documents”
K. Divisions 2 through 33 Sections for Contract Closeout Procedure requirements for the work in those Sections

1.3 SUMMARY
A. This section specifies administrative and procedural requirements for Contract closeout.

1.4 CONTRACT CLOSEOUT SUBMITTALS
A. Color prints of full size contractor Marked-up Contract Drawings
B. Color prints of full size contractor marked-up Shop Drawings
C. Professionally Drafted As-Built Record Drawings
D. Dated marked-up copies of Conformed Specifications
E. Marked-up Project Data submittals
F. Record Samples
G. Field records for variable and concealed conditions
H. Project Record Documents (See Section 01780)
I. Operating and maintenance manuals and data
J. Warranties and bonds
1.5 REMOVAL OF TEMPORARY CONSTRUCTION FACILITIES

A. Remove temporary materials, equipment, services, and construction prior to Initial Inspection, unless otherwise noted in other Contract Documents for a removal period subsequent to Initial Inspection but prior to Final Completion

B. Comply with requirements of Section 01500, Temporary Facilities and Controls

1.6 INITIAL PUNCH LIST AND INSPECTION

A. When Contractor considers Work to be Substantially Complete, submit written notice to District’s Representative requesting an Initial Inspection and listing items remaining to be completed or corrected listed by room number and item number (hereinafter “Initial Punch List”). The Contractor and/or its Subcontractors shall proceed promptly to complete and correct items on the list without waiting for District review of the Initial Punch List and inspection of the Work. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

B. In a separate section of the Initial Punch List, include all items which cannot be completed or verified prior to Functional Performance Testing of the entire Work in accordance with the Commissioning and other technical Specifications.

1. The Contractor shall provide the expertise, trades subcontractors, manufacturers’ representatives, or others as required to work collaboratively with the District and its representatives to identify all remaining items of Work, including required testing and verification, which cannot be completed or verified prior to Functional Performance Testing of the entire Work in accordance with the Commissioning Specification.

2. The Initial Punch List items identified to remain for subsequent completion shall not be significant enough to prevent beneficial occupancy and full use of the Work by the District.

C. The Contractor shall not submit a notice requesting an Initial Inspection unless the Work is Substantially Complete.

D. Should District’s Representatives determine that Work is not Substantially Complete, the District will promptly notify Contractor in writing, listing Work that must be completed prior to Substantial Completion. Any inspection list that is submitted to the District that does not result in a District determination of Substantial Completion will not be considered an accepted Initial Punch List. If the Work is determined to not be Substantially Complete, Contractor shall complete all Work as directed prior to requesting an additional Initial Inspection by the District to determine Substantial Completion per this Specification Section.

E. Upon receipt of the Contractor’s Initial Punch List, and not before, the District, Architect, and Project Inspector will make an Initial Inspection to determine whether the Work, is Substantially Complete.

1. All fire and life safety items, manufactured units, equipment and systems that require startup must have been started, run, tested, and operational for periods prescribed by the Contract Documents before a request for Initial Inspection is accepted by the District.
2. All items not completed in accordance with the requirements of the Contract Documents whether identified by the Contractor, District, Architect, Project Inspector, and/or other District Representatives as a result of the Initial Inspection shall be incorporated by the Contractor into a draft Pre-final Punch List which shall be submitted for District review and revision in accordance with Specification Section 01330, Submittal Procedures, prior to a determination by the District of Substantial Completion.

3. If additional Initial Inspections are required to review Initial Punch List items due to incompleteness of the Work by Contractor, Contractor will reimburse District for all costs associated with these inspections if additional service fees by District consultants are required. The costs of such District additional service fees will be deducted from the Contract Price by Change Order.

F. District may enlist Consultants to assist with the above activities.

1.7 SUBSTANTIAL COMPLETION

A. When District determines that the Work is Substantially Complete, District will issue a Certificate of Substantial Completion, accompanied by a Pre-Final Punch List of items to be completed or corrected as verified and/or appended by Architect and District.

B. When the Work, is Substantially Complete, the District will file a Notice of Completion.

1. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work, unless otherwise provided in the Notice of Completion.

2. The Notice of Completion shall be submitted to the Contractor for their written acceptance of responsibilities assigned to them in such Notice prior to District filing the Notice of Completion for purposes of initiating the release of Retention for the Work. The District shall withhold from Contractor payment the value of remaining Work, Work to be corrected, incomplete Work, and an amount identified for Pre-Final Punch List Work, and as otherwise identified in Public Contract Code.

C. The Contractor shall complete the items listed in the Pre-Final Punch List within ten (10) working days of the Certificate of Substantial Completion, with the exception of the items that must remain incomplete pending final commissioning. The Contractor shall execute the Work such that the District can occupy the Work within seven (7) calendar days of the date of the Certificate of Substantial Completion.

1.8 PRE-FINAL INSPECTION

A. When Contractor considers the items listed in the Pre-Final Punch List to be complete, with the exception of items which cannot be completed or verified prior to Functional Performance Testing of the entire Work in accordance with the Commissioning, and other specification sections, the Contractor shall submit written notice to District’s Representative requesting a Pre-Final Inspection.

B. Upon receipt of the Contractor’s request for Pre-Final Inspection, and not before, the District, Architect, Campus Representatives, and Project Inspector will inspect the Work to determine whether the Work identified on the Pre-Final Punch List is complete, with the exception of items which cannot be completed or verified prior to Functional Performance Testing of the entire Work in accordance with the Commissioning and other specification sections.
C. Prior to the Pre-Final Inspection, perform final cleaning of the Work, as specified in Section 01710.

1. Inspection Requirements.
   a. Before calling for Pre-Final Inspection, Contractor shall determine that the following Work has been performed:
      i) The Work has been completed.
      ii) All life safety items are completed and in working order.
      iii) All mechanical and electrical Work complete, fixtures in place, connected and ready for tryout and test.
      iv) Electrical circuits scheduled in panels and disconnect switches labeled.
      v) Painting and special finishes are complete.
      vi) Doors complete with hardware, cleaned of protective film, are relieved of sticking or binding and in working order.
      vii) Tops and bottoms of doors sealed.
      viii) Floors waxed and polished as specified.
      ix) Broken glass replaced and glass cleaned.
      x) Grounds cleared of Contractor’s equipment, raked clean of debris, and trash removed from Site.
      xi) Work cleaned, free of stains, scratches, and other foreign matter, and damaged and broken material have been replaced.
      xii) Finishes and decorative work shall have marks, dirt and superfluous labels removed.
      xiii) All other requirements per the Contract Documents.

   b. Furnish a letter to District stating that a responsible representative of District [give name and position] has been instructed in working characteristics of mechanical and electrical systems and equipment. See Specification Section 01820, Demonstration and Training Procedures.

2. All items not completed in accordance with the requirements of the Contract Documents whether identified by the Contractor, District, Architect, Project Inspector, and/or other District Representatives as a result of the Pre-Final Inspection, shall be incorporated by the Contractor into a draft Final Punch List which shall be submitted for District review and revision in accordance with Specification Section 01330, Submittal Procedures, prior to a determination by the District that the Contract is ready for administrative close-out.

3. If additional Pre-final Inspections are required to review the Pre-final Punch List items due to incompleteness of the Work by Contractor, Contractor will reimburse District for all costs associated with these inspections if additional services fees by District consultants are required. The costs of such District additional service fees will be deducted from the Contract Price by Change Order.

1.9 FINAL INSPECTION

A. When Contractor considers the items listed in the Final Punch List to be complete the Contractor shall submit written notice to District’s Representative requesting a Final Inspection.
B. Upon receipt of the Contractor’s request for Final Inspection, and not before, the Contractor, District, Architect, and Project Inspector, shall meet to go over the Contract Documents to identify the administrative requirements for contract close-out.

1. The District will prepare a list of requirements remaining for administrative close-out and shall provide the list to the Contractor.

2. The Contractor shall complete all items on the administrative close-out list within thirty (30) days.

C. Subsequent to the meeting to identify administrative close-out requirements, District, Architect, Campus Representatives, and Project Inspector will inspect the Work to determine whether the Work identified on the Final Punch List is complete.

D. If additional Final Inspections are required to review the Final Punch List items due to incompleteness of the Work by Contractor, Contractor will reimburse District for all costs associated with these inspections if additional services fees by District consultants are required. The costs of such District additional service fees will be deducted from the Contract Price by Change Order.

E. When the Architect determines that all final punch list items have been completed, a final Project Inspection Report will be issued. Any open administrative close-out requirements will be identified and a value for withholding from Progress Payment or Final Payment will be assigned.

F. The Project Inspector (IOR), the District Representative, and the Contractor shall, at all times, be together during all inspections. The Contractor shall give 24-hour notice to the District for such inspections.

1.10 FINAL COMPLETION

A. Final Completion occurs when all Work meets all requirements of the Contract Documents. When Contractor considers all Work complete and all close-out requirements have been performed, submitted, and accepted, submit written certification to District that:

1. Contractor has inspected Work for compliance with Contract Documents, and all requirements for Final Completion have been met.

2. Except for Contractor maintenance and Deferred or Seasonal Testing, after Final Completion, all Work has been completed in accordance with Contract Documents and deficiencies listed with any Certificate of Substantial Completion have been corrected. Equipment and systems have been tested in the presence of Architect, Project Inspector (IOR), and District Representatives and are operative.

B. Should District determine that the Work is incomplete or defective or that administrative requirements have not been completed:

1. District’s Representative will promptly so notify Contractor, in writing, listing the incomplete or defective items.

2. Contractor shall promptly remedy all incomplete and/or defective Work and notify the District when it is ready for re-inspection. District’s Representatives will then re-inspect the Work. If deficiencies previously noted are found not to be corrected, Contractor shall pay all District costs for the re-inspection.

3. When District determines that all Work and requirements are complete under the Contract Documents, District will request Contractor to make a request for Final Payment.
1.11 **FINAL ADJUSTMENTS OF ACCOUNTS**

A. Submit a final statement of accounting to District, showing all adjustments to the Contract Price. See also Section 01290 Payment Procedures, Final Payment, et al.

B. If required, District shall prepare a final Change Order showing an adjustment to the Contract Price that was not included in previous Change Orders.

1.12 **FINAL CLEANING**

Contractor shall comply with all applicable requirements in Section 01710, Cleaning Requirements.

1.13 **PROJECT RECORD DOCUMENTS**

Contractor shall comply with all applicable requirements in Section 01780, Project Record Documents.

1.14 **PROJECT WARRANTY**

A. Requirements for Contractor’s Warranty of completed Work are included in the General Conditions and Section 01740, Warranties and Guaranties.

B. Recording of Final Completion, final certificate for payment, or partial or entire occupancy of the Work by District shall not constitute acceptance of Work not done in accordance with Contract Documents, and do not relieve the Contractor of liability in respect to express warranties, latent defects, or responsibility for faulty materials or workmanship.

C. District may make repairs to defective Work as set forth in Contract General Conditions.

D. If, after installation, operation, or use of materials or equipment to be provided under Contract proves to be unsatisfactory to District, District shall have right to operate and use materials or equipment until said materials and equipment can, without damage to District, be taken out of service for correction or replacement. Period of use of defective materials or equipment pending correction or replacement shall in no way decrease guarantee period required for acceptable corrected or replaced items of materials or equipment.

E. Nothing in this Section shall be construed to limit, relieve, or release Contractor’s, subcontractors’, and equipment suppliers’ liability to District for damages sustained as result of latent defects in equipment caused by negligence of suppliers’ agents, employees, or subcontractors. Stated in another manner, warranty contained in the Contract Documents shall not amount to, nor shall it be deemed to be, waiver by District of any rights or remedies (or time limits in which to enforce such rights or remedies) it may have for defective workmanship or defective materials under laws of this state pertaining to acts of negligence.

1.15 **WARRANTIES**

A. Execute Contractor’s submittals and assemble warranty documents as described in Section 01330 Submittal Procedures and Section 01740 Warranties and Guaranties.

1.16 **RETURN OF DISTRICT KEYS, PARKING PERMITS AND IDENTIFICATION**

Contract Documents will not be closed out and final payment will not be made until all personnel identification media, vehicle permits, and keys issued to Contractor during prosecution of Work are returned to the District Representative.
1.17 RELEASE OF CLAIMS
   A. Contract Documents will not be closed out and final payment will not be made until Agreement and Release of Any and All Claims is completed and executed by Contractor and District.

1.18 FIRE INSPECTION COORDINATION
   A. Coordinate required fire inspection(s) with governing agencies having jurisdiction and provide sufficient notice to District to permit convenient scheduling (if applicable.)

1.19 BUILDING INSPECTION COORDINATION
   A. Coordinate with District, Architect, and Project Inspector final inspection for the purpose of obtaining any occupancy certificate (if applicable.)

1.20 MAINTENANCE OF DOCUMENTS AND SAMPLES
   A. Store Project Record Documents and samples in the Contractor’s field office apart from Contract Documents used for construction.
   B. Do not permit Project Record Documents to be used for construction purposes.
   C. Maintain Project Record Documents in good order, and in a clean, dry, legible condition.
   D. Make documents and samples available for weekly inspections by District, Architect, and Project Inspector.

1.21 RECORD CONSTRUCTION SCHEDULE
   A. Using the latest progress schedule required by Section 01330, submittal Procedures as a reference, submit a Record Baseline CPM Schedule showing the actual dates and duration of all construction activities.
   B. Sign and date the completed Record Baseline CPM Schedule and deliver to the District prior to Final Completion.

1.22 PROJECT RECORD DRAWINGS
   A. Comply with requirements of Section 01780, Project Record Documents.

1.23 PROJECT RECORD SPECIFICATIONS
   A. Comply with requirements of Section 01780 Project Record Documents.

1.24 PRODUCT DATA
   A. Comply with requirements of Section 01780, Project Record Documents.

1.25 OPERATION TESTS
   A. Conduct operational tests as required to demonstrate that all systems have been completed and are in compliance with all requirements.
   B. Furnish a written record of test results using recording type instruments where applicable and as directed.

1.26 OPERATION AND MAINTENANCE MANUALS
   A. Comply with requirements of Section 01780, Project Record Documents.
1.27 MATERIALS, EQUIPMENT AND FINISHES MANUAL
   A. Comply with requirements of Section 01780, Project Record Documents.

1.28 SERVICE AND MAINTENANCE CONTRACTS
   A. Compile, review, and submit specified service and maintenance contracts as specified for
      warranties and bonds.

1.29 MISCELLANEOUS PROJECT RECORD SUBMITTALS
   A. Refer to other specification sections for miscellaneous record keeping requirements and
      submittals. Immediately prior to Final Completion, complete miscellaneous records and place
      them in good order, properly identified and bound or filed, ready for District use and reference.
      Submit to the Architect for review and approval.
      1. Miscellaneous records include, but are not limited to the following:
         a. Authorized measurements utilizing unit prices
         b. Records of plant treatment
         c. Certifications received in lieu of labels on bulk products
         d. Batch mixing and bulk delivery records
         e. Testing and qualification of tradespersons
         f. Installation firms qualification documents
         g. Load and performance testing
         h. Inspections and certifications by governing authorities
         i. Leakage and water-penetration tests
         j. Fire resistance and flame spread test results
         k. Final inspection and correction procedures

1.30 EXTRA MATERIALS
   A. Where specified, provide extra materials in the quantities and manner specified.
   B. Delivery and certification of extra materials shall be prerequisite to Substantial Completion.

PART 2 - PRODUCTS
Not Used.

PART 3 - EXECUTION
Not Used.

END OF SECTION 01770
SECTION 01780
PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
A. Section 01010 – “Summary of Work”
B. Section 01250 – “Contract Modification Procedures”
C. Section 01310 – “Construction Scheduling”
D. Section 01311 – “Project Management and Coordination”
E. Section 01330 – “Submittal Procedures”
F. Section 01740 – “Warranties and Guaranties”
G. Section 01770 – “Contract Closeout Procedures”
H. Section 01785 – “Operation and Maintenance Data”
I. Divisions 2 through 33 Sections for Project Record Documents requirements for the work in those Sections.

1.3 SUMMARY
A. This section includes administrative and procedural requirements for Project Record Documents, including but not limited to the following:
   1. Record Drawings
   2. Record Specifications
   3. Record Product Data
   4. Record MEP & Structural coordination documents

B. Project Record Documents requirements include, but are not limited to, the following:
   1. Marked-up copies of Drawings
   2. Marked-up copies of Shop Drawings
   3. Newly prepared Drawings
   4. Marked-up Product Data submittals
   5. Field records, such as photographs, for variable and concealed conditions
   6. Record information for Work that is only schematically shown
   7. Maintenance forms for equipment

C. Other Project closeout requirements are included in Section 01770, Contract Closeout Procedures.

D. Contractor shall maintain Documents and Samples as follows:
   1. Contractor shall provide and store all required Project Record Documents and Samples in the Contractor field office apart from Contract Documents used for Construction. These
materials shall be available at any time upon request by the District, Architect and Project Inspector.

2. Project Record Documents shall not be used for construction purposes.

3. Maintain Project Record Documents in good order, and in a clean, dry, legible condition.

E. Contractor shall dedicate one complete full size set of the Contract Drawings and one complete Project Manual for use in recording as-built conditions.

F. The Contractor shall update the Record Drawings and Annotated Specifications as often as necessary to keep them current, but no less often than weekly.

G. The Record Drawings and Annotated Specifications shall be kept at the Site and available for review and inspection by the District and the Architect.

1.4 PROJECT RECORD DRAWINGS

A. Mark-up Procedure: During the construction period, maintain a complete, current set of Contract Drawings and Shop Drawings uploaded and updated within the BLUEBEAM program for Project Record Documents purposes. Label each document “AS-BUILT RECORD”. Keep all record documents current.

B. On completion of the Work and prior to Application for Final Payment, the Contractor will provide one complete set of AS-BUILT RECORD Drawings in AutoCAD (drawing) file format and one complete set in Adobe PDF file format.

C. A reference by number to a Change Order, CCD, RFI, RFQ, RFP, Field Order or other such document is not acceptable as sufficient record information on any record document. Do not conceal any Work until required record information has been recorded.

1. Contractor shall mark AS-BUILT Record Drawings to indicate the actual installation where the installation varies appreciably from the installation shown originally. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later. Items required to be marked include, but are not limited to:
   a. Dimensional changes to the Contract Drawings (horizontal and/or vertical)
   b. Revisions or any modification to details shown on the Contract Drawings
   c. Depths of various elements of foundations in relation to main floor level or survey datum.
   d. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
   e. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
   f. Locations of underground work, points of connection with existing utilities, changes in direction, valves, manholes, catch basins, capped stub outs, invert elevations and similar items
   g. Final, actual numbering of each electrical circuit
   h. Revisions to routing of piping and conduits
   i. Revisions to electrical circuitry, including legends at electrical panels
   j. Actual equipment locations
k. Duct size and routing
l. Changes made by Change Order, CCD, ASI, or any other directive
m. Details not on original Contract Drawings

2. Contractor shall mark completely and accurately AS-BUILT Record Drawing prints of Contract Drawings or Shop Drawings, whichever is the most capable of showing actual physical conditions. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.

3. Contractor shall mark AS-BUILT Record Drawing sets within BLUEBEAM with red markings; use other colors to distinguish between changes for different categories of the Work at the same location.

4. Contractor shall mark important additional information that was either shown schematically or omitted from original Drawings.
5. Contractor shall note Contractor Change Directive numbers; Bid Alternate numbers, if any, Change Order numbers, and similar identification.
6. Contractor shall be responsible for Mark-up: Where feasible, the individual or entity who obtained Project Record Drawing data, whether the individual or entity is the installer, Subcontractor or similar entity, is required to prepare the mark-up on AS-BUILT Record Drawings.
   a. Accurately record information in an understandable and legible drawing technique.
   b. Record data as soon as possible after it has been obtained. In the case of concealed installations, record and check the mark-up prior to concealment.
   c. The District, Architect, and Project Inspector will review all record documents each month prior to approval of Contractor’s Application for Payment.

D. Contractor shall prepare Record Drawings: Immediately prior to inspection for Certification of Substantial Completion of the Work, review completed marked-up AS-BUILT Record Drawings with District, Project Inspector and Architect to ensure accuracy of information. Once accuracy of information is confirmed, prepare and submit a full electronic set, professionally drafted in AutoCAD format, of as-built Contract Drawings and Shop Drawings.
   1. Incorporate changes and additional information previously marked on print sets. Delete, redraw, and/or add details and notations where applicable. Identify and date each Drawing; include the printed designation “AS-BUILT RECORD DRAWING” and the date prepared in a prominent location on each Drawing.
   2. Distribution: Whether or not changes and additional information were recorded, organize the original marked-up set of drawings that were maintained during the construction period within BLUEBEAM into manageable sets. The sets should be labeled with all appropriate identification, including titles, dates and other information on cover sheets and submit to District.

E. In addition to requirements of this Section, comply with supplemental requirements of other specification sections.
   1. Section 01330, Submittal Procedures, requires the preparation of large scale, detailed layout drawings of the Work in Divisions 2 through 33. These layout drawings are not Shop Drawings as defined by Section 01330, but together with Shop Drawings or layout drawings of all other affected Sections are used to check, coordinate and integrate the work of the various Sections.
2. Contractor shall include required layout drawings as part of the Project Record Documents.

1.5 PROJECT RECORD SPECIFICATION

A. Contractor shall, during the construction period, maintain one copy of the Project Specifications, including all addenda and all other modifications issued for Project Record Documents purposes.

B. Contractor shall mark the Project Record specifications to indicate the actual installation where the installation varies substantially from that indicated in Specifications and/or modifications issued. Note related Project Record Drawing information, where applicable. Give particular attention to substitutions, selection of product options, Change Order and Construction Change Directive Work, and information on concealed installation that would be difficult to identify, measure, and record later.

1. In each Specification Section where products, materials or units of equipment are specified or scheduled, mark the Record copy with the proprietary name and model number of the product furnished.

2. Where a specification allows Contractor to elect one of several brands, makes, or types of material or equipment, the annotations shall show which of the allowable items the Contractor has furnished.

3. Record the name of the manufacturer, catalog number, supplier and installer and other information necessary to provide an accurate record of selections made, and coordinate documentation with Project Record Data submittals and maintenance manuals.

4. Note any related Project Record Product Data that was submitted in maintenance manuals instead of Product Data submittals.

5. Upon completion of mark-up, submit Project Record Specifications to District for District’s records.

1.6 ADDITIONAL REQUIREMENTS FOR FINAL PROJECT AS-BUILT RECORD DOCUMENTS

A. Using a distinct Auto CAD layer, clearly indicate at each affected plan, detail, schedule, or other drawing as necessary, a full description of changes made during construction along with the actual location of specified items.

B. “Cloud” all changes made using a distinct AutoCAD layer.

C. Submit duplicate electronic files of all drawings in both Auto CAD and Adobe PDF Format.

1.7 PROJECT RECORD PRODUCT DATA

A. Contractor shall, during the construction period, maintain one copy of each Project Record Product Data submittal for “Project Record Document” purposes.

1. Mark Project Record Product Data to indicate the actual product installation where the installation varies substantially from that indicated in Project Record Product Data submitted. Include any significant changes in the product as delivered and/or installed including any departures from the manufacturer’s instructions and/or recommendations for installation.

2. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.

3. Note related Change Orders and mark-up of Project Record Drawings, where applicable.
4. Upon completion of mark-up, submit a complete set of Project Record Product Data to District for District’s records.

5. Where Project Record Product Data is required as part of maintenance manuals, submit marked-up Project Record Product Data as an insert in the manual, instead of submittal as Project Record Product Data.

6. Contractor is responsible for mark-up and submittal of Project Record Product Data for its own Work.

B. Material, Equipment and Finish Data:

1. General: Provide one (1) preliminary review copy and two (2) final copies each of a "Materials, Equipment and Finishes Manual" listing all finish materials, equipment (not provided under Divisions 15 and 16), and finishes installed in the Work.

2. Submit the preliminary manuals to the Architect a minimum of two (2) weeks prior to Substantial Completion. The preliminary copies must comply with all of the requirements, except the hardboard covers.

3. Obtain approval of preliminary copies prior to producing final copies.

4. Deliver final manuals to the Architect prior to final acceptance and final payment. Architect will deliver manuals to the District.

5. Format of Manual: Provide bound manuals with printed covers and spines. Title "Materials, Equipment and Finishes Manual". Organize data sequentially by Specification Section number on type written 8-1/2 by 11 inch pages. Provide each copy with a typewritten index and tabbed dividers between each separate Section. Mark each tab to indicate contents.

6. Contents of Manual: Manuals shall contain all information needed to identify, maintain, and replace/duplicate any finish materials, equipment, and finishes installed in the Work for this Project. Where materials and product information has been described and likewise indicated in the "Operation and Maintenance Manuals", cross referencing to where they can be found may be done in lieu of duplication of the information. The information provided shall include, but not be limited to, the following:

   a. Manufacturer's names and model numbers or product name; supplier's and subcontractor's name, address and phone and fax numbers; and all other pertinent information that might be required for replacement ordering or duplication at a later date.

   b. For custom fabricated products which do not have model numbers or names, reference Project shop drawing submittal number and indicate "Fabricated per shop drawing submittal Number ___.

   c. Proportions of mixes.

   d. Color formula list for each paint color used.

   e. For power operated equipment, include complete and legible wiring diagrams together with cuts of repair parts and part numbers listed and instructions relative to care, adjustment and operation of the equipment.

   f. For moisture protection and weather exposed products, include complete manufacturer's data with instructions on inspection, maintenance and repair.

   g. Where applicable, provide information on care and maintenance, including manufacturer's recommendations for types of cleaning agents to be used and
methods of cleaning. Provide information regarding cleaning agents and methods that could prove detrimental to the product.

C. Contractor shall arrange Project Record Product Data by Specification Section number, and provide names, addresses, fax numbers, emails addresses, and telephone number of Subcontractors and suppliers. Information to be provided includes:

1. Trade Names
2. Model or type numbers
3. Assembly diagrams
4. Operating instructions
5. Cleaning instructions
6. Maintenance instructions
7. Recommended spare parts
8. Product data

1.8 MISCELLANEOUS PROJECT RECORD SUBMITTALS

A. Refer to other Specification Sections for miscellaneous record keeping requirements and submittals. Immediately prior to Substantial Completion of the Work, complete all miscellaneous records and place in good order, properly identified, and readied for use and reference. Submit to the District for District’s records, in Adobe PDF format. Categories of miscellaneous records include, but are not limited to, the following:

1. Field records on excavations and foundations
2. Field records on underground construction and similar work
3. Survey showing locations and elevations of underground lines
4. Invert elevations of drainage piping
5. Surveys establishing building lines and levels
6. Authorized measurements utilizing unit prices or allowances
7. Records of plant treatment
8. Ambient and substrate condition tests
9. Certifications received in lieu of labels on bulk products
10. Batch mixing and bulk delivery records
11. Testing and qualification of tradespersons
12. Documented qualification of installation firms
13. Load and performance testing
14. Inspections and certifications by governing authorities
15. Leakage and water-penetration tests
16. Fire resistance and flame spread test results
17. Final inspection and correction procedures
18. Final As-Built Construction Schedule
19. Project Record Drawing Mark-ups
20. Other

1.9 INSTALLATION, OPERATION, AND MAINTENANCE MANUALS
   A. Submit Installation, Operation, and Maintenance Manuals in accordance with this Section, Section 01330, Submittal Procedures and Section 01785, Operation and Maintenance Data.

1.10 ELECTRONIC MEDIA FORMAT
   A. Electronic Media Formats: Electronic media formats shall be Adobe PDF and AutoCAD.
   1. Adobe PDF files shall have chapter markers and/or bookmarks inserted in place of the equivalent hard copy section tabs. Adobe PDF copy shall include all Project Record Drawings, updated Specification Manuals, tables, charts, drawings, codes and all other matters reflected in hard copies. Adobe PDF files shall be delivered on unique CD-ROMs containing Adobe PDF files of each completed project AS-BUILT Record Drawing and the complete Specifications Manual with all changes made during the Project.
   2. In addition to the Adobe PDF file copies, professionally drafted AutoCAD project AS-BUILT Record Drawing DWG files shall be delivered showing both design and as-built information. AutoCAD layouts shall be provided allowing for the reproduction of a complete set of plans as needed.

1.11 DISTRICT’S RECURSE
   A. If Contractor is not able to provide Project Record Documents in specified formats, District has the right to complete the Work using other resources. Contractor agrees that any and all costs associated with District completion of this Work shall be deducted from the Contract Price by Change Order.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION

3.1 RECORDING
   A. Post changes and modifications to the Contract Documents as they occur. Do not wait until the end of the Project. District may periodically review Project Record Documents to assure compliance with this requirement.

3.2 SUBMITTALS
   A. At completion of Project, deliver all Project Record Documents to District, per Section 01330 (Submittal Procedures.)
   B. Accompany submittal with transmittal letter containing:
      1. Date
      2. Project title and number
      3. Contractor’s name and address
      4. Number and title of each Project Record Document
      5. Certification that each document as submitted is complete and accurate and signature of Contractor or Contractor’s authorized representative.

END OF SECTION 01780
SECTION 01785
OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
A. Section 01010 – “Summary of Work”
B. Section 01310 – “Construction Scheduling”
C. Section 01311 – “Project Management and Coordination”
D. Section 01330 – “Submittal Procedures”
E. Section 01740 – “Warranties and Guaranties”
F. Section 01770 – “Contract Closeout Procedures”
G. Section 01780 – “Project Record Documents”
H. Divisions 2 through 33 Sections for Operation and Maintenance Data requirements for the work in those Sections.

1.3 SUMMARY
A. This section includes administrative and procedural requirements for Operation and Maintenance (O&M) data and documents.

1.4 FORMAT
A. Contractor shall compile O&M manuals for all building equipment including mechanical, plumbing and electrical equipment, commissioned or not, in the following formats:

   1. Quantity: as specified in Section 01330, Submittal Procedures.

   2. Hard Media Format:
      a. Size: 8 ½ x 11 inch, 3 ring loose-leaf binders. Use as many binders as required for each element as listed below. Do not overload binders.
      b. Binding: Bind in stiff, metal-hinged, three-ring binder(s) with standard 3 hole-punching. Binders shall be 3-inch maximum. Use white or black colored binders with integrated clear plastic covers to enable insertion of binder titles.
      c. Sheet lifters: Provide plastic sheet lifters prior to first page and following last page.
      d. Binder titles: Include the following title on front and spine of binder:

         CONTRA COSTA COMMUNITY COLLEGE DISTRICT
         Campus Number and Name
         O&M Manual for: (insert equipment description(s) included)
3. **Drawing Size:** Provide reduced size drawings or diagrams to fit in binder. Where reduction is not practical to ensure readability, fold larger drawings separately and place in vinyl envelopes bound into the binder. Identify vinyl envelopes with drawing numbers.

4. **Dividers:** Use dividers with permanently marked tabs of card stock to separate each section and sub-section. Tab labels shall not be handwritten. Use a main tab for each specification section. Behind the section number tab there shall be the equipment ID tab sub-tab for each piece of major equipment (or group, if small or numerous). These sub-tabs shall be similar to the specification number tabs but of a different color.

B. **Submit O&M Data specifically applicable to this Contract and a complete and concise depiction of the provided equipment, product, or system, stressing and enhancing the importance of system interactions, troubleshooting, and long-term preventative maintenance and operation.** The subcontractors shall compile and prepare data and deliver to the Contractor prior to the training of District personnel. The Contractor shall compile and prepare aggregate O&M data including clarifying and updating the original sequences of operation to as-built conditions. Organize and present information in sufficient detail to clearly explain O&M requirements at the system, equipment, component, and subassembly level. Include an index preceding each submittal. Submit in accordance with this section and Section 01330 SUBMITTAL PROCEDURES.

1. **Package Quality.** Documents must be fully legible. Poor quality copies and material with hole punches obliterating the text or drawings will not be accepted.

2. **Package Content.** Data package content shall be as shown in the paragraph titled "Schedule of Operation and Maintenance Data Packages." Comply with the data package requirements specified in the individual technical sections, including the content of the packages and addressing each product, component, and system designated for data package submission.

3. **Changes to Submittals.** Manufacturer-originated changes or revisions to submitted data shall be furnished by the Contractor if a component of an item is so affected subsequent to acceptance of the O&M Data. Changes, additions, or revisions required by the Architect or District Project Manager for final acceptance of submitted data, shall be submitted by the Contractor within 30 calendar days of the notification of this change requirement.

4. **Review and Approval.** The District's Commissioning Authority (CA) shall review the commissioned systems and equipment submittals for completeness and applicability. The CA shall verify that the systems and equipment provided meet the requirements of the Contract documents and design intent, particularly as they relate to functionality, energy performance, water performance, maintainability, sustainability, system cost, indoor environmental quality, and local environmental impacts. The CA shall communicate deficiencies to the District and Architect. Upon a successful review of the corrections, the CA shall recommend approval and acceptance of these O&M manuals to the District and Architect. This work shall be in addition to the normal review procedures for O&M data.

### 1.5 **ELECTRONIC MEDIA FORMAT**

A. **Electronic Media Format:** Electronic media format shall be Adobe PDF, with chapter markers and/or bookmarks inserted in place of the equivalent hard copy section tabs. Electronic copy shall include all tables, charts, drawings, codes and all other matters reflected in hard copies. Electronic media files shall be delivered on a unique CD-ROM.
1.6 SYSTEMS COVERED

A. The Contractor shall supply the required information for all systems identified in the technical specification sections and in this section. A separate manual or chapter shall be provided for each applicable system as follows:

1. Chillers
2. Cooling Towers
3. Boilers
4. Pumps
5. Air Handling Units (include sequence of operation, one line diagram and area served in a plastic pouch for mounting on equipment or in equipment room)
6. Exhaust fans
7. Supply Air Fans (excluding Air Handling Units)
8. Plumbing and drainage Systems/Equipment
9. UPS
10. Fire Protection Systems
11. Fire Alarm System
12. Valves and Pipe Specialties (include valve identification chart)
13. Variable Frequency Drives (VFD)
14. Smoke Control Systems
15. Water Treatment Systems
16. Lighting Systems and Controls (interior, exterior and airfield)
17. Switchgear, Transformers, Panel boards, Motor Control Centers and Motor Starters
18. Lighting Protection and Surge Suppression Systems
19. Public Address, Closed Circuit TV, Communication and Telephone Systems
20. Security System
21. Building Management/Temperature Control System (BMS)
22. Fuel System
23. Doors and Hardware
24. Power monitoring systems
25. HVAC, Testing Adjusting and Balancing.

1.7 COMPUTER PROGRAMS

A. When any equipment requires operation by computer programs, submit copy of original program on CD, with a hard-copy and an electronic copy (Adobe PDF format) of all user manuals and guides for operating the programs. Program shall be Windows XP compatible. Provide required licenses to District at no additional cost.

1.8 TYPES OF INFORMATION REQUIRED IN O&M DATA PACKAGES

A. Title Page, which shall be duplicate of front binder title
B. Table of Contents with section numbers

C. Equipment Sections and Sub Sections

1. The first page behind the equipment tab shall be the Contractor’s name, address and telephone number of the manufacturer and installing contractor and the 24-hour number for emergency service for all equipment in this section, identified by equipment.

2. Submittal and Product Data: This section shall include all approved submittal data, cut sheets, data base sheets and appropriate shop drawings. If submittal was not required for approval, descriptive product data shall be included.

3. O & M and installation instructions that were shipped with the unit.

4. Model number, serial number and nameplate data for each piece of equipment and any subcomponent.

5. Safety Precautions. List personnel hazards and equipment or product safety precautions for all operating conditions.

6. Operating Instructions. These shall be the written manufacturer’s data with the model and features of this installation clearly marked and edited to omit reference to products or data not applicable to this installation. This section shall include data on the following:

   a. Include specific instructions, procedures, and illustrations for the following phases of operation for the installed model and features of each system:

   i) Operator Prestart and Startup Procedures. Include step-by-step procedures, including a pre-start checklist if applicable, required to install, set up, prepare, and startup each system for use.

   ii) Startup, Shutdown, and Post-Startup Procedures. Provide narrative description for Startup, Shutdown and Post-shutdown operating procedures including the control sequence for each procedure.

   iii) Sequence of operations, with detailed instruction in proper sequence, for each mode of operation (i.e. day-night; staging of equipment.)

   iv) Normal Operations. Provide narrative description of Normal Operating Procedures. Include Control Diagrams with data to explain operation and control of systems and specific equipment.

   v) Emergency Operations. Include Emergency Procedures for equipment malfunctions to permit a short period of continued operation or to shut down the equipment to prevent further damage to systems and equipment. Include Emergency Shutdown Instructions for fire, explosion, spills, or other foreseeable contingencies. Provide guidance and procedures for emergency operation of all utility systems including required valve positions, valve locations and zones or portions of systems controlled. If some functions of the equipment can be operated while other functions are disabled, give instructions for operations under these conditions. Include here only those alternate methods of operations (from normal) which the operator can follow when there is a partial failure of malfunctioning of components, or other unusual condition.

   vi) Shutdown procedure: Include instructions for stopping and securing the equipment after operation. If a particular sequence is required, give step-by-step instructions in that order.
Refer to controls and indicators by nomenclature consistent with that used on panels and in control diagrams.

b. Operator Service Requirements. Include instructions for services to be performed by the operator such as lubrication, adjustment, inspection, and recording gage readings.

c. Environmental Conditions. Include a list of Environmental Conditions (temperature, humidity, and other relevant data) that are best suited for the operation of each product, component or system. Describe conditions under which the item equipment should not be allowed to run.

D. Preventive Maintenance. Include manufacturer’s schedule for routine preventive maintenance, inspections, tests and adjustments required to ensure proper and economical operation and to minimize corrective maintenance. Provide manufacturer’s projection of preventive maintenance work-hours on a daily, weekly, monthly, and annual basis including craft requirements by type of craft. For periodic calibrations, provide manufacturer’s specified frequency and procedures for each separate operation. Include potential environmental and indoor air quality impacts of recommended maintenance procedures and materials.

1. Produce a schedule for preventive maintenance in a printed format and an electronic format compatible with District’s system. State, preferably in tabular form, the recommended frequency of performance for each preventive maintenance task, cleaning, inspection and scheduled overhauls.

2. Cleaning: Provide instructions and schedules for all routine cleaning and inspection with recommended lubricants.

3. Inspection: If periodic inspection of equipment is required for operation, cleaning or other reasons, indicate the items to be inspected and give the inspection criteria for: motors; controls; filters and any other maintenance items.

4. Provide instructions for minor repairs or adjustments required for preventive maintenance routines. Identify test points and give values for each. Include sensor calibration requirements and methods by sensor type.

5. Corrective maintenance instructions shall be predicated upon a logical effect-to-cause troubleshooting philosophy and a rapid replacement procedure to minimize equipment downtime.

6. Troubleshooting: Troubleshooting tables, charts, or diagrams shall be used to present specified procedures. A guide to this type shall be a three-column chart. The columns shall be titled: Malfunction, Probable Cause and Recommended Action.

7. Repair and replacement: Indicate repair and replacement procedures most likely to be required in the maintenance of the equipment.

8. A list of recommended spare parts with a price list and a list of spare parts provided under this Contract.

9. Outline, cross-section, and assembly drawings; engineering data; and electrical diagrams, including elementary diagrams, labeled wiring diagrams, connection diagrams, word description of wiring diagrams and interconnection diagrams.

10. Lubrication Data. Include preventative maintenance lubrication data, in addition to instructions for lubrication provided under paragraph titled "Operator Service Requirements":

a. A table showing recommended lubricants for specific temperature ranges and applications.

b. Charts with a schematic diagram of the equipment showing lubrication points, recommended types and grades of lubricants, and capacities.

c. A Lubrication Schedule showing service interval frequency.

E. Corrective Maintenance (Repair). Include manufacturer’s recommended procedures and instructions for correcting problems and making repairs for the installed model and features of each system. Include potential environmental and indoor air quality impacts of recommended maintenance procedures and materials.

1. Troubleshooting Guides and Diagnostic Techniques. Include step-by-step procedures to promptly isolate the cause of typical malfunctions. Describe clearly why the checkout is performed and what conditions are to be sought. Identify tests or inspections and test equipment required to determine whether parts and equipment may be reused or require replacement.

2. Wiring Diagrams and Control Diagrams. Wiring diagrams and control diagrams shall be point-to-point drawings of wiring and control circuits including factory-field interfaces. Provide a complete and accurate depiction of the actual job specific wiring and control work. On diagrams, number electrical and electronic wiring and pneumatic control tubing and the terminals for each type, identically to actual installation configuration and numbering.

3. Maintenance and Repair Procedures. Include instructions and a list of tools required to repair or restore the product or equipment to proper condition or operating standards.

4. Removal and Replacement Instructions. Include step-by-step procedures and a list required tools and supplies for removal, replacement, disassembly, and assembly of components, assemblies, subassemblies, accessories, and attachments. Provide tolerances, dimensions, settings and adjustments required. Instructions shall include a combination of text and illustrations.

5. Spare Parts and Supply Lists. Include lists of spare parts and supplies required for maintenance and repair to ensure continued service or operation without unreasonable delays. List spare parts and supplies that have a long lead-time to obtain.

F. Appendices. Provide information required below and information not specified in the preceding paragraphs but pertinent to the maintenance or operation of the product or equipment. Include the following:


2. Product Submittal Data. Provide a copy of all SD-03 Product Data submittals required in the applicable technical sections.

3. Manufacturer’s Instructions. Provide a copy of all Manufacturers’ Instructions submittals required in the applicable technical sections.

4. O&M Submittal Data. Provide a copy of all Operation and Maintenance Data submittals required in the applicable technical sections.

5. Parts Identification. Provide identification and coverage for all parts of each component, assembly, subassembly, and accessory of the end items subject to replacement. Include special hardware requirements, such as requirement to use high-strength bolts and nuts. Identify parts by make, model, serial number, and source of supply to allow reordering.
without further identification. Provide clear and legible illustrations, drawings, and exploded views to enable easy identification of the items. When illustrations omit the part numbers and description, both the illustrations and separate listing shall show the index, reference, or key number that will cross-reference the illustrated part to the listed part. Parts shown in the listings shall be grouped by components, assemblies, and subassemblies in accordance with the manufacturer's standard practice. Parts data may cover more than one model or series of equipment, components, assemblies, subassemblies, attachments, or accessories, such as typically shown in a master parts catalog.

6. Warranty Information. List and explain the various warranties and clearly identify the servicing and technical precautions prescribed by the manufacturers or contract documents in order to keep warranties in force. Include warranty information for primary components such as the compressor of air conditioning system.

7. Personnel Training Requirements. Provide information available from the manufacturers that are needed for use in training designated personnel to properly operate and maintain the equipment and systems.

8. Testing Equipment and Special Tool Information. Include information on test equipment required to perform specified tests and on special tools needed for the operation, maintenance, and repair of components.


10. Contractor Information. Provide a list that includes the name, address, and telephone number of the Contractor and each Subcontractor who installed the product or equipment, or system. For each item, also provide the name address and telephone number of the manufacturer's representative and service organization that can provide replacements most convenient to the project site. Provide the name, address, and telephone number of the product, equipment, and system manufacturers.

1.9 TYPES OF INFORMATION REQUIRED IN CONTROLS O&M DATA PACKAGES

A. Include all requirements found in the technical specifications, items in the Schedule of O&M Data Packages, and the following for control systems:

1. Narrative description on how to perform and apply all functions, features, modes, and other operations, including unoccupied operation, seasonal changeover, manual operation, and alarms. Include detailed technical manual for programming and customizing control loops and algorithms.

2. Full as-built sequence of operations

3. Copies of all checkout tests and calibrations performed by the Contractor (not Cx tests).

4. Full points list. A listing of rooms shall be provided with the following information for each room:

a. Floor
b. Room number
c. Room name
d. Air handler unit ID
e. Reference drawing number
f. Air terminal unit tag ID

g. Heating and/or cooling valve tag ID

h. Minimum cfm

i. Maximum cfm

5. Full print out of all schedules and set points after testing and acceptance of the system.

6. Full as-built print out of software program.

7. Electronic copy on disk or CD of the entire program for this facility.

8. Marking of all system sensors and thermostats on the as-built floor plan and mechanical drawings with their control system designations.

1.10 SUPPLEMENTAL DATA

A. Contractor shall prepare written text and/or special drawings to provide necessary information when manufacturer’s standard printed data is not available and/or additional information is necessary for a proper understanding and operation and maintenance of equipment or systems, or when it is necessary to supplement data included in the manual or Project documents.

1.11 SCHEDULE OF INFORMATION FOR OPERATION AND MAINTENANCE DATA PACKAGES

A. Supply all of the following, when and where applicable, for each O&M data package:

1. Safety precautions

2. Operator prestart

3. Startup, shutdown, and post-shutdown procedures

4. Normal operations

5. Emergency operations

6. Operator service requirements

7. Environmental conditions

8. Lubrication data

9. Preventive maintenance plan and schedule

10. Cleaning recommendations

11. Troubleshooting guides and diagnostic techniques

12. Wiring diagrams and control diagrams

13. Maintenance and repair procedures

14. Removal and replacement instructions

15. Spare parts and supply list

16. Special tools required to service or maintain the equipment

17. Corrective maintenance man-hours

18. Product submittal data

19. O&M submittal data

20. Parts identification

21. Warranty information

22. Personnel training requirements
23. Testing equipment and special tool information
24. Testing and performance data
25. Installing Subcontractor information

PART 2 – PRODUCTS
Not Used.

PART 3 – EXECUTION
Not Used.

END OF SECTION 01785
SECTION 01820
DEMONSTRATION AND TRAINING PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
A. Section 01010 – “Summary of Work”
B. Section 01770 – “Contract Closeout Procedure”
C. Division 2 through 33 Sections for Demonstration and Training requirements for the work in those Sections

1.3 SUMMARY
A. This Section includes administrative and procedural requirements for instructing District’s personnel, including the following:
   1. Demonstration of operation of systems, subsystems, and equipment
   2. Training in operation and maintenance of systems, subsystems, and equipment
   3. Demonstration and training videos

1.4 SUBMITTALS
A. Instruction Program: Contractor shall submit 5 copies of the instructional program outline for all required demonstration and training to District for approval. Outlines shall include:
   1. Schedule of proposed meeting dates and times
   2. Description of topics to be covered and learning objectives
   3. Length of instruction time
   4. Instructor’s names and qualification information for each training module
B. At completion of training, provide two complete training manuals for the District’s use.
   1. Training Manual shall comply with Section 01780 (Project Record Documents.)
C. Attendance Record: For each training module, provide list of participants and length of instruction time.
D. Demonstration and Training (DVD) Videos: Submit 2 digital copies to District within 5 days of completion of each training module.
   1. Identification: On each CD/DVD copy Contractor shall, provide an applied label with the following information:
      a. Project Name
      b. Project Number
c. Contract Number  


d. Name of Contractor with address, and telephone number  


e. Date video was recorded  


f. Topic(s) covered  


1.5 QUALITY ASSURANCE  


A. Instructor Qualifications: A factory-authorized service representative or District approved equivalent, complying with requirements in Section 01400 (Quality Control Requirements,) and experienced in operation and maintenance procedures and training for Project specific systems and equipment.  


B. Contractor shall coordinate instruction schedule and verify availability of educational materials, instructor’s personnel, audiovisual equipment, and facilities needed to avoid delays.  


C. For instruction that must occur outdoors, review weather forecast and provide alternatives if conditions are unfavorable.  


1.6 COORDINATION  


A. Contractor shall coordinate instruction schedule with the District Project. Adjust schedule as required to ensure proper attendance and to minimize disrupting Campus operations.  


B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Architect.  


C. Provide written notice (15) working days in advance to District with a copy to the Architect prior to any scheduling instruction sessions. District shall furnish Contractor with names and positions of intended participants.  


D. Contractor shall provide and coordinate schedule of all required training with Project Phases. Coordinate with the District  


PART 2 - PRODUCT  


2.1 INSTRUCTION PROGRAM  


A. Program Structure: Contractor shall develop and provide instruction program that includes group training modules for each system and equipment not part of a system, as required by individual Specification Sections, and as follows:  


1. Motorized doors including, but not limited to, the following:  


a. Overhead coiling doors  


b. Overhead coiling grilles  


c. Automatic entrance doors  


2. Equipment including, but not limited to, the following:  


a. Projection screens  


b. All Food-service equipment and appliances, including coolers and refrigerators  


c. Exhaust hoods and controls

3. Fire-protection systems including, but not limited to, the following:
   a. Fire alarm
   b. Fire pumps
   c. Fire-extinguishing systems
   d. Fire sprinkler system

4. Intrusion detection systems

5. Conveying systems including, but not limited to, the following:
   a. None in project

6. Heat generation including, but not limited to, the following:
   a. Boilers
   b. Pumps
   c. Water distribution piping

7. Refrigeration systems including, but not limited to, the following:
   a. Chillers
   b. Cooling towers
   c. Condensers
   d. Pumps
   e. Distribution piping

8. HVAC systems including, but not limited to, the following:
   a. Air-handling equipment
   b. Air distribution systems

9. HVAC instrumentation and controls, including BAS.

10. Electrical service and distribution including, but not limited to, the following:
    a. Transformers
    b. Switchboards
    c. Panelboards
    d. Uninterruptible power supplies
    e. Motor controls

11. Lighting Fixture equipment and controls

12. Communication systems including, but not limited to the following:
    a. Intercommunication
    b. Surveillance
    c. Voice and data equipment
    d. Other as required elsewhere in the Contract Documents
B. Training Modules: Contractor shall develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following:
   1. Review basis of system design
   2. Operational requirements and criteria, including:
      a. System, subsystem, and equipment descriptions
      b. Operating standards
      c. Regulatory requirements
      d. Operating characteristics
      e. Limiting conditions
      f. Performance curves
   3. Detailed review of documentation, including:
      a. Emergency manuals and procedures
      b. Operations manuals and procedures
      c. Maintenance manuals and procedures
      d. Identification systems
      e. Warranties and Guarantees
      f. Maintenance service agreements and similar continuing commitments
      g. Normal shutdown instructions
      h. Required sequences for electric or electronic systems
      i. Special operating instructions and procedures
      j. Troubleshooting and diagnostics
      k. Test and inspection procedures

PART 3 - EXECUTION
3.1 PREPARATION
A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a combined training manual.
B. Set up as required at instructional location.

3.2 DEMONSTRATION AND TRAINING VIDEOTAPES
A. Record each demonstration and training session separately using digital video. Include classroom instructions, demonstrations, board diagrams, and other visual aids.
B. Video Format: Provide high-quality color digital video.
C. Fix camera before starting recording, unless otherwise necessary to show area of demonstration and training. Display continuous running time.
D. Describe scenes on video using audio narration while video is recorded.
END OF SECTION 01820
SECTION 01 81 13
SUSTAINABLE DESIGN REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Section includes general requirements and procedures for compliance with certain U.S. Green Building Council (USGBC) LEED prerequisites and credits needed for the Project to obtain LEED-Certified [Silver] [Gold] [Platinum] certification based on LEED v4-NC.

1. Other LEED prerequisites and credits needed to obtain LEED certification depend on material selections and may not be specifically identified as LEED requirements.

2. Compliance with requirements needed to obtain LEED prerequisites and credits may be used as one criterion to evaluate substitution requests and comparable product requests.

3. LEED-NC, Registered Project Checklist at the end of this Section provides LEED credit and point information for use in this Project.

1.2 ALTERNATES AND UNIT PRICES

A. Work of this Section may be affected by Section 010.0.

1.3 RELATED SECTIONS

A. Section 01030 – Alternates.

B. Divisions 01 through 33 Sections for LEED requirements specific to the Work of each of those Sections. These requirements may or may not include reference to LEED certification.

1.4 REFERENCES

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only. Refer to Section 01420 for definitions, acronyms, and abbreviations.

B. Standards, manuals, and codes refer to the latest edition of such standards, manuals, and codes in effect as of the date of issue of this Project Manual, unless indicated otherwise in CBC Chapter 35 and CFC Chapter 80.

C. Referenced Standards:


4. Forest Stewardship Council (FSC) STD-01-001, "FSC Principles and Criteria for Forest Stewardship."


1.5 DEFINITIONS

A. Definitions pertaining to sustainable development: As defined in ASTM E2114 and as specified in this Section.

B. Bio-Based Materials: Materials that meet the Sustainable Agriculture Network's Sustainable Agriculture Standard. Bio-based raw materials shall be tested using ASTM D 6866 and be legally harvested, as defined by the exporting and receiving country.


D. Chain-of-Custody Certificates: Certificates signed by manufacturers certifying that wood used to make products was obtained from forests certified by an FSC-accredited certification body to comply with FSC Std-01-001, "FSC Principles and Criteria for Forest Stewardship." Certificates shall include evidence that manufacturer is certified for chain of custody by an FSC-accredited certification body.

E. Environmental Product Declaration (EPD): An independently verified report based on life-cycle assessment studies that have been conducted according to a set of common rules for each product category and peer-reviewed.

1. Product-Specific Declaration: A product with a publicly available, critically reviewed life-cycle assessment conforming to ISO 14044 that has at least a cradle to gate scope.

2. Industry-Wide (Generic) EPD: Provide products with third-party certification (Type III), including external verification, in which the manufacturer is explicitly recognized as a participant by the program operator. EPD must conform to ISO 14025, 14040, 14044, and EN 15804 or ISO 21930 and have at least a cradle to gate scope.

3. Product-Specific Type III EPD: A product with a third-party certification, including external verification, in which the manufacturer is explicitly recognized by the program operator. EPD must conform to ISO 14025, 14040, 14044, and EN 15804 or ISO 21930 and have at least a cradle to gate scope.
F. Health Product Declaration Open Standard (HPD): A standard format for reporting product content and associated health information for building products and materials.

G. LEED: Leadership in Energy & Environmental Design.

H. Multi-Attribute Optimization: Third party certified products that demonstrate impact reduction below industry average in at least three of the following six categories: global warming potential; stratospheric ozone depletion; acidification; eutrophication; tropospheric ozone creation; nonrenewable resource depletion.

I. Rapidly Renewable Materials, LEED-NC Requirements: Materials made from plants that are typically harvested within a ten year or shorter cycle. Rapidly renewable materials include products made from bamboo, cotton, flax, jute, straw, sunflower seed hulls, vegetable oils, or wool.

J. Regional Materials, LEED-NC Requirements: Materials that have been extracted, harvested, or recovered, as well as manufactured, within 100 miles of Project site. If only a fraction of a product or material is extracted, harvested or recovered, as well as manufactured locally, then only that percentage (by weight) shall contribute to the regional value.

K. Recycled Content, LEED-NC Requirements: The recycled content value of a material assembly shall be determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value.
   1. "Post-consumer" material is defined as waste material generated by households or by commercial, industrial, and institutional facilities in their role as end users of the product, which can no longer be used for its intended purpose.
   2. "Pre-consumer" material is defined as material diverted from the waste stream during the manufacturing process. Excluded is reutilization of materials such as rework, regrind, or scrap generated in a process and capable of being reclaimed within the same process that generated it.

L. Environmentally Preferable Products: Products and services that have a lesser or reduced effect on the environment in comparison to conventional products and services.

M. Indoor Air Quality (IAQ): The composition and characteristics of the air in an enclosed space that affect the occupants of that space. The indoor air quality of a space refers to the relative quality of air in a building with respect to contaminants and hazards and is determined by the level of indoor air pollution and other characteristics of the air, including those that impact thermal comfort such as air temperature, relative humidity and air speed.

N. Renewable Resource: A resource that is grown, naturally replenished, or cleansed, at a rate which exceeds depletion of the usable supply of that resource. A renewable resource can be exhausted if improperly managed. However, a renewable resource can last indefinitely with proper stewardship. Examples include trees in forests, grasses in grasslands, and fertile soil.

O. Stewardship: Responsible use and management of resources in support of sustainability.

1.6 SUBMITTALS

A. General: Submit in accordance with Section 01 33 00.
B. Submit additional LEED submittals required by other Specification Sections.

1. LEED submittals are in addition to other submittals. If submitted item is identical to that submitted to comply with other requirements, submit duplicate copies as a separate submittal to verify compliance with indicated LEED requirements.
   
a. Maintain back-up documentation for each LEED submittal in separate binders. Binders shall have dividers for each of the following LEED prerequisites and credits, as applicable:
   
   1) Prerequisite SS 1.
   2) Credit SS 5.
   3) Prerequisite EA 1.
   4) Credit EA 3.
   5) Prerequisite MR 2.
   6) Credits MR 1 through MR 5.
   7) Credit IEQ 2.
   8) Credit IEQ 3.
   9) Credit IEQ 4.

C. LEED Documentation Submittals:

1. General, Sustainable Materials Attributes Form: Project submittals must be accompanied by a completed Sustainable Materials Attributes Form. Submittal packages must also include highlighted documentation supporting the sustainability claims made on the Sustainable Materials Attributes Form.
   
   a. Provide location and distance from Project of material manufacturer and point of extraction, harvest, or recovery for each raw material.

   FOR EAP2, EAC3, AND EAC4, CONSIDER ADDING DEMAND RESPONSE CREDIT AND SUB-METERING REQUIREMENTS HERE, UNLESS THEY ARE ALREADY INCLUDED IN DIVISION 01 COMMISSIONING OR MEP SECTIONS.

2. EAp3, Building-Level Energy Metering: Product data for meters, sensors, and data collection system used to provide continuous metering of building energy-consumption performance.

3. MRp2/MRc5, Construction and Demolition Waste Management: Comply with submittal requirements of Section 01 74 19 "Construction Waste Management and Disposal."

4. MRc2, Building Product Disclosure and Optimization: Environmental Product Declarations complying with LEED requirements.

   
a. Corporate sustainability reports for products that comply with LEED requirements for raw material and source extraction reporting.

   
b. Bio-Based Materials: Product data and certification for bio-based materials, indicating that they comply with requirements. Include statement of costs.

c. Certified Wood: Product data and chain-of-custody certificates for products containing certified wood. Include statement indicating cost for each certified wood product.

d. Materials Reuse: Receipts for salvaged and refurbished materials used for Project, indicating sources and costs.

e. Recycled Content: Product data and certification letter from product manufacturers, indicating percentages by weight of postconsumer and preconsumer recycled content for products having recycled content. Include statement of costs.

7. MRc4, Building Product Disclosure and Optimization, Material Ingredients: Option 1, Material Ingredient Reporting.

   a. Material ingredient reports for products that comply with LEED requirements for material ingredient reporting, including but not limited to the following:

      1) Manufacturer Inventory.
      2) Health Product Declaration.
      3) Cradle to Cradle certifications.
      4) Declare product labels.

      FURNITURE MAY BE INCLUDED, PROVIDING IT IS INCLUDED CONSISTENTLY IN ALL MR CREDITS.

      5) ANSI/BIFMA e3 Furniture Sustainability Standard.


   a. Documentation for products that comply with LEED requirements for material ingredient optimization, including but not limited to the following:

      1) GreenScreen Benchmarks.
      2) Cradle to Cradle certifications.
      3) REACH optimizations.

9. EQp2/EQc3/EQc4, Indoor Air Quality: Comply with submittal requirements of Section 01 57 31, "Indoor Air Quality Management."

10. EQc2, Low-Emitting Materials: Product data, indicating VOC content and emissions testing documents showing compliance with requirements for low-emitting materials, for the following materials:

    a. Paints and coatings.
    b. Adhesives and sealants.
    c. Flooring.
    d. Products containing composite wood or agrifiber products or wood glues.
    e. Ceilings, walls, thermal, and acoustic insulation.
INCLUDE PARAGRAPH BELOW FOR LEED V4 BD+C SCHOOLS AND LEED V4 BD+C HEALTHCARE CREDIT FOR EXTERIOR APPLIED PRODUCTS.

f. Exterior applied materials.

FURNITURE MAY BE INCLUDED, PROVIDING IT IS INCLUDED CONSISTENTLY IN ALL MR CREDITS.

g. Furniture.

D. LEED Action Plans:

1. Construction Waste Management and Disposal: Provide preliminary submittals within 14 days of date established for the Notice to Proceed, indicating how the following requirements will be met:
   a. Prerequisite MR 2 and Credit MR 5: Waste management plan complying with Section 01 74 19, Construction Waste Management and Disposal.

2. Provide preliminary submittals within sixty days of date established for the Notice to Proceed, indicating how the following requirements will be met:
   a. Prerequisite EQp2, Credit EQc3, and Credit EQc4: Construction indoor-air-quality management plan. Refer to Section 01 81 19.

E. LEED Progress Reports: Concurrent with each Application for Payment, submit reports comparing actual construction and purchasing activities with LEED action plans for the following:


2. MRc2, Building product disclosure and optimization – environmental product declarations.

   a. General: Manufacturing locations.
   b. Option 1: Corporate sustainability reports.
   c. Option 2:
      1) Extended producer responsibility.
      2) Bio-based materials.
      3) Certified wood products.
      4) Materials reuse.
      5) Recycled content.

4. MRc4, Building product disclosure and optimization – material ingredients.

5. Credit MR 5: Waste reduction progress reports complying with Section 01 74 19, Construction Waste Management and Disposal.

6. EQc2, Low emitting materials.
   a. Low Emitting Materials Tracking Sheet monitoring the project's progress towards targeted LEED Indoor Environmental Quality Credits. Tracking Sheet to be presented at construction meetings.

7. Provide monthly status updates on:
a. Credit IEQ 2, including current list of materials.
b. Credit IEQ 3.
c. Credit IEQ 4.
d. Prerequisite EA 1.
e. Credit EA 1.

F. LEED Documentation Submittals:
1. Credit MR 3:
   a. Receipts for salvaged and refurbished materials used for Project, indicating sources and costs for salvaged and refurbished materials. Provide support data as required.
   b. Product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content. Include statement indicating material costs for each product having recycled content. Provide support data as required.
   c. Product data for regional materials indicating location and distance from Project of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include statement indicating cost for each regional material and the fraction by weight that is considered regional. Provide support data as required.
   d. Certified wood products. Contractor may determine which items may be made from certified wood to achieve fifty percent requirement. Provide support data as required.
2. Credit MR 5: Comply with Section 01 74 19, Construction Waste Management and Disposal. Provide support data as required.
3. Credit IEQ 2:
   a. Product data for adhesives and sealants applied on-site inside the weatherproofing system indicating VOC content of each product used. Indicate VOC content in g/L calculated according to SCAQMD Rule 1168. Provide support data as required.
   b. Product data for paints and coatings applied on-site inside the weatherproofing system indicating VOC content of each product used. Indicate VOC content in g/L calculated according to SCAQMD Rule 1113. Provide support data as required.
   c. Product data for flooring systems used inside the weatherproofing system indicating the following:
      1) Carpet products used meet or exceed Carpet and Rug Institute’s Green Label Plus testing and product requirements.
      2) Carpet cushion products used meet or exceed Carpet and Rug Institute’s Green Label testing and product requirements.
      3) Hard surface flooring has been certified by an independent third party as compliant with FloorScore standards or all non-carpet finished flooring has been certified by an independent third party as compliant with FloorScore standards.
         a) Non-carpet finished flooring must constitute a minimum of 25 percent of the finished floor area.
      4) Tile setting adhesives and grout meet or exceed VOC requirements of SCAQMD Rule 1168, effective July 1, 2011 and as amended January 7, 2011.
      5) Concrete, wood, bamboo and cork floor finishes such as, but not limited to, sealer, stain, and finish meet or exceed requirements of SCAQMD Rule 1113.
6) Provide support data as required.

d. Product data for composite wood and agrifiber products, as defined in LEED-NC Credit IEQ 2:
   1) Products installed inside the weatherproofing system containing composite wood or agrifiber products, indicating that they do not contain urea-formaldehyde resins.
   2) Wood glues and laminating adhesives used to fabricate on-site and shop-applied composite wood and agrifiber assemblies indicating that they do not contain urea-formaldehyde resin.
   3) Provide support data as required.

4. Credit IEQ 3:
   a. Construction indoor-air-quality management plan. Refer to Section 01 81 19, Indoor Air Quality Requirements.
   b. Product data for temporary filtration media.
   c. Product data for filtration media used during occupancy.
   d. Construction Documentation: Maintain a detailed photo log of construction indoor air quality management plan practices followed during construction. Submit a minimum of six photographs at three different times during the construction period, along with a brief description of the SMACNA approach employed, documenting implementation of the indoor-air-quality management measures, such as protection of ducts and on-site stored or installed absorptive materials.

5. Credit IEQ 4: Use building air flush-out procedures or indoor-air-quality (IAQ) testing to obtain Credit IEQ 4.
   a. Building Air Flush-out Procedures (Owner-Engaged Indoor-Air-Quality Testing): Provide the following:
      1) Signed statement describing the building air flush-out procedures including the dates when flush-out was begun and completed and statement that filtration media was replaced after flush-out.
      2) Product data for filtration media used during flush-out and during occupancy.
   b. Indoor-Air-Quality (IAQ) Testing (Contractor-Engaged Indoor-Air-Quality Testing): Report from testing and inspecting agency indicating results of indoor-air-quality testing and documentation showing compliance with indoor-air-quality testing procedures and requirements.

G. Quality Assurance/Control Submittals:
   1. Contractor’s Environmental Manager (LEED Coordinator) qualifications.
   2. Contractor’s Environmental Training Program.
   3. Contractor’s Work Schedule incorporating project sequencing requirements as specified in this Section.

1.7 QUALITY ASSURANCE

A. Contractor's Environmental Manager (LEED Coordinator).
   1. Contractor shall designate an on-site party (Contractor's Environmental Manager) responsible for overseeing the LEED design requirements for the project and implementing procedures for environmental protection.
2. Qualifications: LEED Accredited Professional (LEED AP); minimum five years construction experience on projects of similar size and scope; minimum two years experience with environmental procedures similar to those of this project; familiarity with Environmental Management Systems (EMSs) such as ISO 14001; familiarity with environmental regulations applicable to construction operations.

3. Responsibilities:
   a. Review Contract Documents to become familiar with LEED requirements and issues.
   b. Ensure compliance with applicable Federal, State, and local environmental regulations, including maintaining required documentation.
   c. Discuss LEED requirements at pre-construction meeting, pre-installation meetings, regular scheduled job-site meetings, and special sustainable issues meetings.
   e. Implement Construction Indoor Air Quality Management Plan.
   f. Oversee and coordinate Contractor, subcontractor, and vendor activities related to LEED requirements.
   g. Collate submittal requirements gathered from subcontractors and vendors related to LEED requirements.
   h. Conduct Contractor's Environmental Training Program(s) for workers performing Work on the Project site.
   i. Prepare and submit construction progress photographs.
   k. Provide monthly progress reports.
   l. Upload Contractor LEED documents to LEED Online.
   m. Respond to GBCI review comments.

1.8 ENVIRONMENTAL PROTECTION

A. Preserve the natural resources in their existing condition or restore to an equivalent or improved condition within the Project boundaries and outside the limits of permanent Work performed under this Contract.

B. Site Disturbance: Confine demolition and construction activities to work area limits indicated on Drawings.

C. Air Resources:
   1. Indoor Air Quality (IAQ):
      a. Develop and implement a Construction Indoor Air Quality Management Plan for the construction and pre-occupancy phases. Refer to Section 01 81 19, Indoor Air Quality Requirements.
      b. Upon completion of the Work, during final acceptance procedures, and prior to occupancy; conduct a building flush-out or baseline IAQ testing as specified in Section 01 81 19, Indoor Air Quality Requirements.
   2. Prevent creation of dust, air pollution, and odors. Refer to Division 01 requirements.
   3. Manage and control hazardous materials and waste.

D. Noise and Acoustics: Manage and control construction activity noise.
1.9 CONSTRUCTION WASTE MANAGEMENT

A. Credits MR 5: Develop and implement a Construction Waste Management Plan. Refer to Section 01 74 19, Construction Waste Management and Disposal.

1.10 CONTRACTOR’S ENVIRONMENTAL TRAINING PROGRAM

A. Conduct an Environmental Training Program required for workers performing work on project site. Training shall include the following:
   1. Overview of environmental issues related to the building industry.
   2. Overview of environmental issues related to the Project.
   3. Review of site specific procedures and management plans:
      b. Construction Indoor Air Quality Management Plan. Refer to Section 01 81 19, Indoor Air Quality Requirements.
      c. Construction Noise and Acoustics Management: Refer to Section 01500, Temporary Facilities and Control.
   4. Compliance with environmental regulations.
   5. Submit workers training records upon Owner’s request.

1.11 COMMISSIONING

A. LEED Commissioning Requirements: LEED v4-NC EA, Prerequisite 1 and Credit 1, as applicable.

B. Comply with Project building systems commissioning requirements; refer to Section 01 91 00, Commissioning.

PART 2 PRODUCTS

2.1 SALVAGED AND REFURBISHED MATERIALS

A. Credit MR 1: Provide salvaged or refurbished materials for a minimum of five percent or ten percent, as applicable, of building materials (by cost). The following materials may be salvaged or refurbished materials:
   1. XXXXX.

2.2 BUILDING PRODUCT DISCLOSURE AND OPTIMIZATION

A. MRc2, Building Product Disclosure and Optimization, Environmental Product Declarations (EPD): Option 1. Provide at least 20 permanently installed products (sourced from at least 5 different manufacturers) which meet one of the disclosure criteria:
   1. Product-Specific Declaration: Valued as one quarter (1/4) of a product.
   2. Industry-Wide (Generic) EPD: Valued as one half (1/2) of a product.
   3. Product-Specific Type III EPD: Valued as one whole product.
MRC2 BPDO, MULTI-ATTRIBUTE OPTIMIZATION, OPTION 2, IS NOT INCLUDED HERE, BECAUSE THERE IS NO CLEAR PATH TO CREDIT ACHIEVEMENT AT THIS TIME.

B. MRc3, Building Product Disclosure and Optimization, Sourcing of Raw Materials: Option 1, Raw Material Source and Extraction Reporting. Provide at least 20 permanently installed products (sourced from at least 5 different manufacturers) which meet one of the disclosure criteria:

1. Corporate sustainability reports.

C. MRc3, Building Product Disclosure and Optimization, Sourcing of Raw Materials: Option 2, Leadership Extraction Practices. Provide products that meet at least one of the responsible extraction criteria below for at least 25%, by cost, of the total value of permanently installed building products in the project:

1. Extended producer responsibility program.
3. Certified Wood: Wood-based materials include, but are not limited to, the following materials when made from wood, engineered wood products, or wood-based panel products:
   a. Rough carpentry.
   b. Miscellaneous carpentry.
   c. Heavy timber construction.
   d. Wood decking.
   e. Metal-plate-connected wood trusses.
   f. Structural glued-laminated timber.
   g. Finish carpentry.
   h. Architectural woodwork.
   i. Wood paneling.
   j. Wood veneer wall covering.
   k. Wood flooring.
   l. Wood lockers.
   m. Wood cabinets.

FURNITURE MAY BE INCLUDED, PROVIDING IT IS INCLUDED CONSISTENTLY IN ALL MR CREDITS.

n. Furniture.

4. Materials Reuse: The following materials may be salvaged, refurbished, or reused materials:
   a) <Insert list of materials>.
5. Recycled Content.

   FURNITURE MAY BE INCLUDED, PROVIDING IT IS INCLUDED CONSISTENTLY IN ALL MR CREDITS.

   a. Exceptions: Do not include [furniture,] fire protection, operational plumbing, operational mechanical, and operational electrical components, and specialty items, such as elevators and equipment, in the calculation.

6. Regional Materials:

   a. Products that meet the criteria above and are regional materials valued at 200 percent of their base contributing cost. Products are defined as regional if the meet the following:

      1) Location of extraction, harvest, or recovery must be within a 100-mile radius of Project site.

      2) Location of manufacture must be within a 100-mile radius of Project site.

D. Mrc4, Building Product Disclosure and Optimization, Material Ingredients: Option 1, Material Ingredient Reporting.

   1. Use at least 20 different permanently installed products from at least five different manufacturers that use any of the following programs to demonstrate the chemical inventory of the product to at least 0.1% (1000 ppm), which meet one of the following disclosure criteria:

      a. Manufacturer Inventory.

      b. Health Product Declarations (HPDs).

      c. Cradle to Cradle (C2C) certifications.

      d. Declare product labels.

   FURNITURE MAY BE INCLUDED, PROVIDING IT IS INCLUDED CONSISTENTLY IN ALL MR CREDITS.

       e. ANSI/BIFMA e3 Furniture Sustainability Standard.

E. Mrc4, Building Product Disclosure and Optimization, Material Ingredients: Option 2, Material Ingredient Optimization.

   1. Use products that document their material ingredient optimization using the paths below for at least 25%, by cost, of the total value of permanently installed products in the project, which meet one of the following disclosure criteria:

      a. GreenScreen benchmarks.

      b. Cradle to Cradle certifications.

      c. REACH optimizations.

2.3 RECYCLED CONTENT OF MATERIALS

A. Credit MR 4: Provide building materials with recycled content such that post-consumer recycled content plus one-half of pre-consumer recycled content constitutes a minimum of [ten percent] [twenty percent], as applicable, of cost of materials used for Project.

   1. Cost of post-consumer recycled content of an item shall be determined by dividing weight of post-consumer recycled content in the item by total weight of the item and multiplying by cost of the item.
2. Cost of pre-consumer recycled content of an item shall be determined by dividing weight of pre-consumer recycled content in the item by total weight of the item and multiplying by cost of the item.

3. Do not include furniture, plumbing, mechanical and electrical components, and specialty items, such as elevators and equipment, in the calculation. However, furniture may be used toward LEED-NC Credit MR 3 through MR 7, if it is included consistently in calculations for all of them.

2.4 LOW-EMITTING MATERIALS

A. Credit IEQ 2: For field applications that are inside the weatherproofing system, use adhesives and sealants that comply with the following limits for VOC content in grams per liter (g/L), less water, when calculated according to 40 CFR 59, Subpart D.

1. Architectural applications:
   a. Interior Carpet Adhesives: 50 g/L.
   b. Carpet Pad Adhesives: 50 g/L.
   c. Wood Flooring Adhesive: 100 g/L.
   d. Rubber Floor Adhesives: 60 g/L.
   e. Subfloor Adhesives: 50 g/L.
   f. Ceramic Tile Adhesives: 65 g/L.
   g. VCT and Asphalt Tile Adhesives: 50 g/L.
   h. Gypsum Board and Panel Adhesives: 50 g/L.
   i. Cove Base Adhesives: 50 g/L.
   j. Multipurpose Construction Adhesives: 70 g/L.
   k. Structural Glazing Adhesives: 100 g/L.

2. Specialty Applications, LEED-NC Requirements:
   a. PVC Welding Compounds: 510 g/L.
   b. CPVC Welding Compounds: 490 g/L.
   c. ABS Welding Compounds: 325 g/L.
   d. Plastic Cement Welding Compounds: 250 g/L.
   e. Adhesive Primer for Plastic: 550 g/L.
   f. Contact Adhesive: 80 g/L.
   g. Special Purpose Contact Adhesive: 250 g/L.
   h. Structural Wood Member Adhesive: 140 g/L.
   i. Sheet Applied Rubber Lining Operations: 850 g/L.
   j. Top and Trim Adhesive: 250 g/L.

3. Substrate specific applications:
   a. Metal to Metal Adhesives: 30 g/L.
   b. Plastic Foam Adhesives: 50 g/L.
   c. Adhesives for Porous Materials (Except Wood): 50 g/L.
   d. Wood Glues: 30 g/L.
e. Fiberglass Adhesives: 80 g/L.

4. Sealants:
   a. Architectural Sealants: 250 g/L.
   b. Non-membrane Roof Sealants: 300 g/L.
   c. Roadway Sealants: 250 g/L
   d. Single-Ply Roof Membrane Sealants: 450 g/L.
   e. Other Sealants: 420 g/L.

5. Sealant Primers:
   a. Architectural Nonporous: 250 g/L.
   b. Architectural Porous: 775 g/L.
   c. Other Sealant Primers: 750 g/L.

6. Aerosol Adhesives:
   b. Aerosol Adhesive, General Purpose Web Spray: 55 percent by weight.
   c. Special Purpose Aerosol Adhesive (All Types): 70 percent by weight.

B. Credit IEQ 2: For field applications that are inside the weatherproofing system, use paints and coatings that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D and the following chemical restrictions.

1. LEED- NC Requirements:
   a. Bond Breakers: VOC not more than 350 g/L.
   b. Clear Wood Finishes, Varnishes: VOC not more than 275 g/L.
   c. Clear Wood Finishes, Sanding: VOC not more than 275 g/L.
   d. Clear Wood Finishes, Lacquers: VOC not more than 275 g/L.
   e. Clear Brushing Lacquer: VOC not more than 275 g/L.
   f. Concrete Curing Compounds: VOC not more than 100 g/L.
   g. Dry-fog Coatings: VOC not more than 50 g/L.
   h. Flat Paints and Coatings: VOC not more than 50 g/L.
   i. Floor Coatings: VOC not more than 50 g/L.
   j. Graphic Arts (Sign) Coatings: VOC not more than 150 g/L.
   k. Industrial Maintenance Coatings: VOC not more than 100 g/L.
   l. High Temperature Industrial Maintenance Coatings: VOC not more than 420 g/L.
   m. Zinc-Rich Industrial Maintenance Primers: VOC not more than 100 g/L.
   n. Japans / Faux Finishing Coatings: VOC not more than 350 g/L.
   o. Magnesite Cement Coatings: VOC not more than 450 g/L.
   p. Mastic Coatings: VOC not more than 100 g/L.
   q. Metallic Pigmented Coatings: VOC not more than 150 g/L.
   r. Multicolor Coatings: VOC not more than 250 g/L.
   s. Non-Flat Coatings: VOC not more than 50 g/L.
t. Non-Flat High Gloss Coatings: VOC not more than 50 g/L.
u. Pigmented Lacquer: VOC not more than 275 g/L.
v. Pretreatment Wash Primers: VOC not more than 420 g/L.
w. Primers, Sealers, Undercoaters: VOC not more than 100 g/L.
x. Quick-Dry Enamels: VOC not more than 50 g/L.
y. Quick-Dry Primers, Sealers, Undercoaters: VOC not more than 100 g/L.
z. Recycled Coatings: VOC not more than 250 g/L.
aa. Roof Primers, Bituminous: VOC not more than 350 g/L.
bb. Rust-Preventive Coatings: VOC not more than 100 g/L.
c. Shellacs, Clear: VOC not more than 730 g/L.
d. Shellacs, Pigmented: VOC not more than 550 g/L.
e. Specialty Primers: VOC not more than 100 g/L.
f. Stains: VOC not more than 100 g/L.
g. Stains, Interior: VOC not more than 250 g/L.
h. Traffic Coatings: VOC not more than 100 g/L.
i. Waterproofing Sealers: VOC not more than 100 g/L.
j. Waterproofing Concrete, Masonry Sealers: VOC not more than 100 g/L.
k. Other: VOC not more than 350 g/L.

2. Low-Solids Coatings VOC Requirement: 120 g/L.

3. Anti-Corrosive and Anti-Rust Paints VOC Requirements:
   a. Gloss: VOC not more than 250 g/L.
   b. Semi-Gloss: VOC not more than 250 g/L.
   c. Flat: VOC not more than 250 g/L.

4. Restricted Components: Per Green Seal GS-11, paints and coatings shall not contain any of the following:
   a. Acrolein
   b. Acrylonitrile
   c. Antimony
   d. Benzene
   e. Butyl benzyl phthalate
   f. Cadmium
   g. Di (2-ethylhexyl) phthalate
   h. Di-n-butyl phthalate
   i. Di-n-octyl phthalate
   j. 1,2-dichlorobenzene
   k. Diethyl phthalate
   l. Dimethyl phthalate
   m. Ethylbenzene
n. Formaldehyde
o. Hexavalent chromium
p. Isophorone
q. Lead
r. Mercury
s. Methyl ethyl ketone
 t. Methyl isobutyl ketone
u. Methylene chloride
v. Naphthalene
w. Toluene (methylbenzene)
x. 1,1,1-trichloroethane
y. Vinyl chloride

C. Credit IEQ 4.2: Flooring materials installed in the building shall meet the following requirements:

1. Carpet: Meet or exceed Carpet and Rug Institute (CRI) Green Label Plus testing and product requirements.

2. Carpet Cushion: Meet or exceed CRI Green Label testing and product requirements.

3. Adhesives: Meet requirements of IEQ Credit 4.1.

4. Hard Surface Flooring: All hard surface flooring shall be certified by an independent third party as compliant with FloorScore standards or all non-carpet finished flooring installed inside the weatherproofing system shall be certified by an independent third party as compliant with FloorScore standards.
   a. Non-carpet finished flooring must constitute a minimum of 25 percent of the finished floor area.

5. Tile Setting Adhesives and Grout: Meet or exceed VOC requirements of SCAQMD Rule 1168, effective July 1, 2005 and as amended January 7, 2005.

6. Concrete, Wood, Bamboo and Cork Floor Finishes: Finishes such as, but not limited to, sealer, stain, and finish meet or exceed requirements of SCAQMD Rule 1113.

D. Credit IEQ 4.2: Do not use composite wood and agrifiber products that contain added urea-formaldehyde resin.

PART 3  EXECUTION

3.1  CONSTRUCTION WASTE MANAGEMENT

A. Credit MR 2: Comply with requirements of Section 01 74 19.
3.2 CONSTRUCTION INDOOR AIR QUALITY MANAGEMENT

A. LEED-NC, Credit IEQ 3: Comply with SMACNA IAQ Guidelines for Occupied Buildings Under Construction.
   1. When Owner authorizes use of permanent heating, ventilating, and air conditioning (HVAC) systems during construction period, install filter media having a MERV 8 rating according to ASHRAE 52.2 at each return-air inlet for the air-handling system used during construction.
   2. Refer to Section 01500 for use of permanent HVAC systems for temporary work.
   3. Replace all air filters immediately prior to occupancy.

B. Credit IEQ 4: Comply with one of the following requirements, as applicable:
   1. After construction ends, prior to occupancy and with all interior finishes installed, perform a building flush-out by supplying a total volume of 14,000 cubic foot of outdoor air per square foot of floor area while maintaining an internal temperature of at least 60 degrees F and a relative humidity no higher than sixty percent.
   2. If occupancy is desired prior to flush-out completion, the space may be occupied following delivery of a minimum of 3,500 cubic feet of outdoor air per square foot of floor area to the space. Once a space is occupied, it shall be ventilated at a minimum rate of 0.30 cubic feet per minute per square foot of outside air or the design minimum outside air rate determined in IEQ Prerequisite 1, whichever is greater. During each day of the flush-out period, ventilation shall begin a minimum of three hours prior to occupancy and continue during occupancy. These conditions shall be maintained until a total of 14,000 cubic feet per square foot of outside air has been delivered to the space.
   3. Air-Quality Testing:
      a. Conduct baseline indoor-air-quality testing, after construction ends and prior to occupancy, using testing protocols consistent with the EPA's "Compendium of Methods for the Determination of Air Pollutants in Indoor Air," and as additionally detailed in the USGBC's "LEED-NC: Reference Guide."
      b. Demonstrate that the contaminant maximum concentrations listed below are not exceeded:
         1) Formaldehyde: 27 parts per billion.
         2) Particulates (PM10): 50 micrograms per cubic meter.
         3) Total Volatile Organic Compounds (TVOC): 500 micrograms per cubic meter.
         4) 4-Phenylcyclohexene (4-PH): 6.5 micrograms per cubic meter.
         5) Carbon Monoxide: 9 parts per million and no greater than two parts per million above outdoor levels.
      c. For each sampling point where the maximum concentration limits are exceeded, conduct additional flush-out with outside air and retest the specific parameter(s) exceeded to indicate the requirements are achieved. Repeat procedure until all requirements have been met. When retesting non-complying building areas, take samples from same locations as in the first test.
d. Air-sample testing shall be conducted as follows:

1) All measurements shall be conducted prior to occupancy but during normal occupied hours, and with building ventilation system starting at the normal daily start time and operated at the minimum outside air flow rate for the occupied mode throughout the duration of air testing.

2) Building shall have all interior finishes installed including, but not limited to, millwork, doors, paint, carpet, and acoustic tiles. Non-fixed furnishings such as workstations and partitions are encouraged, but not required, to be in place for testing.

3) Number of sampling locations will vary depending on the size of building and number of ventilation systems. For each portion of building served by a separate ventilation system, the number of sampling points shall not be less than one per 25,000 square feet or for each contiguous floor area, whichever is larger, and shall include areas with the least ventilation and greatest presumed source strength.

4) Air samples shall be collected between three feet and six feet from the floor to represent the breathing zone of occupants, and over a minimum four-hour period.

C. Refer to Section 01 81 19 for additional indoor air quality requirements.

END OF SECTION
SECTION 01 81 19
INDOOR AIR QUALITY REQUIREMENTS

PART 1  GENERAL

1.1  SECTION INCLUDES
A. Construction indoor air quality management plan.
B. HVAC protection.
C. Construction sequencing to control emissions.
D. Building flush-out.
E. Independent materials testing.
F. Baseline indoor air quality testing.

1.2  ALTERNATES AND UNIT PRICES
A. Work of this Section may be affected by Section 01030.

1.3  RELATED SECTIONS
A. Section 01030 – Alternates.
B. Section 01722 – Execution Requirements.
C. Section 01770 – Contract Closeout Procedures.
D. Section 01 81 13 – Sustainable Design Requirements.
E. Section 01 91 00 – Commissioning.
F. Division 23 Sections for Heating, Ventilating, and Air Conditioning.

1.4  REFERENCES
A. The publications listed below form a part of this Section to the extent referenced. The publications are referred to in the text by the basic designation only. Refer to Section 01420 for definitions, acronyms, and abbreviations.

B. Standards, manuals, and codes refer to the latest edition of such standards, manuals, and codes in effect as of the date of issue of this Project Manual, unless indicated otherwise in CBC Chapter 35 and CFC Chapter 80.

C. Referenced Standards:
1. ASHRAE 52.2 – Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size.
7. SMACNA IAQ Guidelines for Occupied Buildings Under Construction.

1.5 INDOOR AIR QUALITY GOALS

A. Owner has set indoor air quality goals for project construction site operations within the limits of the construction schedule, Contract Sum, available materials, products, and services.

B. The general intent is to prevent air quality problems resulting from construction processes in order to help sustain the comfort and well-being of construction workers and building occupants.

1.6 DEFINITIONS

A. Definitions pertaining to sustainable development: As defined in ASTM E2114 and as specified in this Section.

B. Adequate Ventilation: Ventilation, including air circulation and air changes, required to cure materials, dissipate humidity, and prevent accumulation of dust fumes, vapors, or gases.

C. Environmental Pollution and Damage: The presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances; or degrade the utility of the environment for aesthetic, cultural, or historical purposes.

D. Hazardous Materials: Any material that is regulated as a hazardous material in accordance with 49 CFR 173, requires a Material Safety Data Sheet (MSDS) in accordance with 29 CFR 1910.1200, or which during end use, treatment, handling, storage, transportation or disposal meets or has components which meet or have the potential to meet the definition of a Hazardous Waste in accordance with 40 CFR 261 and Title 22 CCR, Section 66261.3 et seq. Hazardous materials include pesticides, biocides, and carcinogens as listed by recognized authorities, such as the Environmental Protection Agency (EPA) and the International Agency for Research on Cancer (IARC).

E. Indoor Air Quality (IAQ): The composition and characteristics of the air in an enclosed space that affect the occupants of that space. The indoor air quality of a space refers to the relative quality of air in a building with respect to contaminants and hazards and is determined by the level of indoor air pollution and other characteristics of the air, including those that impact thermal comfort such as air temperature, relative humidity and air speed.

F. Sustainability: The maintenance of ecosystem components and functions for future generations.

1.7 SUBMITTALS

A. General: Submit in accordance with Section 01 33 00.

B. Product Data: Submit product data for filtration media used during construction and during operation. Data to include Minimum Efficiency Reporting Value (MERV).
C. MSDS: Submit MSDSs for inclusion in Operation and Maintenance Manual for the following products. Coordinate with Section 01 70 00.
   1. Adhesives.
   2. Floor and wall patching and leveling materials.
   3. Caulking and sealants.
   4. Insulating materials.
   5. Fireproofing and firestopping.
   6. Carpet.
   7. Paint.
   9. Lubricants.

D. Special Environmental Requirements Submittals: Submit in accordance with Section 01 81 13 and as required by LEED-NC v4, IEQ Credit 3 and IEQ Credit 4. Submit the following:
   2. Detailed photo log of construction indoor air quality management plan practices followed during construction. Submit a minimum of six photographs at three different times during the construction period, along with a brief description of the SMACNA approach employed, documenting implementation of the indoor-air-quality management measures, such as protection of ducts and on-site stored or installed absorptive materials.
   3. Logs showing all trending data for temperature and humidity readings during flush-out proceedings.

1.8 CONSTRUCTION INDOOR AIR QUALITY (IAQ) MANAGEMENT PLAN

A. Develop and implement an IAQ Management Plan for the construction and pre-occupancy phases.

B. Submit IAQ Management Plan to Architect within sixty days after receipt of Notice of Award.

C. Requirements of IAQ Management Plan:
   1. After construction ends, prior to occupancy and with all interior finishes installed, install new filtration media and perform a building flush-out in accordance with requirements of this Section.
   3. Protection of stored on-site or installed absorptive materials from moisture damage.
   4. If permanently installed air handlers are used during construction, filtration media with minimum MERV 8 rating must be used at each return air grille. Replace all filtration media immediately prior to occupancy.
   5. After construction ends, prior to occupancy and with all interior finishes installed, install
new filtration media and perform a building flush-out in accordance with requirements of this Section.

6. In lieu of building flush-out, Contractor may opt to conduct a baseline IAQ testing procedure consistent with US EPA’s current Compendium of Methods for the Determination of Air Pollutants in Indoor Air, which is referenced in this Section.

1.9 HVAC PROTECTION

A. Seal HVAC ducts during construction. Damper-off return side of HVAC system and seal return system openings with plastic sheet.

B. Remove oil film on HVAC sheet metal work prior to shipment to site. Seal with plastic sheet both ends of cleaned and dried sheet metal ductwork and on HVAC equipment prior to shipment to site.

C. Install HVAC system, continuously maintaining a sealed system by removing covers of sealed ducts and equipment only prior to installation and keeping free ends sealed.

D. If air handlers must be used during construction, use filtration media with a minimum MERV 8 filtration media at each return air grill, as per ASHRAE 52.2. Air handlers may be used only as a last resort and with the written approval of Owner. Clean air handlers using a high efficiency particulate air (HEPA) vacuum cleaner prior to substantial completion and prior to using the air handlers to circulate air.

1.10 SEQUENCING

A. Finish Types: Finishes, for the purpose of this Section, are classified based on its potential to emit or off-gas deleterious particulate matter and its tendency to absorb.

1. Type 1 Finishes: Materials and finishes which have a potential for short-term levels of off-gassing from chemicals inherent in their manufacturing process, or which are applied in a form requiring vehicles or carriers for spreading which release a high level of particulate matter in the process of installation or curing. Type 1 finishes include, but are not limited to the following:
   a. Composite wood products.
   b. Adhesives, sealants, and glazing compounds.
   c. Wood preservatives.
   d. Paints and coatings.
   e. Control and expansion joint fillers.
   f. Hard finishes requiring adhesive for installation.
   g. Gypsum board and associated finish processes.

2. Type 2 Finishes: Materials and finishes which are woven, fibrous, or porous in nature and tend to absorb chemicals off-gassed by Type 1 finishes or may be adversely affected by particulates. These materials become sinks for deleterious substances which may be released much later, or collectors of contaminants that may promote subsequent bacterial growth. Type 2 finishes include, but are not limited to the following:
   a. Carpet and pad.
   b. Fabric wall covering.
   c. Insulation exposed to air stream.
d. Acoustical ceiling and wall materials.
e. Fabric covered acoustical wall panels.
f. Upholstered furnishings.

B. Optimal Order of Finish Installation: To the greatest extent possible, and as mitigated by project requirements, schedule work activities to accommodate the following:

1. Apply Type 1 interior finishes throughout the entire air zone of each building or building segment and allow finishes to completely cure according to intervals and times stated in respective finish manufacturer's printed instructions before commencing installation of any Type 2 finishes in the same area.

2. Avoid storage of Type 2 finishes in areas where installation or curing of Type 1 materials are in progress.

3. Apply Type 2 finishes.

1.11 PROJECT/SITE CONDITIONS

A. Environmental Requirements:

1. Maintain construction indoor air quality consistent with the project's general intent of providing optimal indoor air quality to help sustain the comfort and well-being of construction workers and building occupants and also to provide the proper site environmental conditions for materials installation.

2. Condition work areas for materials before, during, and after installation as specified in individual specification sections. Provide portable fans, portable ducts, and dehumidification systems as needed to provide continuous ventilation, temperature, and humidity control; and to prevent mold growth. Provide construction climate control system (dehumidifiers, chillers, and heaters) by Munters Corporation., Martinez, CA; 800-686-8377; 925-957-8970; www.muntersamerica.com, or accepted equal system. Costs related to controlling and conditioning construction environment are part of construction process and shall be borne by Contractor.

B. Compartamentalization:

1. Isolate areas of work to prevent contamination of clean or occupied areas. Depending on the climate, ventilate 100 percent outside air to exhaust contaminated air directly to outside during installation of VOC emitting materials.

2. Utilize pressure differentials to prevent contaminated air from entering clean areas.

1.12 SUBSTITUTIONS

A. Should Contractor desire to use procedures, materials, equipment, or products that are not specified but meet the intent of these specifications, Contractor shall propose these substitutions under provisions of Section 01 60 00.

PART 2 PRODUCTS

Not Used
PART 3 EXECUTION

3.1 CONSTRUCTION INDOOR AIR QUALITY MANAGEMENT

A. LEED-NC, IEQ Credit 3: Comply with SMACNA IAQ Guidelines for Occupied Buildings Under Construction.
   1. When Owner authorizes use of permanent heating, ventilating, and air conditioning (HVAC) systems during construction period, install filter media having a minimum rating of MERV 8 according to ASHRAE 52.2 at each return-air inlet for the air-handling system used during construction.
   2. Refer to Section 01500 for use of permanent HVAC systems for temporary work.
   3. Replace all air filters immediately prior to occupancy.

B. IEQ Credit 4: Comply with one of the following requirements, as applicable:
   1. After construction ends, prior to occupancy and with all interior finishes installed, install new filtration media and perform a building flush-out by supplying a total volume of 14,000 cubic feet of outdoor air per square foot of floor area while maintaining an internal temperature of at least 60 degrees F, but no higher than 80 degrees F, and a relative humidity no higher than sixty percent.
   2. If occupancy is desired prior to flush-out completion, the space may be occupied following delivery of a minimum of 3,500 cubic feet of outdoor air per square foot of floor area to the space. Once a space is occupied, it shall be ventilated at a minimum rate of 0.30 cubic feet per minute per square foot of outside air or the design minimum outside air rate determined in EQ Prerequisite 1, whichever is greater. During each day of the flush-out period, ventilation shall begin a minimum of three hours prior to occupancy and continue during occupancy. These conditions shall be maintained until a total of 14,000 cubic feet per square foot of outside air has been delivered to the space while maintaining an internal temperature of at least 60 degrees F, but no higher than 80 degrees F, and a relative humidity no higher than sixty percent.

3. Air-Quality Testing:
   a. Conduct baseline indoor-air-quality testing, after construction ends and prior to occupancy, using testing protocols consistent with the EPA's "Compendium of Methods for the Determination of Air Pollutants in Indoor Air," and as additionally detailed in the USGBC's "LEED-NC: Reference Guide."
   b. Demonstrate that the contaminant maximum concentrations listed below are not exceeded:
      1) Formaldehyde: 27 parts per billion.
      2) Particulates (PM10): 50 micrograms per cubic meter.
      3) Total Volatile Organic Compounds (TVOC): 500 micrograms per cubic meter.
      4) 4-Phenylcyclohexene (4-PH): 6.5 micrograms per cubic meter.
      5) Carbon Monoxide: 9 parts per million and no greater than two parts per million above outdoor levels.
      6) Ozone: 0.075 parts per million.
c. For each sampling point where the maximum concentration limits are exceeded, conduct additional flush-out with outside air and retest the specific parameter(s) exceeded to indicate the requirements are achieved. Repeat procedure until all requirements have been met. When retesting non-complying building areas, take samples from same locations as in the first test.

d. Air-sample testing shall be conducted as follows:

1) All measurements shall be conducted prior to occupancy but during normal occupied hours, and with building ventilation system starting at the normal daily start time and operated at the minimum outside air flow rate for the occupied mode throughout the duration of air testing.

2) Building shall have all interior finishes installed including, but not limited to, millwork, doors, paint, carpet, and acoustic tiles. Non-fixed furnishings such as workstations and partitions are encouraged, but not required, to be in place for testing.

3) Number of sampling locations will vary depending on the size of building and number of ventilation systems. For each portion of building served by a separate ventilation system, the number of sampling points shall not be less than one per 25,000 square feet or for each contiguous floor area, whichever is larger, and shall include areas with the least ventilation and greatest presumed source strength.

4) Air samples shall be collected between three feet and six feet from the floor to represent the breathing zone of occupants, and over a minimum four-hour period.

END OF SECTION
PART 1  GENERAL

1.1  SECTION INCLUDES

A. Building systems commissioning procedures and requirements for the following systems:

1. Heating, Ventilating, and Air Conditioning (HVAC) System.
   a. HVAC equipment.
   b. HVAC controls systems.
   c. Building Automation System (BAS): Control hardware and software, sequence of operations, and integration of factory controls with BAS.
   d. HVAC piping.
   e. Ductwork.
   f. Testing, Adjusting, and Balancing (TAB).
   g. Building envelope systems.

2. Electrical System:
   a. Lighting controls.
   b. Lighting occupancy sensors.
   c. Daylighting.
   d. Waste heat recovery.
   e. Thermal storage.
   f. Security system.
   g. Emergency power system.
   h. Uninterruptible power supply (UPS) system.
   i. Fire and smoke alarm system.
   j. Fire protection system.
   k. Communications system.

1.2  RELATED SECTIONS

A. Section 01722 – Execution Requirements.
B. Section 01770 – Contract Closeout Procedures.
C. Section 01 81 13 – Sustainable Design Requirements.
D. Section 01 81 19 – Indoor Air Quality Requirements.
E. Divisions 21-23 – Mechanical.
F. Divisions 25-28 – Electrical.
1.3 DEFINITIONS

A. Basis of Design: Documentation of the primary thought process and assumptions behind design decisions that were made to meet the design intent.

B. Commissioning Authority (CxA): The individual or entity in charge of the commissioning process and who makes final recommendations to Owner regarding functional performance of the commissioned building systems. The Commissioning Authority is not directly involved in the design or construction management and reports directly to Owner.

C. Commissioning Coordinator: The individual or entity in direct charge of the day-to-day site commissioning activities.

D. Commissioning Plan: An overall plan developed to provide the structure, schedule, and coordination plan for the commissioning process.

E. Commissioning Process: A systematic process of ensuring that building systems perform interactively according to the Contract Documents, the design intent, and Owner’s operational requirements. The commissioning processes encompass and coordinate traditionally separate functions of system documentation, equipment startup, control system calibration, testing and balancing, performance testing and training.

F. Commissioning Team: Team consisting of the Commissioning Authority, Commissioning Coordinator, Owner’s representative, Construction Manager, Architect and design engineers, General Contractor (GC), mechanical contractor(s), electrical contractor, testing and balancing contractor, controls contractor, any other installing subcontractors and equipment suppliers. If known, Owner’s facility manager, operator, or engineer is also a member of the commissioning team.

G. Functional Performance Test: The dynamic function and operation testing of equipment and systems using manual (direct observation) or monitoring methods. Functional testing is the dynamic testing of systems, rather than just components, under full operation and under various modes, such as under low cooling or heating loads, high loads, component failures, unoccupied, varying outside air temperatures, fire alarm, power failure, etc.

H. Manual Test(s): Tests using hand-held instruments, immediate control system readouts or direct observation to verify performance (contrasted to analyzing monitored data taken over time to make the observation).

I. Monitoring: The recording of parameters (flow, current, status, pressure, etc.) of equipment operation using data loggers or the trending capabilities of control systems.

J. Prefunctional Checklist: A list of items to inspect and elementary component test needed to verify proper installation equipment.

K. Seasonal Performance Tests: Functional Tests that are deferred until the system(s) will experience conditions closer to their design conditions.
1.4 COMMISSIONING GOALS AND SCOPE

A. The following are the objectives of the commissioning process on each commissioned component, equipment, system, or feature:

   1. Ensure that commissioned features and systems are properly installed according to the Contract Documents, manufacturers’ instructions, and industry accepted minimum standards; and that building systems or components are not compromising performance of the feature.

   2. Ensure that Contractor completes start-up and initial checkout of commissioned features and systems; and that results are clearly documented in accordance with manufacturers’ instructions and the Contract Documents.

   3. Verify that start-up and initial checkout of all commissioned features and systems are successfully completed using appropriate sampling techniques; and ensure, based on these sampling techniques, that control systems have successfully passed a complete point-to-point checkout and that each control point is commanding, reporting, and controlling according to the intended purpose.

   4. Ensure that functional testing of components and systems are prepared, developed, conducted, and documented to test each sequence in the sequence of operations and other significant modes.

   5. Ensure that Operation and Maintenance (O&M) documentation is complete, applicable, written and collated as specified.

   6. Ensure that Owner’s facility personnel responsible for equipment and systems operations are adequately trained.

1.5 SUBMITTALS

A. General: Submit in accordance with Section 01 33 00.

B. Required submittals of building systems identified for commissioning are subject to review by Commissioning Authority, Commissioning Coordinator, Construction Manager, and Architect and design engineers.

C. Product Data: Submit manufacturer’s descriptive literature of commissioned equipment and systems as specified in individual specification sections. As a minimum, data shall include the following:

   1. Manufacturer and model number.

   2. Manufacturer’s printed installation and detailed start-up procedures.

   3. Full sequence of operations.

   4. Operation and Maintenance (O&M) data.

   5. Performance data.

   6. Performance test procedures.

   7. Control drawings and details of Owner contracted tests.

   8. Installation and checkout materials shipped together with equipment and actual field checkout sheet forms for use by factory or field technicians.

D. Commissioning Process Submittals:

   1. Qualifications of Commissioning Coordinator and Inspection and Testing Agencies.
2. Basis of Design and Design Intent and Owner’s Project Requirements.
3. Commissioning Plan including test procedures and forms.
4. Scoping Meeting Minutes.
5. Deficiency report and resolution record.
6. Final commissioning report appendices.
7. Start-up and initial checkout plan.
8. Project work schedule with testing and commissioning activities incorporated.

E. Closeout Submittals:
2. Training of Owner’s Facility Personnel:
   a. Training Plan.
   b. Videotape of training sessions.

1.6 COMMISSIONING AUTHORITY

A. Owner will employ a Commissioning Authority in charge of the commissioning process.

B. Qualifications:
   1. The CxA must have documented commissioning process experience on at least one building with a similar scope of work.
   2. The CxA may be a qualified employee of the Owner, an independent consultant, or an employee of the design or construction firm who is not part of the project’s design or construction team.

C. Duties and Responsibilities:
   1. Make final recommendation to Owner regarding functional performance of the commissioned building.
   2. Oversee work of Commissioning Coordinator.
   3. Regularly communicate with members of the commissioning team, keeping them apprised of commissioning progress and scheduling changes through memos and progress reports.
   4. Review and approve commissioning process submittals and reports.
   5. Witness selected tests and perform selected construction observation.

1.7 COMMISSIONING COORDINATOR

A. Contractor shall employ a Commissioning Coordinator, acceptable to Owner, Commissioning Authority, Construction Manager, and Architect.

B. Qualifications:
   1. Commissioning Coordinator: Individual or entity normally engaged in providing building system commissioning services specialized in the types of inspections and tests required.
   2. Inspection and testing service agencies shall be members of the Building Commissioning Association (BCA).
C. Duties and Responsibilities:
   1. Primary role: Develop and coordinate the execution of a commissioning plan which includes the testing, observing, and documenting systems performance and ensure that systems are functioning in accordance with the design intent in accordance with the Contract Documents.
   2. In charge of day-to-day site commissioning activities and directly oversee site commissioning work executed by themselves, Contractor, subcontractors, or consultants.
   3. Prepare commissioning plan.
   4. Develop standard forms as part of commissioning plan.
   5. Work with subcontractors in developing startup documentation formats, including providing subcontractors with prefucntional checklists to be completed during startup processes.
   6. Prepare test procedures.
   7. Generate first-hand commissioning reports.

1.8 COMMISSIONING PLAN

   A. Within fourteen days after receipt of Notice of Award, Commissioning Coordinator shall prepare a preliminary Commissioning Plan for approval by the Commissioning Authority. Commissioning Plan shall be updated and finalized after scoping meeting.

   B. Commissioning Plan shall identify how commissioning activities will be integrated into general construction and trade activities and identify how commissioning responsibilities are distributed. This shall include the following:
      1. Designation of responsibilities for producing various procedures and reports.
      2. Commissioning schedule.
      3. Description of tests and acceptance procedures.

1.9 COMMISSIONING SCOPING MEETING

   A. Thirty days to sixty days from project start date, the Commissioning Authority will schedule, plan and conduct a commissioning scoping meeting to discuss the following:
      1. Review and finalize commissioning plan for implementation; establish scope of work, tasks, schedules, deliverables, and responsibilities.
      2. Review each building system to be commissioned, including its intended operation, commissioning requirements, and completion start-up schedules.

   B. Commissioning Coordinator shall prepare and distribute meeting minutes to all parties.

   C. Attendance: Commissioning Team members.

1.10 COMMISSIONING MEETINGS

   A. During the course of construction, commissioning meetings shall be planned and conducted by the Commissioning Authority to cover coordination, deficiency resolution, and planning issues with particular subcontractors.
B. Commissioning Coordinator shall coordinate with Commissioning Authority, Construction Manager, and Contractor in scheduling commissioning meetings to interface with construction progress as scheduled.

1.11 START-UP, PREFUNCTIONAL CHECKLISTS AND INITIAL CHECKOUT

A. Commissioning Coordinator shall prepare a prefunctional checklist to ensure that equipment and systems are hooked up and operational. It ensures that functional performance testing (in-depth system checkout) may proceed without unnecessary delays.

B. Prefunctional checkout shall be performed on each piece of equipment. Successful completion of prefunctional testing for a given system is required prior to formal functional performance testing of equipment or subsystems of the given system.

C. Commissioning Coordinator shall prepare detailed start-up plans for all commissioned equipment for review and approval by Commissioning Authority. Start-up plans shall include the following:
   1. Prefunctional checklist.
   2. Manufacturer's standard written start-up procedures copied from the installation manuals with check boxes by each procedure and a signature block.
   3. Manufacturer's field checkout sheets.

1.12 FUNCTIONAL PERFORMANCE TESTING

A. Commissioning Coordinator shall develop Functional Performance Test Procedures for review and approval of Commissioning Authority.

B. Fully describe Functional Performance Test Procedures including system configuration and steps required for each test, appropriately documented so that another party can repeat the tests with identical results.

   1. Test Methods: Functional performance testing and verification may be achieved by:
      a. Direct manipulation of system inputs (i.e. heating or cooling sensors),
      b. Manipulation of system inputs with building automation system (i.e. software override of sensor inputs), and
      c. Trend logs of system inputs and outputs using stand alone data loggers.
      d. A combination of methods may be required to completely test the complete sequence of operations. The Commissioning Coordinator shall recommend to Commissioning Authority which method, or combination, is most appropriate.

   2. Setup: Each test procedure shall be performed under conditions that simulate normal operating conditions as closely as possible. Where equipment requires integral safety devices to stop/prevent equipment operation until minimum safety standards or conditions are met, functional test procedures shall demonstrate the actual performance of safety shutoffs in a real or closely simulated condition of failure.

   3. Sampling: Multiple identical pieces of non-life-safety or critical equipment may be functionally tested using a sampling strategy. The sampling strategy shall be developed by the Commissioning Coordinator for approval by the Commissioning Authority. If after three attempts at testing the specified sample percentage, failures are still present, then all remaining units shall be tested at the Contractor's expense.
C. Develop functional performance test procedures for equipment and systems. Identify test procedures and forms to verify and document proper operation of each piece of equipment and system. Coordinate test procedures with Contractor for feasibility, safety, equipment and warranty protection. Functional performance test forms shall include the following:

1. System and equipment or component name(s).
2. Equipment location and ID number.
3. Date.
4. Project name.
5. Participating parties.
6. Instructions for setting up the test, including special cautions, alarm limits, etc.
7. Specific step-by-step procedures to execute the test.
8. Acceptance criteria of proper performance with a Yes/No check box.
9. A section for comments.

D. Functional performance testing shall not begin until prefuctional, start-up and TAB is completed for a given system.

E. Controls system and equipment it controls shall not be functionally tested until all points have been calibrated and prefuctional checklists are completed.

1.13 SHORT-TERM DIAGNOSTIC TESTING

A. After initial occupancy, perform short-term diagnostic testing, using data acquisition equipment or the building automation system to record system operation over a two week to three week period.

B. Investigate the dynamic interactions between components in the building system.

C. Evaluate the scheduling, the interaction between heating and cooling, and the effectiveness of the HVAC system in meeting the comfort requirements.

1.14 DOCUMENTATION, NON-CONFORMANCE AND APPROVAL OF TESTS

A. Commissioning Coordinator witnesses and documents functional performance tests. Commissioning Authority may witness selected tests.

B. Contractor shall cooperate in expediting testing procedures and minimize delays without compromising integrity of the procedures. Contractor shall include time for testing and correcting in programming the project work schedule.

C. Non-Conformance:

1. Document deficiencies or non-conformance observed during functional tests. At the discretion of the Commissioning Coordinator, minor deficiencies may be corrected during the tests. These deficiencies and action taken shall be documented, as well.

2. Document proposed corrective measures and course of action for deficiencies identified during test procedures.

D. Action on Deficiencies:

1. Commissioning Coordinator shall call the attention of the Commissioning Authority on all deficiencies.
2. If there is no dispute on the deficiency and the responsibility to correct it:
   a. The Commissioning Coordinator documents the deficiency and the adjustments or alterations required to correct it.
   b. Contractor corrects the deficiency and notifies the Commissioning Coordinator that the equipment is ready to be retested.
   c. Commissioning Coordinator reschedules the test and the test is repeated.
3. If there is a dispute about a deficiency or who is responsible:
   a. Commissioning coordinator documents the deficiency on the non-compliance form and a copy is given to the Commissioning Authority.
   b. Resolutions are made at the lowest management level possible. Additional parties are brought into the discussions as needed. Final authority is with Owner.
   c. Commissioning Coordinator documents the resolution process.
   d. Once the resolution has been decided, the appropriate party corrects the deficiency and notifies the Commissioning Coordinator that the equipment is ready to be retested.
   e. Commissioning Coordinator reschedules the test and the test is repeated.
4. Tests are repeated until satisfactory performance is achieved.
5. Costs for retesting shall be charged to the party responsible for the deficiency.
E. Commissioning Coordinator notes each satisfactorily demonstrated function. Formal approval of functional test is issued by Commissioning Authority.
F. Commissioning Coordinator compiles commissioning process documentation including logs, minutes, reports, deficiency lists, communications, findings, unresolved issues, etc. for inclusion as appendices to the Commissioning Authority’s final summary report.
G. Commissioning Coordinator compiles prefunctional checklists, functional tests, and monitoring reports for inclusion in the operation and maintenance manuals.

1.15 OPERATION AND MAINTENANCE (O&M) MANUALS
A. Comply with Section 01785 and related Sections in Divisions 21-23 and 25-28.
B. Commissioning Coordinator compiles operation and maintenance manuals and includes commissioning records as attachments which includes the following:
   3. System Type(s).
      a. Design narrative and criteria, sequences, equipment approvals.
      b. Start-up plan and report, approvals, corrections, prefunctional checklists.
      c. Functional tests, trending and analysis, approvals, corrections, and training plan.
   4. Facility training materials and videotape.

1.16 FINAL COMMISSIONING REPORT
A. Commissioning Authority prepares a final summary report with recommendations to Owner regarding functional performance of the commissioned building systems.
1.17 DEFERRED TESTING

A. Unforeseen Deferred Tests: Tests that cannot be completed due to the building structure, required occupancy condition, or other deficiency, functional testing may be deferred only with the approval of Commissioning Authority and Owner. Any additional cost for deferred testing shall be borne by Contractor.

B. Seasonal Testing:

1. Commissioning Coordinator shall schedule, coordinate, observe, and document additional testing for seasonal variation in operations and control strategies during the opposite season to verify performance of the HVAC system and controls. Complete testing during the warranty period to fully test all sequences of operation.

2. Correct deficiencies and fine adjust systems. Update operation and maintenance manuals and record drawings as necessary. Include documentation of these tests in the operation and maintenance manual.

C. End-of-Warranty Review:

1. Conduct end of warranty review prior to the end of the warranty period.

2. Review the current building operation with the facility maintenance staff. The warranty review shall include outstanding issues from original or seasonal testing.

3. Interview facility staff to identify concerns with building operation. Provide suggestions for improvements and assist Owner in developing reports or documentation to remedy problems.

4. Update operation and maintenance manual as needed.

1.18 TRAINING OF OWNER’S FACILITY PERSONNEL

A. Contractor shall coordinate and schedule training of Owner’s facility personnel responsible for the operation and maintenance of commissioned systems.

B. Contractor shall submit a training plan for each commissioned equipment prior to training sessions, which shall, at a minimum, consist of the following:

1. Intended audience.

2. Objective.

3. Location.

4. Scope.

5. Duration.

6. Methods (may include lecture, video, site walk-through, actual operational demonstration, written handouts).

7. Instructor and qualifications.

C. Videotape training sessions and include these in the operation and maintenance manuals.
PART 2 PRODUCTS

2.1 TEST EQUIPMENT

A. Instrumentation shall meet the following standards:
   1. Be of sufficient quality and accuracy to test and measure system performance within the tolerances required to determine adequate performance.
   2. Be calibrated on the manufacturer’s recommended intervals with calibration tags permanently affixed to the instrument being used.
   3. Be maintained in good repair and operation condition throughout the duration of use on this project.

B. All standard testing equipment required to perform startup and initial checkout and required functional performance testing shall be provided by the Contractor for the equipment being tested.

C. Datalogging equipment or software required to test equipment will be provided by the Commissioning Coordinator, but shall not become the property of Owner.

PART 3 EXECUTION

Not used.

END OF SECTION