

CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT

INVITATION FOR BID NO.: B23/24-10

CULTURAL COMMUNITY CENTER AT LAS POSITAS COLLEGE

Bids Due:

August 20, 2024 at 2:00 PM



Return Bids To: Marie Hampton, Purchasing and Warehouse Manager

**District Office
Purchasing & Warehouse Services Department
Attn: Marie Hampton
7600 Dublin Blvd., 3rd Floor
Dublin, CA 94568**

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NOTICE TO APPROVED CONTRACTORS, CALLING FOR BIDS

DISTRICT	CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT
PROJECT DESCRIPTION	BID NO.: B23/24-10 CULTURAL COMMUNITY CENTER AT LAS POSITAS COLLEGE
LATEST TIME/DATE FOR RFI'S SUBMITTALS	AUGUST 8, 2024 at 2:00 PM
LATEST TIME/DATE FOR SUBMISSION OF BIDS PROPOSALS	AUGUST 20, 2024 at 2:00 PM
LOCATION FOR SUBMISSION OF BID PROPOSALS	Chabot-Las Positas Community College District 7600 Dublin Blvd., 3rd, Floor Dublin, CA 94568 Attn: Marie Hampton, Purchasing and Warehouse Manager

NOTICE IS HEREBY GIVEN that the above-named California Community College District, acting by and through its Board of Trustees, hereinafter "the District" will receive up to, but not later than the above-stated date and time, sealed Bid Proposals for the Contract for the Work of the Project generally described as: **BID NO.: B23/24-10 CULTURAL COMMUNITY CENTER AT LAS POSITAS COLLEGE.**

1. Submittal of Bid Proposals. All Bid Proposals shall be submitted on forms furnished by the District. Bid Proposals must conform with, and be responsive to, the Bid and Contract Documents, copies of which may be obtained from the District's website as set forth above. Only Bid Proposals submitted to the District at or prior to the date and time set forth above for the public opening and reading of Bid Proposals shall be considered.

Bid and Contract Documents. The Bid and Contract Documents are available at the District's website at: <http://districtazure.clpccd.org/business/purchasing.php> under **BID NO.: B23/24-10 CULTURAL COMMUNITY CENTER AT LAS POSITAS COLLEGE.**

2. Documents Accompanying Bid Proposal. Each Bid Proposal shall be accompanied by: (a) the required Bid Security; (b) Subcontractors List; (c) Non-Collusion Affidavit; (d) Statement of Bidder's Qualifications (e) Certification of Pre-Bid Site Visit; and (f) Public Works Contractor Registration Certification Form. All information or responses of a Bidder in its Bid Proposal and other documents accompanying the Bid Proposal shall be complete, accurate and true; incomplete, inaccurate or untrue responses or information provided therein by a Bidder shall be grounds for the District to reject such Bidder's Bid Proposal for non-responsiveness.

3. Prevailing Wage Rates. Pursuant to California Labor Code §1773, the Director of the Department of Industrial Relations of the State of California has determined the generally prevailing rates of wages in the locality in which the Work is to be performed. Copies of these determinations, entitled "PREVAILING WAGE SCALE" are filed at the District's Administrative Offices located at 7600 Dublin Blvd., 3rd Floor, Dublin, CA 94568, and are available to any interested party upon request. Alternatively, prevailing wage rate classifications and determinations may be viewed and obtained by accessing the Division of Labor Standards Enforcement database at <http://www.dir.ca.gov/dirdatabases.html>. The Contractor awarded the Contract for the Work shall post a copy of all applicable prevailing wage rates for the Work at conspicuous locations at the Site of the Work. The Contractor and all Subcontractors

performing any portion of the Work shall pay not less than the applicable prevailing wage rate for the classification of labor provide by their respective workers in prosecution and execution of the Work.

4. Contractors License Classification. In accordance with the provisions of California Public Contract Code §3300, the District requires that Bidders possess the following classification(s) of California Contractors License **B**. Any Bidder not so duly and properly licensed shall be subject to all penalties imposed by law. No payment shall be made for work, labor, materials or services provided under the Contract for the Work unless and until the Registrar of Contractors verifies to the District that the Bidder awarded the Contract is properly and duly licensed to perform the Work.

5. Contract Time. The Contractor shall complete the Work and achieve Substantial Completion of the Work by the date(s) specified in the Special Conditions. Failure to complete designated portions of the Work within the time(s) established in the Special Conditions and/or failure to achieve Substantial Completion and Final Completion of the Work within the Contract Time established in the Special Conditions shall subject the Contractor to assessment of Liquidated Damages as set forth in the Special Conditions.

6. Labor Compliance Program (AB 1506). The District has established a Labor Compliance Program ("LCP") pursuant to Labor Code §1771.5. The Contractor awarded the Contract for the Work shall comply with the LCP and provisions of the Contract Documents relating to implementation, compliance with, and enforcement of the LCP. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

7. Bid Security. Each Bid Proposal shall be accompanied by Bid Security in an amount not less than ten percent (10%) of the maximum amount of the Bid Proposal, inclusive of any additive Alternate Bid Item(s). Failure of any Bid Proposal to be accompanied by Bid Security in the form and in the amount required shall render such Bid Proposal to be non-responsive and rejected by the District.

8. No Withdrawal of Bid Proposals. Bid Proposals shall not be withdrawn by any Bidder for a period of sixty (60) days after the opening of Bid Proposals. During this time, all Bidders shall guarantee prices quoted in their respective Bid Proposals.

9. Job-Walk. The District will conduct **one (1) Mandatory** Job Walk. Job walk will be held on **Tuesday, August 6th, 2024, beginning at 10:00 AM. Bidders must attend the job walk.** Bidders are to meet at Las Positas College, 3000 Campus Hill Drive, Facilities Management Office Trailer, Conference Room 1, adjacent to Building 1300, Livermore, California 94551. **Bidders must attend the Site Walk to be eligible to participate in the bid.** Campus maps are available at www.laspositascollege.edu/. The Job and Site Walk is mandatory. If a Bid Proposal is submitted by a Bidder whose representative(s) did not attend the entirety of the Mandatory Job and Site Walk, such bid will be rejected by the District as being non-responsive.

10. Substitute Security. In accordance with the provisions of California Public Contract Code §22300, substitution of eligible and equivalent securities for any monies withheld by the District to ensure the Contractor's performance under the Contract will be permitted at the request and expense of the Contractor and in conformity with California Public Contract Code §22300. The foregoing notwithstanding, the Bidder to whom the Contract is awarded shall submit its written request to the District to permit the substitution of securities for retention under California Public Contract Code §22300 prior to the submission of its first Application for Progress Payment. The failure of such Bidder to make such written request to the District prior to submission of its first Application for Progress Payment shall be deemed a waiver of the Bidder's rights under California Public Contract Code §22300.

11. Waiver of Irregularities. The District reserves the right to reject any or all Bid Proposals or to waive any irregularities or informalities in any Bid Proposal or in the bidding.

12. Award of Contract. The Contract for the Work, if awarded, will be by action of the District's Board of Trustees to the responsible and responsive Bidder submitting the lowest priced Bid Proposal. If Alternate Bid Items are included in the bidding, the lowest total priced Bid Proposal will be determined on the basis of the Base Bid Proposal (only) in accordance with the applicable provisions of the Instructions for Bidders.

CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT

Publication Dates:

**July 26, 2024
August 2, 2024**

ADVERTISEMENT

NOTICE IS HEREBY GIVEN that the Board of Trustees of the Chabot-Las Positas Community College District, State of California, hereby calls for bids – **BID NO.: B23/24-10 CULTURAL COMMUNITY CENTER AT LAS POSITAS COLLEGE.**

Bids are to be delivered to the attention of Ms. Marie Hampton, Manager of Purchasing and Warehouse Services at 7600 Dublin Blvd., 3rd Floor, Dublin, California 94568 prior to **Tuesday, August 20th, 2024, by 2:00 P.M.** Faxed or emailed bids will not be accepted.

BIDS WILL NOT BE ACCEPTED AFTER Tuesday, August 20th, 2024, AT 2:00 P.M.

All bids shall be submitted in sealed envelopes clearly marked on the outside "BID NO.: B23/24-10 CULTURAL COMMUNITY CENTER AT LAS POSITAS COLLEGE".

To arrange for bid delivery before the bid due date, call Mr. Michael McClung, Buyer (Bond Programs), at 925-485-5205 to schedule a time during business hours. Bids delivered by USPS, Fed Ex, or UPS are not guaranteed to be received prior to submittal cut time. It is the bidder's responsibility to ensure delivery to the attention of Ms. Marie Hampton, Manager of Purchasing and Warehouse Services on or before **Tuesday, August 20th, 2024, by 2:00 P.M.** Please plan for time accordingly.

Bid opening will be conducted on Tuesday, August 20th, 2024 at 2:15PM, in the CLPCCD District Office 7600 Dublin Blvd, 3rd Floor, Dublin CA 94568.

There will be a **Mandatory**, Pre-Bid Conference and Job Walk held, **Tuesday, August 6th, 2024 at 10:00AM** at the Las Positas College, Facilities Management Office, 3000 Campus Hill Drive Livermore, California 94551. Bidders must attend the full Mandatory Job Walk. Bidders must sign in by 10:00AM. Anyone late will not be allowed to bid. Bidders must attend the Campus Site Walk to be eligible to participate in the bid. The Campus map is available at: <https://map.concept3d.com/?id=1994#!ct/59651?s/>

Bid Documents will be available by **Thursday, July 25, 2024**, at the Purchasing website at <http://districtazure.clpccd.org/business/open.php> (Adobe Reader is required for downloading document).

Inquiries regarding this bid should be directed to the Purchasing Department, Marie Hampton, Purchasing Manager, e-mail at mhampton@clpccd.org (and cc: mmcclung@clpccd.org). Reference **BID NO.: B23/24-10 CULTURAL COMMUNITY CENTER AT LAS POSITAS COLLEGE** on all inquiries.

No contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

The Board of Trustees reserves the right to reject any and all bids and any and all items of such bids. This bid shall also be subject to any and all applicable laws, regulations and standards. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

For more information, please refer to the Purchasing Website at <http://www.clpccd.org/business/open.php>

Run Dates: July 26, 2024 and August 02, 2024

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INSTRUCTIONS FOR BIDDERS

1. Preparation and Submittal of Bid Proposal.

1.1 Bid Proposal Preparation. All information required by the bid forms must be completely and accurately provided. Numbers shall be stated in both words and figures where so indicated in the bid forms; conflicts between a number stated in words and in figures are governed by the words. Partially completed Bid Proposals or Bid Proposals submitted on other than the bid forms included herein are non-responsive and will be rejected. Bid Proposals not conforming to these Instructions for Bidders and the Notice to Contractors Calling for Bids ("Call for Bids") may be deemed non-responsive and rejected.

1.2 Bid Proposal Submittal. Bid Proposals shall be submitted at the place designated in the Call for Bids in sealed envelopes bearing on the outside the Bidder's name and address along with an identification of the Work for which the Bid Proposal is submitted. Bidders are solely responsible for timely submission of Bid Proposals to the District at the place designated in the Call for Bids.

1.3 Date and Time of Bid Proposal Submittal. The District will place a clock ("the District Clock") in a conspicuous location at the place designated for submittal of Bid Proposals. For purposes of determining the time that a Bid Proposal is submitted, the District Clock shall be controlling. The foregoing notwithstanding, whether or not Bid Proposals are opened exactly at the time fixed in the Call for Bids, no Bid Proposals shall be received or considered by the District after it has commenced the public opening and reading of Bid Proposals; Bid Proposals submitted after such time are non-responsive and will be returned to the Bidder unopened.

2. Bid Security. Each Bid Proposal shall be accompanied by Bid Security in the form of: (a) cash, (b) a certified or cashier's check made payable to the District or (c) a Bid Bond, in the form and content attached hereto, in favor of the District executed by the Bidder as a principal and a Surety as surety (the "Bid Security") in an amount not less than the percentage of the maximum amount of the Bid Proposal. Any Bid Proposal submitted without the required Bid Security is non-responsive and will be rejected. If the Bid Security is in the form of a Bid Bond, the Bidder's Bid Proposal shall be deemed responsive only if the Bid Bond is in the form and content included herein and the Surety is an Admitted Surety Insurer under Code of Civil Procedure §995.120.

3. Documents Accompanying Bid Proposal; Signatures. The Bid Proposal must be submitted with: Bid Security, Subcontractors List, Statement of Qualifications, Certification of Pre-Bid Site Visit, Public Works Contractor Registration Certification Form and Non-Collusion Affidavit. The Bid Proposal, and the Non-Collusion Affidavit shall be executed by an individual duly authorized to execute the same on behalf of the Bidder.

4. Modifications. Changes to the bid forms which are not specifically called for or permitted may result in the District's rejection of the Bid Proposal as being non-responsive. No oral or telephonic modification of any submitted Bid Proposal will be considered. A written modification may be considered only if actually received by the District prior to the scheduled closing time for receipt of Bid Proposals and the public opening thereof.

5. Erasures; Inconsistent or Illegible Bid Proposals. Bid Proposals must not contain any erasures, interlineations or other corrections unless the same are suitably authenticated by affixing in the margin immediately opposite such erasure, interlineations or correction the surname(s) of the person(s) signing the Bid Proposal. Any Bid Proposal not conforming to the foregoing may be deemed by the District to be non-responsive. If any Bid Proposal or portions thereof, is determined

by the District to be illegible, ambiguous or inconsistent, whether by virtue of any erasures, interlineations, corrections or otherwise, the District may reject such a Bid Proposal as being non-responsive.

6. **Examination of Site and Contract Documents.** Each Bidder shall, at its sole cost and expense, inspect the Site and to become fully acquainted with the Contract Documents and conditions affecting the Work. The failure of a Bidder to receive or examine any of the Contract Documents or to inspect the Site shall not relieve such Bidder from any obligation with respect to the Bid Proposal, or the Work required under the Contract Documents. The District assumes no responsibility or liability to any Bidder for, nor shall the District be bound by, any understandings, representations or agreements of the District's agents, employees or officers concerning the Contract Documents or the Work made prior to execution of the Contract which are not in the form of Bid Addenda duly issued by the District. The submission of a Bid Proposal shall be deemed prima facie evidence of the Bidder's full compliance with the requirements of this section.
7. **Withdrawal of Bid Proposal.** Any Bidder may withdraw its Bid Proposal by of written request actually received by the District prior to the scheduled closing time for the receipt of Bid Proposals and the District's public opening and reading of Bid Proposals. A written notice of withdrawal of a submitted Bid Proposal received after the scheduled closing time for receipt of Bid Proposals or the District's public opening and reading of Bid Proposals shall not be considered by the District, nor effective to withdraw such Bid Proposal.
8. **Agreement and Bonds.** The Agreement which the successful Bidder, as Contractor, will be required to execute along with the forms and amounts of the Labor and Material Payment Bond, Performance Bond and other documents and instruments which will be required to be furnished are included in the Contract Documents and shall be carefully examined by the Bidder.
9. **Interpretation of Drawings, Specifications or Contract Documents.** Any Bidder 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 may be submitted to the District. It is the sole and exclusive responsibility of the Bidder to submit such request by the due date for "Request for Information" as specified in the bid document. Interpretations or corrections of the Contract Documents will be by written addendum issued by the District or the Architect. A copy of any such addendum will be mailed, faxed, emailed or delivered to each Bidder receiving a set of the Contract Documents. 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.
10. **District's Right to Modify Contract Documents.** Before the public opening and reading of Bid Proposals, the District may modify the Work, the Contract Documents, or any portion(s) thereof by the issuance of written addenda disseminated to all Bidders who have obtained a copy of the Specifications, Drawings and Contract Documents pursuant to the Call for Bids. If the District issues any addenda during the bidding, the failure of any Bidder to acknowledge such addenda in its Bid Proposal will render the Bid Proposal non-responsive and rejected.
11. **Non-Collusion Affidavit.** No person, firm, corporation or other entity shall submit or be interested in more than one Bid Proposal for the same Work; provided, however, that a person, firm or corporation that has submitted a sub-proposal to a Bidder or who has quoted prices for materials to a Bidder is not thereby disqualified from submitting a sub-proposal, quoting prices to other Bidders or submitting a Bid Proposal for the proposed Work to the District. The form of Non-Collusion Affidavit included in the Contract Documents must be completed and duly executed on

behalf of the Bidder; failure of a Bidder to submit a completed and executed Non-Collusion Affidavit with its Bid Proposal will render the Bid Proposal non-responsive.

12. Award of Contract.

- 12.1 Waiver of Irregularities or Informalities.** The District reserves the right to reject any and all Bid Proposals or to waive any irregularities or informalities in any Bid Proposal or in the bidding.
- 12.2 Award to Lowest Responsive and Responsible Bidder.** The award of the Contract, if made by the District through action of its Board of Trustees, will be to the responsible Bidder submitting the lowest priced responsive Bid Proposal on the basis of the Base Bid Proposal, in accordance with these Instructions for Bidders. The low bidder will be determined by the sum of Bid Line Items 1 & 2.
- 12.3 N/A - Selection of Alternate Bid Items.** The selection of Alternate Bid Items for inclusion in the scope of the Work of the Contract to be awarded at the discretion of the District.
- 12.4 Alternate Bid Items Not Included in Award of Contract.** Bidders are referred to the provisions of the Contract Documents permitting the District, during performance of the Work, to add or delete from the scope of the Work any or all of the Alternate Bid Items with the cost or credit of the same being the amount(s) set forth by in the Alternate Bid Items Proposal.
- 12.5 Responsive Bid Proposal.** A responsive Bid Proposal shall mean a Bid Proposal which conforms, in all material respects, to the Bid and Contract Documents.
- 12.6 Responsible Bidder.** A responsible Bidder is a Bidder who has the capability in all respects, to perform fully the requirements of the Contract Documents and the moral and business integrity and reliability, which will assure good faith performance. In determining responsibility, the following criteria will be considered: (i) the ability, capacity and skill of the Bidder to perform the Work of the Contract Documents; (ii) whether the Bidder can perform the Work promptly and within the time specified, without delay or interference; (iii) the character, integrity, reputation, judgement, experience and efficiency of the Bidder; (iv) the quality of performance of the Bidder on previous contracts, by way of example only, the following information will be considered: (a) the administrative, consultant or other cost overruns incurred by the District on previous contracts with the Bidder; (b) the Bidder's compliance record with contract general conditions on other projects; (c) the submittal by the Bidder of excessive and/or unsubstantiated extra cost proposals and claims on other projects; (d) the Bidder's record for completion of work within the contract time and the Bidder's compliance with the scheduling and coordination requirements on other projects; (e) the Bidder's demonstrated cooperation with the District and other contractors on previous contracts; (f) whether the work performed and materials furnished on previous contracts was in accordance with the Contract Documents; (v) the previous and existing compliance by the Bidder with laws and ordinances relating to contracts; (vi) the sufficiency of the financial resources and ability of the Bidder to perform the work of the Contract Documents; (vii) the quality, availability and adaptability of the goods or services to the particular use required; (viii) the ability of the Bidder to provide future maintenance and service for the warranty period of the Contract; (ix) whether the Bidder is in arrears on debt or contract or is a defaulter on any surety bond; (x) such other information as may be secured by the District having a bearing on the decision to award the Contract, to include without limitation the ability, experience and commitment of the Bidder to properly and reasonably plan, schedule, coordinate and execute the Work of the Contract Documents and whether the Bidder has ever been debarred from bidding or found ineligible for bidding

on any other projects. The ability of a Bidder to provide the required bonds will not of itself demonstrate responsibility of the Bidder.

12.7 District Project Labor Agreement. N/A for this project.

13. Subcontractors.

13.1 Designation of Subcontractors; Subcontractors List. Each Bidder shall submit a list of its proposed Subcontractors for the proposed Work as required by the Subletting and Subcontracting Fair Practices Act (California Public Contract Code §§4100 et seq.) on the form furnished. The failure of any Bid Proposal to include all information required by the Subcontractors List will result in rejection of the Bid Proposal for non-responsiveness. Each Subcontractor shall maintain annual compliance with Senate Bill 854 and Workers Compensation/Employers Liability Insurance and Commercial General Liability Insurance as required by the Contract.

13.2 Work of Subcontractors. All Bidders refer to the Contract Documents and the notation therein that all Contract Documents are intended to be complimentary and that the organization or arrangements of the Specifications and Drawings shall not limit the extent of the Work of the Contract Documents. Accordingly, all Bidders are encouraged to disseminate all of the Specifications, Drawings and other Contract Documents to all persons or entities submitting sub-bids to the Bidder. The omission of any portion or item of Work from the Bid Proposal or from the sub-bidders' sub-bids which is/are necessary to produce the intended results and/or which are reasonably inferable from the Contract Documents is not a basis for adjustment of the Contract Price or the Contract Time. Dissemination of the Contract Documents to sub-bidders and dissemination of addenda issued during the bidding process is solely the responsibility of each Bidder.

13.3 Subcontractor Bonds. In accordance with California Public Contract Code §4108, if a Bidder requires a bond or bonds of its Subcontractor(s), whether the expense of procuring such bond or bonds are to be borne by the Bidder or the Subcontractor(s), such requirements shall be specified in the Bidder's written or published request for sub-bids. Failure of the Bidder to comply with these requirements shall preclude the Bidder from imposing bonding requirements upon its Subcontractor(s) or rejection of a Subcontractor's bid under California Public Contract Code §4108(b).

14. Workers' Compensation Insurance. Pursuant to California Labor Code §3700, the successful Bidder shall secure Workers' Compensation Insurance for its employees engaged in the Work of the Contract. The successful bidder shall sign and deliver to the District the following certificate prior to performing any of the Work under the Contract:

"I am aware of the provisions of §3700 of the California Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that Code and I will comply with such provisions before commencing the performance of the Work of the Contract."

The form of such Certificate is included as part of the Contract Documents.

15. Bid Security Return. The Bid Security of the three or more low Bidders, the number being solely at the discretion of the District, will be held by the District for ten (10) days after the period for which Bid Proposals must be held open (which is set forth in the Call for Bids) or until posting by the successful Bidder(s) of the bonds, certificates of insurance required and return of executed copies

of the Agreement, whichever first occurs, at which time the Bid Security of such other Bidders will be returned to them.

16. **Forfeiture of Bid Security.** If the Bidder awarded the Contract fails or refuses to execute the Agreement within ten (10) calendar days from the date of receiving notification that it is the Bidder to whom the Contract has been awarded, the District may declare the Bidder's Bid Security forfeited as damages caused by the failure of the Bidder to enter into the Contract and may thereupon award the Contract for the Work to the responsible Bidder submitting the next lowest Bid Proposal or may call for new bids, in its sole and exclusive discretion.
17. **Contractor's License.** No Bid Proposal will be considered from a Bidder who, at the time Bid Proposals are opened, is not licensed to perform the Work, in accordance with the Contractors License Law, California Business & Professions Code §§7000 et seq. This requirement is not a mere formality and will not be waived by the District or its Board of Trustees. The required California Contractor's License classification(s) for the Work is/are set forth in the Call for Bids.
18. **Anti-Discrimination.** It is the policy of the District that there is no discrimination against any prospective or active employee engaged in the Work because of race, color, ancestry, national origin, religious creed, sex, age or marital status. All Bidders agree to comply with the District's anti-discrimination policy and all applicable Federal and California anti-discrimination laws including but not limited to the California Fair Employment & Housing Act beginning with California Government Code §§12940 et seq. and California Labor Code §1735. In addition, all Bidders agree to require like compliance by any Subcontractor employed by them on the Work of the Contract.
19. **Bidder's Qualifications.** Each Bidder shall submit with its Bid Proposal the form of Statement of Bidder's Qualifications, which is included within the Contract Documents. All information required by Statement of Bidder's Qualifications shall be completely and fully provided. Any Bid Proposal not accompanied by the Statement of Bidder's Qualifications completed with all information required and bearing the signature of the Bidder's duly authorized representative under penalty of perjury will render the Bid Proposal non-responsive and rejected. If the District determines that any information provided by a Bidder in the Statement of Bidder's Qualifications is false or misleading, or is incomplete so as to be false or misleading, the District may reject the Bid Proposal submitted by such Bidder as being non-responsive.
20. **Job-Walk.** The District will conduct a Job-Walk at the time and place designated in the Call for Bids. The District may in its sole and exclusive discretion, elect to conduct one or more Job-Walk(s) in addition to that set forth in the Call for Bids, in which event the District shall notify all Bidders who have theretofore obtained the Contract Documents pursuant to the Call for Bids of any such additional Job-Walk. If the District elects to conduct any Job-Walk in addition to that set forth in the Call for Bids, the District shall, in its notice of any such additional Job-Walk(s), indicate whether Bidders' attendance at such additional Job-Walk(s) is/are mandatory. If attendance at the Job Walk is indicated in the Call for Bids as being mandatory, the failure of any Bidder to have its authorized representative present at the entirety of the Job-Walk will render the Bid Proposal of such Bidder to be non-responsive. Where the Job-Walk is mandatory, a Bidder may have more than one authorized representative and/or representatives of its Subcontractors present at the Job-Walk; provided, however that attendance by representatives of the Bidder's Subcontractors without attendance by a representative of the Bidder shall not be sufficient to meet the Bidder's obligations hereunder and will render the Bid Proposal of such Bidder to be non-responsive. The District will reject the Bid Proposal of a Bidder who obtains the Bid and Contract Documents after the date of the Mandatory Job-Walk set forth in the Call for Bids unless a Job-Walk is requested by such Bidder and a Job-Walk is conducted by the District in accordance with the following provisions. The District may, in its sole and exclusive discretion, conduct such requested Job-Walk taking into consideration factors such as the time remaining prior to the scheduled opening of Bid Proposals. Any such requested Job Walk will be conducted only upon the requesting Bidder's agreement to

reimburse the District for the actual and/or reasonable costs for the District's staff and its agents and representatives in arranging for and conducting such additional Job-Walk.

21. **Public Records.** Bid Proposals and other documents responding to the Call for Bids become the exclusive property of the District upon submittal to the District. At such time as the District issues the Notice of Intent to award the Contract pursuant to these Instructions for Bidders, all Bid Proposals and other documents submitted in response to the Call for Bids become a matter of public record and shall be thereupon be considered public records, except for information contained in such Bid Proposals deemed to be Trade Secrets (as defined in California Civil Code §3426.1) and information provided in response to the Statement of Qualifications. A Bidder that indiscriminately marks all or most of its Bid Proposal as exempt from disclosure as a public record, whether by the notations of "Trade Secret," "Confidential," "Proprietary," or otherwise, may result render the Bid Proposal non-responsive and rejected. The District is not liable or responsible for the disclosure of such records, including those exempt from disclosure if disclosure is deemed required by law, by an order of Court, or which occurs through inadvertence, mistake or negligence on the part of the District or its officers, employees or agents. At such time as Bid Proposals are deemed a matter of public record, pursuant to the above, any Bidder or other party shall be afforded access for inspection and/or copying of such Bid Proposals, by request made to the District in conformity with the California Access to Public Records Act, California Government Code §§6250, et. seq. If the District is required to defend or otherwise respond to any action or proceeding wherein request is made for the disclosure of the contents of any portion of a Bid Proposal deemed exempt from disclosure hereunder, the Bidder submitting the materials sought by such action or proceeding agrees to defend, indemnify and hold harmless the District in any action or proceeding from and against any liability, including without limitation attorneys' fees arising therefrom. The party submitting materials sought by any other party shall be solely responsible for the cost and defense in any action or proceeding seeking to compel disclosure of such materials; the District's sole involvement in any such action shall be that of a stakeholder, retaining the requested materials until otherwise ordered by a court of competent jurisdiction.
22. **Drug Free Workplace Certificate.** In accordance with California Government Code §§8350 et seq., the Drug Free Workplace Act of 1990, the successful Bidder will be required to execute a Drug Free Workplace Certificate concurrently with execution of the Agreement. The successful Bidder will be required to implement and take the affirmative measures outlined in the Drug Free Workplace Certificate and in California Government Code §§8350 et seq. Failure of the successful Bidder to comply with the measures outlined in the Drug Free Workplace Certificate and in California Government Code §§8350 et seq. may result in penalties, including without limitation, the termination of the Agreement, the suspension of any payment of the Contract Price otherwise due under the Contract Documents and/or debarment of the successful Bidder.
23. **Public Works Contractor Registration Certificate.** Pursuant to California Senate Bill 854, the qualified Contractor shall be registered with the California's Department of Industrial Relations (DIR) and its subcontractors who intend to bid or perform work on any public works project, as defined under Labor Code Section 1720. The qualified Contractor shall sign and deliver to the District the form of Public Works Contractor Registration Certification included with the Contract Documents.
24. **Compliance with Immigration Reform and Control Act of 1986.** The Bidder is solely and exclusively responsible for employment of individuals for the Work of the Contract in conformity with the Immigration Reform and Control Act of 1986, 8 USC §§1101 et seq. (the "IRCA"); the successful Bidder shall also require that any person or entity employing labor in connection with any of the Work of the Contract shall so similarly comply with the IRCA.
25. **Notice of Intent to Award Contract.** Following the public opening and reading of Bid Proposals, the District will issue a Notice of Intent to Award the Contract, identifying the Bidder to whom the

District intends to award the Contract and the date/time/place of the District's Board of Trustees meeting at which award of the Contract will be considered.

- 26. Bid Protest.** Any Bidder submitting a Bid Proposal to the District may file a protest of the District's intent to award the Contract provided that each and all of the following are complied with:
- (i) The bid protest is in writing;
 - (ii) The bid protest is filed and received by the District's Vice-Chancellor, Facilities Planning and Management not more than five (5) calendar days following the date of issuance of the District's Notice of Intent to Award the Contract; and
 - (iii) The written bid protest sets forth, in detail, all grounds for the bid protest, including without limitation all facts, supporting documentation, legal authorities and argument in support of the grounds for the bid protest; any matters not set forth in the written bid protest shall be deemed waived. All factual contentions must be supported by competent, admissible and creditable evidence.

Any bid protest not conforming to the foregoing shall be rejected by the District as invalid. Provided that a bid protest is filed in strict conformity with the foregoing, the District's Vice-Chancellor, Facilities Planning and Management or such individual(s) as may be designated by him/her, shall review and evaluate the basis of the bid protest. Either, the District's Vice-Chancellor, Facilities Planning and Management or other individual designated by him/her shall provide the bidder submitting the bid protest with a written statement concurring with or denying the bid protest. The District's Board of Trustees will render a final determination and disposition of a bid protest by taking action to adopt, modify or reject the disposition of a bid protest as reflected in the written statement of the District's Vice-Chancellor, Facilities Planning and Management or his/her designee. Action by the District's Board of Trustees relative to a bid protest shall be final and not subject to appeal or reconsideration by the District's Vice-Chancellor, Facilities Planning and Management any other employee or officer of the District or the District's Board of Trustees. The rendition of a written statement by the District's Vice-Chancellor, Facilities Planning and Management (or his/her designee) and action by the District's Board of Trustees to adopt, modify or reject the disposition of the bid protest reflected in such written statement shall be express conditions precedent to the institution of any legal or equitable proceedings relative to the bidding process, the District's intent to award the Contract, the District's disposition of any bid protest or the District's decision to reject all Bid Proposals. In the event that any such legal or equitable proceedings are instituted and the District is named as a party thereto, the prevailing party(ies) shall recover from the other party(ies), as costs, all attorneys' fees and costs incurred in connection with any such proceeding, including any appeal arising therefrom.

END OF SECTION

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SUBCONTRACTORS LIST**Bidder:** _____**Address:** _____**Telephone:** _____**Fax:** _____**Bidder's Authorized Representative:** _____**PROJECT: BID NO.: B23/24-10 CULTURAL COMMUNITY CENTER AT LAS POSITAS COLLEGE**

NAME OF SUBCONTRACTOR	BUSINESS LOCATION/ ADDRESS OF SUBCONTRACTOR	TRADE OR PORTION OF THE WORK

PHOTOCOPY THIS PAGE AS NECESSARY TO LIST ADDITIONAL SUBCONTRACTORS

In accordance with Public Contract Code §4104, General Contractors submitting bids on California public projects should submit subcontractors license numbers with all bids. Pursuant to California Senate Bill 854, any subcontractor(s) who intend to bid on any public works project must be registered with the California's Department of Industrial Relations (DIR).

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NON-COLLUSION AFFIDAVIT

STATE OF CALIFORNIA)
 COUNTY OF _____)

PROJECT BID NO.: B23/24-10 CULTURAL COMMUNITY CENTER AT LAS POSITAS COLLEGE

I, _____, being first duly sworn, deposes and says that I
 (Typed or Printed Name)
 am the _____ of _____, the party
 (Title) (Bidder Name)
 submitting the foregoing Bid Proposal ("the Bidder"). In connection with the foregoing Bid Proposal, the undersigned declares, states and certifies that:

1. The Bid Proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization or corporation.
2. The Bid Proposal is genuine and not collusive or sham.
3. 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 other bidder or anyone else to put in sham bid, or to refrain from bidding.
4. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price, or that of any other bidder, or to fix any overhead, profit or cost element of the bid price or that of any other bidder, or to secure any advantage against the public body awarding the contract or of anyone interested in the proposed contract.
5. All statements contained in the Bid Proposal and related documents are true.
6. The bidder has not, directly or indirectly, submitted the 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 person, corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Executed this ____ day of _____, 2024 at _____.
 (City, County and State)

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

 Signature

 (Address)

 Name Printed or Typed

 (City, County and State)

(_____) _____
 (Area Code and Telephone Number)

STATEMENT OF BIDDER'S QUALIFICATIONS**1. Bidder's Organization**

1.1 Form of entity of Bidder, i.e., corporation, partnership, etc. _____

1.1.1 If a corporation, state the following:

State of incorporation: _____

Date of incorporation: _____

President/Chief Executive Officer: _____

Secretary: _____

Treasurer/Chief Financial Officer: _____

1.1.2 If a partnership, state the following:

Type of partnership, i.e., general partnership, limited partnership: _____

Names of all general partners, if any of the general partners are not natural persons, provide the information for each such general partner requested by Paragraphs 1.1.1, 1.1.2 and 1.1.4 as appropriate: _____

1.1.3 If a proprietorship, state the names of all proprietors: _____

1.1.4 If a joint venture, state the following

Date of organization: _____

Names of all joint venture members. For each member of the joint venture, provide the information requested by Paragraphs 1.1.1, 1.1.2 and 1.1.3 for each joint venture member, as applicable: _____

1.2 Number of years your organization has been in business as a contractor: _____

1.3 Number of years your organization has conducted business under its present name: _____

1.4 If your organization has conducted business under a name or name style different than your organization's present name, identify all prior name(s) or name style(s): _____

1.5 Your organization's Federal Tax Identification Number: _____

1.6 Your Public Works Contractor Registration Number: _____

2. Licensing

2.1 California Contractors License: Number: _____

Expiration Date: _____

Responsible Managing Employee/Officer: _____

License Classification(s): _____

2.2 Has a claim or other demand ever been made against your organization's California Contractors License Bond? _____ Yes _____ No

If yes, on a separate attachment, state the following: (i) the name, address and telephone number of each person or entity making claim or demand; (ii) the date of each claim or demand; (iii) the circumstances giving rise to each such claim or demand; and (iv) the disposition of each such claim or demand.

2.3 Has a complaint ever been filed against your organization's California Contractors License with the California Contractors State License Board? _____ Yes _____ No

If yes, on a separate attachment, state the following for each complaint: (i) the name, address and telephone number of each person or entity making the complaint; (ii) the date of each complaint; (iii) the circumstances giving rise to each such complaint; and (iv) the disposition of each such complaint, including without limitation, any disciplinary or other action imposed or taken by the California Contractors State License Board as a result of any such complaint.

3. Experience

3.1 Categories of work (other than management/supervision) your organization typically performs with your own forces _____

3.2 On a separate attachment, list similar sized construction project completed by your organization in the past two (2) years and for each project identified, state: (i) a general description of the work performed by your organization on the project; (ii) the dollar value of the work performed or to be performed by your organization; (iii) the project owner's name, name of the project owner's representative and the address and telephone number of the owner and the project owner's representative; and (iv) the project architect's name, address, telephone number and contact person.

3.3 On a separate attachment, list all construction project your organization has in progress and for each project listed, state: (i) a general description of the work performed by your organization on the project; (ii) the dollar value of the work performed or to be performed by your organization; (iii) the project owner's name, name of the project owner's representative and the address and telephone number of the project owner and the project owner's representative; (iv) the project architect's name, address, telephone number and contact person; (v) percent presently complete; and (vi) the

current scheduled completion date.

- 3.4 *On a separate attachment, provide experience completing at least one (1) California community college campus construction project of similar size, scope and complexity to this project in the past (5) years. As part of their bid submission, bidders must provide details on their community college campus experience including community college name, project name, location, contract value, and description of work performed.*

4. Performance History

- 4.1 Claims and lawsuits (if you answer yes to any of the following, you must attach details).

4.1.1 Have any lawsuits or other administrative, legal, arbitration or other proceedings, ever been brought or commenced against your organization or any of its principals, officers or equity owners in connection with any construction contract or construction project? ☐ Yes ☐ No
If so, describe the circumstances, the amount demanded or other relief demand and the disposition of each such lawsuit or other proceeding.

4.1.2 Has your organization ever filed a lawsuit or commenced other administrative, legal or other proceedings in connection with any construction contract or construction project? ☐ Yes ☐ No
If so, describe the circumstances, the amount demanded or other relief demand and the disposition of each such lawsuit or other proceeding.

4.1.3 Are there any judgements, orders, decrees or arbitration awards pending, outstanding against your organization or any of the officers, directors, employees or principals of your organization? ☐ Yes ☐ No
If so, describe each such judgement, order, decree or arbitration award and the present status of the satisfaction or discharge thereof.

- 4.2 Has your organization ever refused to sign a construction contract awarded to it?
☐ Yes ☐ No
If so, on a separate attachment, state the following: (i) describe each such contract; (ii) the owner's name, address, telephone number and contact person; and (iii) the circumstances of your refusal to sign such contract.

- 4.3 Has your organization ever failed to complete a construction contract? ☐ Yes ☐ No
If so, on a separate attachment, state the following: (i) describe each such contract; (ii) the owner's name, address, telephone number and contact person; and (iii) the circumstances of your failure to complete such contract.

- 4.4 Has your organization ever been declared in default of a construction contract?
☐ Yes ☐ No
If so, on a separate attachment, state the following: (i) describe each such contract; (ii) the owner's name, address, telephone number and contact person; and (iii) the circumstances of each such declaration of default.

- 4.5 Has any construction contract to which your organization is a party been terminated for the convenience of the project owner? ☐ Yes ☐ No
If so, identify the project and project owner along with a description of the

circumstances under which the convenience termination occurred.

- 4.6 Has a claim or other demand ever been asserted against any Bid Bond, Performance Bond, or Payment Bond posted by your organization in connection with any construction contract or your submittal of a bid proposal for a construction contract?

☐ Yes ☐ No

If so, on a separate attachment, state the following: (i) the name, address, telephone number and contact person for each claimant; (ii) the date upon which each such demand or claim was made; and (iii) the disposition of each such demand or claim.

- 4.7 Has your organization or any predecessor to your organization been charged with a violation of the California False Claims Act or similar federal statute within the past ten (10) years?

☐ Yes ☐ No

If yes, on a separate attachment, provide the following: (i) a detailed description of the circumstances upon which charges were based; (ii) the public agency involved, including name, address, telephone and email address of contact person(s) at such public agency; and (iii) disposition of such charges.

- 4.8 Has any individual or entity who owns ten percent (10%) or more of the equity interest of your organization been an equity owner of ten percent (10%) or more of the equity interest of any other entity or organization, within the past ten (10) years, which has been charged with a violation of the California False Claims Act or similar federal statute within the past ten (10) years?

☐ Yes ☐ No

If yes, on a separate attachment, provide the following: (i) the name(s) of each such other entity or organization; (ii) a detailed description of the circumstances upon which charges were based; (iii) the public agency involved, including name, address, telephone and email address of contact person(s) at such public agency; and (iv) disposition of such charges.

- 4.9 Has any individual or entity who owns ten percent (10%) or more of the equity interest of your organization been charged with a violation of the California False Claims Act or similar federal statute within the past ten (10) years?

☐ Yes ☐ No

If yes, on a separate attachment, provide the following: (i) the name of such individual(s) or entity(ies); (ii) a detailed description of the circumstances upon which charges were based; (iii) the public agency involved, including name, address, telephone and email address of contact person(s) at such public agency; and (iv) disposition of such charges.

5. References (Include name, contact person, current telephone, email address and address for each reference provided):

- 5.1 Trade References (three (3) minimum)

5.2 Bank References

5.3 Public Works Inspectors of Record (K-12 or community college project)

5.4 Owner references (three (3) minimum, California Community college districts and /or K-12 school districts.

6. Accuracy and Authority

The undersigned is duly authorized to execute this Statement of Bidders Qualifications under penalty of perjury on behalf of the Bidder. The undersigned warrants and represents that he/she has personal knowledge of each of the responses to this Statement of Bidder's Qualifications and/or that he/she has conducted all necessary and appropriate inquiries to determine the truth, completeness and accuracy of responses to this Statement of Bidder's Qualifications.

The undersigned declares and certifies that the responses to this Statement of Bidder's Qualifications are complete and accurate; there are no omissions of material fact or information that render any response to be false or misleading and there are no misstatements of fact in any of the responses.

Executed this ____ day of _____ 2024 at _____
(City and State)

I declare under penalty of perjury under California law that the foregoing is true and correct.

(Signature)

(Typed or written name)

BID BOND

KNOW ALL MEN BY THESE PRESENTS that we, _____, as Surety and _____, as Principal, are jointly and severally, along with their respective heirs, executors, administrators, successors and assigns, held and firmly bound unto **CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT**, hereinafter "the Obligee," for payment of the penal sum hereof in lawful money of the United States, as more particularly set forth herein.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Principal has submitted the accompanying Bid Proposal to the Obligee for the Work commonly described as the **BID NO.: B23/24-10 CULTURAL COMMUNITY CENTER AT LAS POSITAS COLLEGE**

WHEREAS, subject to the terms of this Bond, the Surety is firmly bound unto the Obligee in the penal sum of **ten percent (10%)** of the maximum amount of the Bid Proposal submitted by the Principal to the Obligee, as set forth above.

NOW THEREFORE, if the Principal shall not withdraw said Bid Proposal within the period specified therein after the opening of the same, or, if no period be specified, for sixty (60) days after opening of said Bid Proposal; and if the Principal is awarded the Contract, and shall within the period specified therefor, or if no period be specified, within five (5) days after the prescribed forms are presented to him for signature, enter into a written contract with the Obligee, in accordance with the Bid Proposal as accepted and give such bond(s) with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such Contract and for the payment for labor and materials used for the performance of the Contract, or in the event of the withdrawal of said Bid Proposal within the period specified for the holding open of the Bid Proposal or the failure of the Principal to enter into such Contract and give such bonds within the time specified, if the Principal shall pay the Obligee the difference between the amount specified in said Bid Proposal and the amount for which the Obligee may procure the required Work and/or supplies, if the latter amount be in excess of the former, together with all costs incurred by the Obligee in again calling for Bids, then the above obligation shall be void and of no effect, otherwise to remain in full force and effect.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or the Call for Bids, the Work to be performed thereunder, the Drawings or the Specifications accompanying the same, or any other portion of the Contract Documents shall in no way affect its obligations under this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of said Contract, the Call for Bids, the Work, the Drawings or the Specifications, or any other portion of the Contract Documents.

In the event suit or other proceeding is brought upon this Bond by the Obligee, the Surety shall pay to the Obligee all costs, expenses and fees incurred by the Obligee in connection therewith, including without limitation, attorney's fees.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument this _____ day of _____, 2024 by their duly authorized agents or representatives.

(Principal's Corporate Seal)

(Principal Name)

By: _____

(Typed or Printed Name)

Title: _____

(Surety's Corporate Seal)

(Surety Name)

By: _____

(Signature of Surety)

(Attach Attorney-in-Fact Certificate)

(Typed or Printed Name)

() _____
(Area Code and Telephone Number of Attorney-in-Fact for Surety)

Contact name, address, telephone number and email address for notices to the Surety

(Contact Name)

(Address)

(Telephone)

(Email address)

CERTIFICATION OF PRE-BID SITE VISIT

The Honorable Board of Trustees
Chabot-Las Positas Community College District
7600 Dublin Blvd., 3rd Floor
Dublin, California 94568

RE: **BID NO.: B23/24-10 CULTURAL COMMUNITY CENTER AT LAS POSITAS COLLEGE**

Ladies and Gentlemen:

In connection with submitting a Bid Proposal for the Work described as **BID NO.: B23/24-10 CULTURAL COMMUNITY CENTER AT LAS POSITAS COLLEGE** I visited the Site of the Work on Tuesday, August 6th, 2024 at 10:00am

on behalf of _____
Bidder Name

to inspect the Site of the proposed work, which will be turned over to the Bidder, if awarded the Contract, in its present condition, with a representative of the Chabot-Las Positas Community College, in order to acquaint the Bidder with the proposed Work so that the Bidder fully understands the facilities, difficulties, and restrictions attendant to execution and completion of the Work. I have also reviewed on behalf of the Bidder, the as-built drawings and/or previous Contract Documents, site conditions and Bid Documents with District representatives and/or Construction Manager for the Project.

I certify all conditions provided for my review and their effect on the Work as called for in the Contract Documents are included and accounted for in the Bid Proposal amounts submitted to the District.

I understand that a Bidder who fails to submit this Certification of Pre-Bid Site Visit, fully executed, with the Bidder's Bid Proposal form, will result in rejection of the Bid Proposal for non-responsiveness.

Name of Bidder

Authorized Signatory

Address

Phone Number

Date

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BID PROPOSAL

TO: **CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT**, a California Community College District, acting by and through its Board of Trustees ("the District").

FROM:

(Name of Bidder)
(Address)
(City, State, Zip Code)
(Telephone/Fax)
(E-Mail Address of Bidder's Representative(s))
(Name(s) of Bidder's Authorized Representative(s))

1. Bid Proposal

1.	Base Bid	\$
2.	Owner's Non-Specified Allowance	\$ 65,000
3.	Total Bid Amount (Sum of Lines 1 + 2)	\$

1.1 Bid Proposal Amount. The undersigned Bidder proposes and agrees to perform the Contract including, without limitation, providing and furnishing any and all of the labor, materials, tools, equipment and services necessary to complete in a workmanlike manner all of the Work and other obligations required by the Contract Documents for the sum of _____

Dollars (\$ _____) (Line **3** of Table above). The Bidder confirms that it has checked all of the above figures and understands that neither the District nor any of its agents, employees or representatives shall be responsible for any errors or omissions on the part of the undersigned Bidder in preparing and submitting this Bid Proposal. The Bidder confirms that the bid proposal includes the Owner's Non-Specified Allowance in the amount of Sixty Five Thousand Dollars and No Cents (\$65,000.00).

1.2 Owner's Non-Specified Allowance. Bidder shall include in Bid Proposal the stipulated sum of **Sixty Five Thousand Dollars and No Cents (\$65,000.00)** for non-specified work to be performed ONLY at the determination and direction of the District. Work performed at the determination and direction of the District under this Allowance shall be documented by Contractor and submitted to Construction Manager per the requirements

specified in Article 9 of the General Conditions. Contractor shall include a separate line item in Contractor's Schedule of Values as "Allowance" with the value of **Sixty Five Thousand Dollars and No Cents (\$65,000.00)**. At closeout of Contract, any funds remaining in the Allowance shall be credited to Owner through a Change Order.

- 1.3 Acknowledgment of Bid Addenda.** The Bidder confirms that this Bid Proposal incorporates and is inclusive of, all items or other matters contained in Bid Addenda issued by or on behalf of the District.

_____ **Addenda Nos.** _____ received, acknowledged
(initial) and incorporated into this Bid Proposal.

- 2. Documents Accompanying Bid.** The Bidder has submitted with this Bid Proposal the following: (a) Bid Security; (b) Subcontractors List; (c) Statement of Qualifications; (d) Certification of Pre-Bid Site Visit; (e) Non-Collusion Affidavit; and (f) Public Works Contractor Registration Certification Form. The Bidder acknowledges that if this Bid Proposal and the foregoing documents are not fully in compliance with applicable requirements set forth in the Call for Bids, the Instructions for Bidders and in each of the foregoing documents, the Bid Proposal may be rejected as non-responsive.
- 3. Award of Contract.** If the Bidder submitting this Bid Proposal is awarded the Contract, the undersigned will execute and deliver to the District the Contract in the form attached hereto within ten (10) days after notification of award of the Contract. Concurrently with delivery of the executed Agreement to the District, the Bidder awarded the Contract shall deliver to the District: (a) Certificates of Insurance evidencing all insurance coverages required under the Contract Documents; (b) the Performance Bond; (c) the Labor and Material Payment Bond; (d) the Certificate of Workers' Compensation Insurance; and (e) the Drug-Free Workplace Certificate. Failure of the Bidder awarded the Contract to strictly comply with the preceding may result in the District's rescission of the award of the Contract and/or forfeiture of the Bidder's Bid Security. In such event, the District may, in its sole and exclusive discretion elect to award the Contract to the responsible Bidder submitting the next lowest Bid Proposal, or to reject all Bid Proposals.
- 4. Contractor's License.** The undersigned Bidder is currently and duly licensed in accordance with the California Contractors License Law, California Business & Professions Code §§7000 et seq., under the following classification(s) _____ bearing License Number(s) _____, with expiration date(s) of _____. The Bidder certifies that: (a) it is duly licensed, in the necessary class(es), for performing the Work of the Contract Documents; (b) that such license shall be in full force and effect throughout the duration of the performance of the Work under the Contract Documents; and (c) that all Subcontractors providing or performing any portion of the Work shall be so properly licensed to perform or provide such portion of the Work.
- 5. Acknowledgment and Confirmation.** The undersigned Bidder acknowledges its receipt, review and understanding of the Drawings, the Specifications and other Contract Documents pertaining to the proposed Work. The undersigned Bidder certifies that the Contract Documents are, in its opinion, adequate, feasible and complete for providing, performing and constructing the Work in a sound and suitable manner for the use specified and intended by the Contract Documents. The undersigned Bidder certifies that it has, or has available, all necessary equipment, personnel, materials, facilities and technical and financial ability to complete the Work for the amount bid herein within the Contract Time and in accordance with the Contract Documents.

(Corporate Seal)

By: _____

(Signature)

(Typed or Printed Name)

Title: _____

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AGREEMENT

THIS AGREEMENT is made this ____ day of _____, 2024, in the City of Dublin, County of Alameda, State of California, by and between **CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT**, a California Community College District hereinafter "District" and _____ ("Contractor") doing business at _____.

WITNESSETH, that the District and the Contractor in consideration of the mutual covenants contained herein agree as follows:

The Work. Within the Contract Time and for the Contract Price, subject to adjustments thereto pursuant to the Contract Documents, the Contractor shall perform and provide all necessary labor, materials, tools, equipment, utilities, services and transportation to complete in a workmanlike manner all of the Work required in connection with the work of improvement commonly referred to as **BID NO.: B23/24-10 CULTURAL COMMUNITY CENTER AT LAS POSITAS COLLEGE**

1. Contractor shall complete all Work covered by the Contract Documents, including without limitation, the Drawings and Specifications prepared by Catalyst Consulting Group and other Contract Documents enumerated in Article 5 below, along with all modifications and addenda thereto issued in accordance with the Contract Documents.
2. **Contract Time.** The Work shall be commenced on the date stated in the District's Notice to Proceed; the Contractor shall achieve Substantial Completion of the Work within the Contract Time set forth in the Contract Documents.
3. **Contract Price.** The District shall pay the Contractor as full consideration for the Contractor's full, complete and faithful performance of the Contractor's obligations under the Contract Documents, subject to adjustments of the Contract Price in accordance with the Contract Documents, the Contract Price of _____ Dollars (\$_____), which includes the Owner's Non-Specified Allowance of \$65,000.00. The Contract Price is based upon the Contractor's Base Bid Proposal.

The District's payment of the Contract Price shall be in accordance with the Contract Documents.

4. **Liquidated Damages.** If the Contractor fails to achieve Substantial Completion of the Work within the Contract Time, including adjustments thereto authorized by the Contract Documents, the Contractor shall be subject to assessment of Liquidated Damages in accordance with the Contract Documents. Failure of the Contractor to complete Punchlist items noted upon Substantial Completion within the time established to complete the Punchlist items will result in the District's assessment of Liquidated Damages in accordance with the Contract Documents.
5. **The Contract Documents.** The documents forming a part of the Contract Documents consist of the following, all of which are component parts of the Contract Documents.

Notice to Approved Contractors For Bids
Instructions For Bidders
Bid Proposal
Subcontractors List
Non-Collusion Affidavit

Statement of Bidder's Qualifications
Bid Bond
Bid Addenda Nos. ____
Agreement
Performance Bond

Labor and Materials Payment Bond
 Drug-Free Workplace Certification
 Certificate of Workers Compensation Insurance
 General Conditions
 Special Conditions
 Change Order Form
 Asbestos and Other Hazardous Materials

Debris Recycling Statement
 Project Labor Agreement
 Certification of Pre-Bid Site Visit
 Public Works Contractor Registration Certification Form
 Guarantee
 Specifications
 Drawings

6. **Authority to Execute.** The individual(s) executing this Agreement on behalf of the Contractor is/are duly and fully authorized to execute this Agreement on behalf of Contractor and to bind the Contractor to each and every term, condition and covenant of the Contract Documents.

CONTRACTORS ARE REQUIRED BY LAW TO BE LICENSED AND REGULATED BY THE CONTRACTORS' STATE LICENSE BOARD. ANY QUESTIONS CONCERNING A CONTRACTOR MAY BE REFERRED TO THE REGISTRAR, CONTRACTORS' STATE LICENSE BOARD, P.O. BOX 2600, SACRAMENTO, CALIFORNIA 95826

IN WITNESS WHEREOF, this Agreement has been duly executed by the District and the Contractor as of the date set forth above.

"DISTRICT"
CHABOT-LAS POSITAS COMMUNITY
COLLEGE DISTRICT

"CONTRACTOR"
(CONTRACTOR NAME)

By: _____

 Date
 Mr. Jonah Nicholas
 Vice Chancellor, Business Services

By: _____

 Date
 Title:

(CORPORATE SEAL)

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS that we, _____,
as Principal, and _____ as Surety, are held and firmly bound unto
CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT hereinafter "the Obligee", in the penal
sum of _____ Dollars (\$_____) in lawful money of the United
States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors
and assigns, jointly and severally.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Obligee, by resolution of its Board of Trustees has awarded to the Principal a
Contract for the Work described as **BID NO.: B23/24-10 CULTURAL COMMUNITY CENTER AT LAS
POSITAS COLLEGE**.

WHEREAS, the Principal, has entered into an agreement with the Obligee for performance of
the Work; the Agreement and all other Contract Documents set forth therein are incorporated herein
and made a part hereof by this reference.

WHEREAS, by the terms of the Contract Documents, the Principal is required to furnish a bond
ensuring the Principal's prompt, full and faithful performance of the Work of the Contract Documents.

NOW THEREFORE, if the Principal shall promptly, fully and faithfully perform each and all of
the obligations and things to be done and performed by the Principal in strict accordance with the terms
of the Contract Documents as they may be modified or amended from time to time; and if the Principal
shall indemnify and save harmless the Obligee and all of its officers, agents and employees from any
and all losses, liability and damages, claims, judgments, liens, costs, and fees of every description,
which may be incurred by the Obligee by reason of the failure or default on the part of the Principal in
the performance of any or all of the terms or the obligations of the Contract Documents, including all
modifications, and amendments, thereto, and any warranties or guarantees required thereunder; then
this obligation shall be void; otherwise, it shall be, and remain, in full force and effect.

The Surety, for value received, hereby stipulates and agrees that no change, adjustment of the
Contract Time, adjustment of the Contract Price, alterations, deletions, additions, or any other
modifications to the terms of the Contract Documents, the Work to be performed thereunder, or to the
Specifications or the Drawings shall limit, restrict or otherwise impair Surety's obligations or Obligee's
rights hereunder; Surety hereby waives notice from the Obligee of any such changes, adjustments of
Contract Time, adjustments of Contract Price, alterations, deletions, additions or other modifications to
the Contract Documents, the Work to be performed under the Contract Documents, or the Drawings or
the Specifications.

In the event of the Obligee's termination of the Contract due to the Principal's breach or default
of the Contract Documents, within thirty (30) days after written notice from the Obligee to the Surety of
the Principal's breach or default of the Contract Documents and Obligee's termination of the Contract,
the Surety shall notify Obligee in writing of Surety's assumption of obligations hereunder by its election
to either remedy the default or breach of the Principal or to take charge of the Work of the Contract
Documents and complete the Work at its own expense ("the Notice of Election"); provided, however,
that the procedure by which the Surety undertakes to discharge its obligations under this Bond shall be
subject to the advance written approval of the Obligee, which approval shall not be unreasonably
withheld, limited or restricted. The insolvency of the Principal or the Principal's mere denial of a failure

of performance or default under the Contract Documents shall not by itself, without the Surety's prompt, diligent inquiry and investigation of such denial, be justification for Surety's failure to give the Notice of Election or for its failure to promptly remedy the failure of performance or default of the Principal or to complete the Work.

In the event the Surety shall fail to issue its Notice of Election to Obligor within the time provided for hereinabove, the Obligor may thereafter cause the cure or remedy of the Principal's failure of performance or default or to complete the Work. The Principal and the Surety shall be each jointly and severally liable to the Obligor for all damages and costs sustained by the Obligor as a result of the Principal's failure of performance under the Contract Documents or default in its performance of obligations thereunder, including without limitation the costs of cure or completion exceeding the then remaining balance of the Contract Price; provided that the Surety's liability hereunder for the costs of performance, damages and other costs sustained by the Obligor upon the Principal's failure of performance under or default under the Contract Documents shall be limited to the penal sum hereof, which shall be deemed to include the costs or value of any Changes to the Work which increases the Contract Price.

In the event suit or other proceeding is brought upon this Bond by the Obligor, the Surety shall pay to the Obligor all costs, expenses and fees incurred by the Obligor therewith, including without limitation, attorneys fees.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument this ____ day of _____, 2024 by their duly authorized agent or representative.

(Principal's Corporate Seal)

(Principal Name)

By: _____

(Typed or Printed Name)

Title: _____

(Surety's Corporate Seal)

(Surety Name)

By: _____

(Signature of Attorney-in-Fact for Surety)

(Attach Attorney-in-Fact Certificate)

(Typed or Printed Name)

() _____
(Area Code and Telephone Number of Attorney-in-Fact for Surety)

Contact name, address, telephone number and email address for notices to the Surety

(Contact Name)

(Address)

(Telephone)

(Email address)

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LABOR AND MATERIAL PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS that we, _____ as Principal, and _____ as Surety, are held and firmly bound unto **CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT** hereinafter "the Oblige", in the penal sum of _____ Dollars (\$_____) in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Oblige, by resolution of its Board of Trustees has awarded to the Principal a Contract for the Work described as **BID NO.: B23/24-10 CULTURAL COMMUNITY CENTER AT LAS POSITAS COLLEGE**

WHEREAS, the Principal, has entered into an Agreement with the Oblige for performance of the Work, the Agreement and all other Contract Documents set forth therein are incorporated herein by this reference and made a part hereof.

WHEREAS, by the terms of the Contract Documents, the Principal is required to furnish a bond for the prompt, full and faithful payment to any Claimant, as hereinafter defined, for all labor materials or services used, or reasonably required for use, in the performance of the Work.

NOW THEREFORE, if the Principal shall promptly, fully and faithfully make payment to any Claimant for all labor, materials or services used or reasonably required for use in the performance of the Work then this obligation shall be void; otherwise, it shall be, and remain, in full force and effect.

The term "Claimant" shall refer to any person, corporation, partnership, proprietorship or other entity including without limitation, all persons and entities described in California Civil Code §3181, providing or furnishing labor, materials or services used or reasonably required for use in the performance of the Work under the Contract Documents, without regard for whether such labor, materials or services were sold, leased or rented. This Bond shall inure to the benefit of all Claimants so as to give them, or their assigns and successors, a right of action upon this Bond.

In the event suit is brought on this Bond by any Claimant for amounts due such Claimant for labor, materials or services provided or furnished by such Claimant, the Surety shall pay for the same and reasonable attorneys fees pursuant to California Civil Code §3250.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, deletion, addition, or any other modification to the terms of the Contract Documents, the Work to be performed thereunder, the Specifications or the Drawings, or any other portion of the Contract Documents, shall in any way limit, restrict or otherwise affect its obligations under this Bond; the Surety hereby waives notice from the Oblige of any such change, extension of time, alteration, deletion, addition or other modification to the Contract Documents, the Work to be performed under the Contract Documents, the Drawings or the Specifications of any other portion of the Contract Documents.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument this _____ day of _____, 2024 by their duly authorized agent or representative.

(Principal's Corporate Seal)

(Principal Name)

By: _____
(Signature)

(Type or Print Name)

Title: _____

(Surety's Corporate Seal)

(Surety Name)

By: _____
(Signature of Attorney-in-Fact for Surety)

(Attach Attorney-in-Fact Certificate)

(Type or Print Name of Attorney-in-Fact)

() _____
(Area Code and Telephone Number of Attorney-in-Fact for Surety)

Contact name, address, telephone number and email address for notices to the Surety

(Contact Name)

(Address)

(Telephone)

(Email address)

CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

PROJECT: BID NO.: B23/24-10 CULTURAL COMMUNITY CENTER AT LAS POSITAS COLLEGE

I, _____ the _____ of
(Name) (Title)

_____, declare, state and certify that:
(Contractor Name)

1. I am aware that California Labor Code §3700(a) and (b) provides:

"Every employer except the state shall secure the payment of compensation in one or more of the following ways:

- (a) By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this state.
- (b) By securing from the Director of Industrial Relations a certificate of consent to self-insure either as an individual employer, or one employer in a group of employers, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his or her employees."

2. I am aware that the provisions of California Labor Code §3700 require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of this Contract.

(Contractor Name)

By: _____
(Signature)

(Typed or printed name)

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DRUG-FREE WORKPLACE CERTIFICATION**PROJECT: BID NO.: B23/24-10 CULTURAL COMMUNITY CENTER AT LAS POSITAS COLLEGE**

I, _____, am the _____ of
(Print Name) (Title)

_____. I declare, state and certify to all of the following:
(Contractor Name).

1. I am aware of the provisions and requirements of California Government Code §§8350 et seq., the Drug Free Workplace Act of 1990.
2. I am authorized to certify, and do certify, on behalf of Contractor that a drug free workplace will be provided by Contractor by doing all of the following:
 - A. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance is prohibited in Contractor's workplace and specifying actions which will be taken against employees for violation of the prohibition;
 - B. Establishing a drug-free awareness program to inform employees about all of the following:
 - i. The dangers of drug abuse in the workplace;
 - ii. Contractor's policy of maintaining a drug-free workplace;
 - iii. The availability of drug counseling, rehabilitation and employee-assistance programs; and
 - iv. The penalties that may be imposed upon employees for drug abuse violations;
 - C. Requiring that each employee engaged in the performance of the Contract be given a copy of the statement required by subdivision (A), above, and that as a condition of employment by Contractor in connection with the Work of the Contract, the employee agrees to abide by the terms of the statement.
 - D. Contractor agrees to fulfill and discharge all of Contractor's obligations under the terms and requirements of California Government Code §8355 by, inter alia, publishing a statement notifying employees concerning: (a) the prohibition of any controlled substance in the workplace, (b) establishing a drug-free awareness program, and (c) requiring that each employee engaged in the performance of the Work of the Contract be given a copy of the statement required by California Government Code §8355(a) and requiring that the employee agree to abide by the terms of that statement.
3. Contractor and I understand that if the District determines that Contractor has either: (a) made a false certification herein, or (b) violated this certification by failing to carry out and to implement the requirements of California Government Code §§8355, the Contract awarded herein is subject to termination, suspension of payments, or both. Contractor and I further understand that, should Contractor violate the terms of the Drug-Free Workplace Act of 1990, Contractor may be subject to debarment in accordance with the provisions of California Government Code §§8350, et seq.
4. Contractor and I acknowledge that Contractor and I are aware of the provisions of California Government Code §§8350, et seq. and hereby certify that Contractor and I will adhere to, fulfill, satisfy and discharge all provisions of and obligations under the Drug-Free Workplace Act of 1990.

I declare under penalty of perjury under the laws of the State of California that all of the foregoing is true and correct.

Executed at _____ this _____ day of _____, 2024
(City and State)

(Signature)

(Handwritten or Typed Name)

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GENERAL CONDITIONS

ARTICLE 1: DEFINITIONS; GENERAL

- 1.1 District.** The "District" refers to CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT and unless otherwise stated, includes the District's authorized representatives, including the Construction Manager, if a Construction Manager is designated, the District's Board of Trustees and the District's officers, employees, agents and representatives.
- 1.2 Contractor.** The Contractor is the person or entity identified as such in the Agreement; references to "Contractor" include the Contractor's authorized representative.
- 1.3 Architect.** The Architect is the person or entity identified as such in the Agreement; references to the "Architect" include the Architect's authorized representative.
- 1.4 The Work.** The "Work" is the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment or services provided or to be provided by the Contractor to fulfill the Contractor's obligations under the Contract Documents. The Work may constitute the whole or a part of the Project.
- 1.5 The Project.** The Project is the total construction of which the Work performed by the Contractor under the Contract Documents which may be the whole or a part of the Project and which may include construction by the District or by separate contractors.
- 1.6 Surety.** The Surety is the person or entity that executes, as surety, the Contractor's Labor and Material Payment Bond and/or Performance Bond.
- 1.7 Subcontractors; Sub-Subcontractors.** A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work. "Subcontractor" does not include a separate contractor to the District or subcontractors of any separate contractor. A Sub-Subcontractor is a person or entity of any tier, who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site.
- 1.8 Material Supplier.** A Material Supplier is any person or entity who only furnishes materials, equipment or supplies for the Work without fabricating, installing or consuming them in the Work.
- 1.9 Drawings and Specifications.** The Drawings are the graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing generally, the design, location and dimensions of the Work and may include without limitation, plans, elevations, sections, details, schedules or diagrams. The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, construction systems, standards, criteria and workmanship for the Work and related services. The Drawings and Specifications are intended to delineate and describe the Work and its component parts so as to permit skilled and competent contractors to bid upon the Work and prosecute the same to completion. Large scale Drawings shall take precedence over smaller scale Drawings as to shape and details of construction. Figured dimensions on Drawings shall govern, but Work which is not dimensioned shall be as directed or required by field conditions. Specifications shall govern as to materials, workmanship and installation procedures.

1.10 Special Conditions; Supplemental Conditions. If made a part of the Contract Documents, Special Conditions and Supplemental Conditions are special or supplemental provisions, not otherwise provided for in the Agreement or the General Conditions.

1.11 Contract Documents. The Contract Documents consist of the Agreement between the District and the Contractor, Conditions of the Contract (whether General, Special, Supplemental or otherwise), Drawings, Specifications, including addenda thereto issued prior to execution of the Agreement and any other documents listed in the Agreement. The Contract Documents shall include modifications issued after execution of the Agreement. The Contract Documents form the Contract for Construction.

1.12 Intent and Correlation of Contract Documents.

1.12.1 Work of the Contract Documents. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required to the extent consistent with the Contract Documents and reasonably inferable therefrom as being necessary to produce the intended results. Organization of the Specifications into divisions, sections or articles, and the arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade. Where any portion of the Contract Documents is silent and information appears elsewhere in the Contract Documents, such other portions of the Contract Documents shall control.

1.12.2 Technical Terms. Unless otherwise stated in the Contract Documents, words or terms which have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

1.12.3 Conflict in Contract Documents. Conflicts, inconsistencies or ambiguities in the Contract Documents shall be resolved by the Architect in accordance with Article 3.1.9 of the General Conditions; where conflicts or inconsistencies arise between the Drawings and the Specifications, in resolving such conflicts or inconsistencies, the Architect will be governed generally by the following standards: the Drawings are intended to describe matters relating to placement, type, quantity and the like; the Specifications are intended to describe matters relating to quality, materials, compositions, manufacturers and the like. If conflicts exist between portions of the Contract Documents regarding the quality of any item, product, equipment or materials, unless otherwise directed or authorized by the District, the Contractor shall provide the item, product, equipment or material of the highest or more stringent quality.

1.13 Shop Drawings; Samples; Product Data ("Submittals"). Shop Drawings are diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-Subcontractor, manufacturer, Material Supplier, or distributor to illustrate some portion of the Work. Samples are physical examples of materials, equipment or workmanship forming a part of, or to be incorporated into the Work. Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work. Shop Drawings, Samples and Product Data prepared or furnished by the

Contractor or any of its Subcontractors or Material Suppliers are collectively referred to as "Submittals".

- 1.14 Division of State Architect ("DSA").** The DSA is the California Division of the State Architect including without limitation the DSA's Office of Construction Services, Office of Design Services and the Office of Regulatory Services; references to the DSA in the Contract Documents shall mean the DSA, its offices and its authorized employees and agents. The authority of the DSA over the Work and the performance thereof shall be as set forth in the Contract Documents and Title 24 of the California Code of Regulations.
- 1.15 Project Inspector.** The Project Inspector is the individual designated and employed by the District in accordance with the requirements of Title 24 of the California Code of Regulations. The Project Inspector shall be authorized to act on behalf of the District as provided for in the Contract Documents and in Title 24 of the California Code of Regulations, as the same may be amended from time to time.
- 1.16 Contract Document Terms.** The term "provide" means "provide complete in place" or to "furnish and install" such item. Unless otherwise provided in the Contract Documents, the terms "approved;" "directed;" "satisfactory;" "accepted;" "acceptable;" "proper;" "required;" "necessary" and "equal" shall mean as approved, directed, satisfactory, accepted, acceptable, proper, required, necessary and equal, in the opinion of the Architect. The term "typical" as used in the Drawings shall require the installation or furnishing of such item(s) of the Work designated as "typical" in all other areas similarly marked as "typical"; Work in such other areas shall conform to that shown as "typical" or as reasonably inferable therefrom.
- 1.17 Contractor's Superintendent.** The Contractor's Superintendent is the individual employed by the Contractor whose principal responsibility shall be the supervision and coordination of the Work; the Contractor's Superintendent shall not perform routine construction labor.
- 1.18 Record Drawings.** The Record Drawings are a set of the Drawings marked by the Contractor during the performance of the Work to indicate completely and accurately the actual as-built condition of the Work. The Record Drawings shall be sufficient for a capable and qualified drafter to modify the Drawings to reflect and indicate the Work actually in place at Final Completion of the Work.
- 1.19 Construction Manager.** The Construction Manager is an independent contractor retained by the District and is authorized and empowered to act on behalf of the District as set forth in the Contract Documents. The District reserves the right to remove or replace the Construction Manager prior to completion of the Work without adjustment of the Contract Price or the Contract Time or otherwise affect, limit or restrict Contractor's obligations hereunder.
- 1.20 Construction Equipment.** "Construction Equipment" is equipment utilized for the performance of any portion of the Work, but which is not incorporated into the Work.
- 1.21 Site.** The Site is the physical area designated in the Contract Documents for Contractor's performance, construction and installation of the Work.
- 1.22 Field Clarifications.** A written or graphic document consisting of supplementary details, instructions or information issued on behalf of the District which clarifies or supplements the Contract Documents and which becomes a part of the Contract Documents upon issuance. Field Clarifications do not constitute an adjustment of the Contract Time or the Contract Price,

unless a Change Order relating to a Field Clarification is authorized and issued under the Contract Documents.

- 1.23 Defective or Non-Conforming Work.** Defective or non-conforming Work is any Work which is unsatisfactory, faulty or deficient by: (a) not conforming to the requirements of the Contract Documents; (b) not conforming to the standards of workmanship of the applicable trade or industry; (c) not being in compliance with the requirements of any inspection, reference, standard, test, or approval required by the Contract Documents; or (d) damage occurring prior to Final Completion of all of the Work.
- 1.24 Delivery.** The term “delivery” used in conjunction with any equipment, materials or other items to be incorporated into the Work shall mean the unloading and storage in a protected condition pending incorporation into the Work.
- 1.25 Notice to Proceed.** The Notice to Proceed is the written notice issued by or on behalf of the District to the Contractor authorizing the Contractor to proceed with commencement of the Work and which establishes the date for commencement of the Contract Time.
- 1.26 Progress Reports; Verified Reports.** Progress Reports, if required, are written reports prepared by the Contractor and periodically submitted to the District in the form and content as required by the Contract Documents. Verified Reports are periodic written reports prepared by the Contractor and submitted to the DSA; Verified Reports shall be in such form and content as required by the applicable provisions of Title 24 of the California Code of Regulations. A material obligation of the Contractor is the preparation of complete and accurate Progress Reports, if required, and Verified Reports as well as the timely submission of the same.

ARTICLE 2: DISTRICT

2.1 Information Required of District.

- 2.1.1 Surveys; Site Information.** Information, if any, concerning physical characteristics of the Site, including without limitation, surveys, soils reports, and utility locations, to be provided by the District are set forth in the Contract Documents. Information not provided by the District or necessary information in addition to that provided by the District concerning physical characteristics of the Site which is required shall be obtained by Contractor without adjustment to the Contract Price or the Contract Time.
- 2.1.2 Permits; Fees.** Except as otherwise provided in the Contract Documents, the District shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities which relate to the Work of the Contractor under the Contract Documents. If permits and fees are designated as the responsibility of the Contractor under the Contract Documents, the Contractor shall be solely responsible for obtaining the same; the cost of such permits or fees and any costs incurred by the Contractor in obtaining such permits shall be included within the Contract Price.
- 2.1.3 Drawings and Specifications.** Except as otherwise provided for in the Contract Documents, the District shall furnish the Contractor, free of charge, the number of copies of the Drawings and the Specifications as set forth in the Special Conditions. All of the Drawings and the Specifications provided by the District to the Contractor remain the property of the District; the Contractor shall not use the Drawings or the Specifications in

connection with any other work of improvement other than the Work of the Project.

2.1.4 Furnishing of Information. Information or services to be provided by the District under the Contract Documents shall be furnished by the District with reasonable promptness to avoid delay in the orderly progress of the Work. Information about existing conditions furnished by the District under the Contract Documents is obtained from sources believed to be reliable, but the District neither guarantees nor warrants that such information is complete and accurate. The Contractor shall verify all information provided by the District. To the extent that the Contract Documents depict existing conditions on or about the Site, or the Work involves the renovation, removal or remodeling of existing improvements or the Work involves any tie-in or other connection with any existing improvements, the conditions and/or existing improvements depicted in the Contract Documents are as they are believed to exist. Contractor shall bear the risk of any variations between conditions or existing improvements depicted in the Contract Documents and those conditions or existing improvements actually encountered in the performance of the Work. Subject to the provisions of Article 4.2.3, the existence of any variations between conditions or existing improvements depicted in the Contract Documents and those actually encountered in the performance of the Work shall not result in any District liability therefor, nor shall any such variations result in an adjustment of the Contract Time or the Contract Price.

2.2 District's Right to Stop the Work. In addition to the District's right to suspend the Work or terminate the Contract pursuant to the Contract Documents, the District, may, by written order, direct the Contractor to stop the Work, or any portion thereof, until the cause for such stop work order has been eliminated if the Contractor. If the Contractor fails within seven (7) days to correct Work which is not in conformity and in accordance with the requirements of the Contract Documents, or (ii) otherwise fails to carry out the Work in conformity and accordance with the Contract Documents, the District reserves the right to remedy such action. The right of the District to stop the Work hereunder shall not be deemed a duty on the part of the District to exercise such right for the benefit of the Contractor or any other person or entity, nor shall the District's exercise of such right waive or limit the exercise of any other right or remedy of the District under the Contract Documents or at law.

2.3 Partial Occupancy or Use.

2.3.1 District's Right to Partial Occupancy. The District may occupy or use any completed or partially completed portion of the Work, provided that: (i) the District has obtained the consent of, or is otherwise authorized by, public authorities with jurisdiction thereof, to so occupy or use such portion of the Work and (ii) the District and the Contractor have accepted, in writing, the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, utilities, damage to the Work, insurance and the period for correction of the Work and commencement of warranties required by the Contract Documents for such portion of the Work partially used or occupied by the District. If the Contractor and the District are unable to agree upon the matters set forth in (ii) above, the District may nevertheless use or occupy any portion of the Work, with the responsibility for such matters subject to resolution in accordance with the Contract Documents. Immediately prior to such partial occupancy or use of the Work, or portions thereof, the District, the Project Inspector, the Contractor and the Architect shall jointly inspect the portions of the Work to be occupied or to be used to determine and record the condition of the Work. Repairs, replacements or other corrective action noted in such inspection shall be promptly performed and completed by the Contractor so that the portion of the Work to

be occupied or used by the District is in conformity with the requirements of the Contract Documents and the District's occupancy or use thereof is not impaired. The District's use or occupancy of the Work or portions thereof pursuant to the preceding shall not be deemed "completion" of the Work as that term is used in Public Contract Code §7107.

2.3.2 No Acceptance of Defective or Nonconforming Work. Unless otherwise expressly agreed upon by the District and the Contractor, the District's partial occupancy or use of the Work or any portion thereof, shall not constitute the District's acceptance of the Work not complying with the requirements of the Contract Documents or which is otherwise defective.

2.4 The Project Inspector. In addition to the authority and rights of the Project Inspector as provided for elsewhere in the Contract Documents, all of the Work shall be performed under the observation of the Project Inspector. The performance of the duties of the Project Inspector under the Contract Documents shall not relieve or limit the Contractor's performance of its obligations under the Contract Documents.

2.4.1 Access to Work. The Contractor shall provide the Project Inspector with access to all parts of the Work at any time, wherever located and whether partially or completely fabricated, manufactured, furnished or installed. The Project Inspector shall have the authority to stop Work if the Work is not in conformity with the Contract Documents.

2.4.2 Limitations on Project Inspector. The Project Inspector does not have authority to interpret the Contract Documents or to modify the Work depicted in the Contract Documents. No Work inconsistent with the Contract Documents shall be performed solely on the basis of the direction of the Project Inspector, and the Contractor shall be liable to the District for the consequences of all Work performed on such basis.

ARTICLE 3: ARCHITECT; CONSTRUCTION MANAGER

3.1 Administration of the Contract.

3.1.1 Role of the Architect and Construction Manager. The Architect and the Construction Manager will provide administration of the Contract as described in the Contract Documents, and will be the District's representatives during construction until the time that Final Payment is due the Contractor under the Contract Documents. The Architect and Construction Manager will advise and consult with the District and the Project Inspector with respect to the administration of the Contract and the Work. The Architect is authorized to act on behalf of the District to the extent provided for in the Contract Documents; and shall have the responsibilities and powers established by law, including Title 24 of the California Code of Regulations. The Architect and Construction Manager are authorized to stop the Work whenever deemed necessary in the sole discretion of the Architect or the Construction Manager to insure that the Work is completed in accordance with the Contract Documents.

3.1.2 Architect's Periodic Site Visits. The Architect will visit the Site at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the completed Work and to determine, in general, if the Work is being performed in a manner indicating that the Work, when completed, will be in accordance with the Contract Documents. The Architect will not be required to make exhaustive or continuous Site inspections to check quality or quantity of the Work. On the basis of Site observations as

an architect, the Architect will keep the District informed of the progress of the Work, and will endeavor to guard the District against defects and deficiencies in the Work.

3.1.3 Contractor Responsibility for Construction Means, Methods and Sequences.

Neither the Architect or the Construction Manager will have control over or charge of and be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, these being solely the Contractor's responsibility. Neither the Architect nor Construction Manager will have control over or charge of and be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or of any other persons performing portions of the Work.

3.1.4 Review of Applications for Payment. In accordance with Article 8 hereof, the Architect and Construction Manager will review the Contractor's Applications for Progress Payments and for Final Payment, evaluate the extent of Work performed and the amount properly due the Contractor on such Application for Payment.

3.1.5 Rejection of Work. The Architect is authorized to reject Work which is defective or does not conform to the requirements of the Contract Documents. Whenever the Architect considers it necessary or advisable, for implementation of the intent of the Contract Documents, the Architect will have authority to require additional inspections or testing of the Work, whether or not such Work is fabricated, installed or completed. Neither this authority of the Architect nor a decision made in good faith by the Architect to exercise or not to exercise such authority shall give rise to a duty or responsibility to the Contractor, Subcontractors, Material Suppliers, their agents or employees, or other persons performing portions of the Work.

3.1.6 Submittals.

3.1.6.1 Processing of Submittals Through Construction Manager. Submittals required by the Contract Documents shall be prepared by or on behalf of the Contractor in accordance with the requirements of the Contract Documents. Submittals shall be transmitted by the Contractor to the Construction Manager for distribution by the Construction Manager to the Architect and the District. Upon completion of the Architect's review of a Submittal, the Construction Manager shall transmit the reviewed Submittal to the Contractor for the Contractor's distribution to its Subcontractor(s) and other affected parties.

3.1.6.2 Architect's Review. The Architect will review and approve or take other appropriate action upon the Contractor's Submittals, but only for the limited purpose of checking for general conformance with information given and the design concept expressed in the Contract Documents. Review of Submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's Submittals shall not relieve the Contractor of its obligations under the Contract Documents. The Architect's review of Submittals shall not constitute approval of safety measures, programs or precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item in a Submittal

shall not indicate approval of an assembly of which the item is a component with the Submittal(s) required and relating to such assembly have been reviewed by the Architect.

3.1.6.3 Time for Architect's Review. The Architect's review of Submittals will be conducted promptly so as not to delay or hinder the progress of the Work or the activities of the Contractor, the District or the District's separate contractors while allowing sufficient time, in the Architect's reasonable professional judgment, to permit adequate review of Submittals. The foregoing notwithstanding, the Architect's review and return of Submittals will conform with the time limits and other conditions, if any, set forth in the Specifications or the Submittal Schedule if the Submittal Schedule is required by other provisions of the Contract Documents.

3.1.7 Changes to the Works. The Architect and Construction Manager will prepare Change Orders, and with the written approval of the District, may authorize minor Changes in the Work which do not result in adjustment of the Contract Time or the Contract Price.

3.1.8 Completion. The Architect will conduct observations to determine the date(s) of Substantial Completion and the date of Final Completion. The Construction Manager will assess and review, written warranties and related documents required by the Contract Documents and assembled by the Contractor, and will verify that the Contractor has complied with all requirements of the Contract Documents and forward to the District, recommendations to the District, the Contractor is entitled to receipt of Final Payment.

3.1.9 Interpretation of Contract Documents; Architect as Initial Arbiter of Disputes. The Architect will interpret and decide matters concerning the requirements of the Contract Documents on written request of either the District or the Contractor. The Architect's response to such requests will be made with reasonable promptness and within the time limits agreed upon, if any. If no agreement is reached establishing the time for the Architect's review and response to requests under this Article 3.1.9, the Architect shall be afforded a fifteen (15) day period after receipt of such request to review and respond thereto. Interpretations and decisions of the Architect will be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both the District and the Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions so rendered in good faith. The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents. If there is any disagreement, dispute or other matter in controversy between the District and the Contractor, in addition to other requirements established by the Contract Documents or by law, the submission of the same to the Architect for its decision shall be a condition precedent to initiation of dispute resolution procedures.

3.1.10 Request for Information. If the Contractor encounters any condition which the Contractor believes, in good faith and with reasonable basis, is the result of an ambiguity, conflict, error or omission in the Contract Documents (collectively "the Conditions"), it shall be affirmative obligation of the Contractor to timely notify the Architect, in writing, of the Conditions encountered and to request information from the Architect necessary to address and resolve any such Conditions before proceeding with any portion of the Work affected or which may be affected by such Conditions. If the Contractor fails to timely notify the Architect in writing of any Conditions encountered and the Contractor proceeds to

perform any portion of the Work containing or affected by such Conditions the Contractor shall bear all costs associated with or required to correct, remove, or otherwise remedy any portion of the Work affected thereby without adjustment of the Contract Time or the Contract Price. In requesting information of the Architect to address and resolve any Conditions the Contractor shall act with promptness in submitting any such written request so as to allow the Architect a reasonable period of time to review, evaluate and respond to any such request, taking into account the then current status of the progress and completion of the Work and the actual or potential impact of any such Conditions upon the completion of the Work within the Contract Time. The Contract Time shall not be subject to adjustment in the event that the Contractor shall fail to timely request information from the Architect. The Architect's responses to any such Contractor request for information shall conform to the standards and time frame set forth in Article 3.1.9 of these General Conditions. The foregoing provisions notwithstanding, in the event that the Architect reasonably determines that any of Contractor's request(s) for information: (i) does not reflect adequate or competent supervision or coordination by the Contractor or any Subcontractor; or (ii) does not reflect the Contractor's adequate or competent knowledge of the requirements of the Work or the Contract Documents; or (iii) is not justified for any other reason, Contractor shall be liable to the District for all costs incurred by the District associated with the processing, reviewing, evaluating and responding to any such request for information, including without limitation, fees of the Architect and any other design consultant to the Architect or the District. In responding to any of Contractor's request(s) for information, the Architect shall, in the response, indicate if the Architect has made the determination pursuant to the preceding sentence and, if so, the amount of costs to be borne by the Contractor for the processing, review, evaluation and response to the request for information. Thereafter, the District is authorized to deduct such amount from any portion of the Contract Price then or thereafter due the Contractor.

3.1.11 Detail Drawings and Instructions.

3.1.11.1 Architect's Additional Details. In case of ambiguity, conflict, or lack of information, Architect shall furnish additional instructions by means of drawings or otherwise, necessary for proper execution of the Work. All such drawings and instructions shall be consistent with Contract Documents, true developments thereof, and reasonably inferable therefrom. Such additional instructions shall be furnished with reasonable promptness, but not more than fourteen (14) days, provided that Contractor informs Architect and District in writing of the relationship of the requested critical path of the Construction Schedule. Architect will furnish necessary additional details to more fully explain the Work, which details shall be deemed part of the Contract Documents.

3.1.11.2 Contractor Notice of Impacts. If the Contractor believes that detail drawings issued by the Architect reflects a change to the scope of work or additional work beyond that reflected in the Contract Documents or reasonably referable therefrom, the Contractor shall give written notice thereof to the Architect and Construction Manager for the District within five (5) days of the receipt of same. If the Contractor does not give the Architect and District such written notice within five (5) days, the details shall be deemed to be reasonable development of the Work depicted in the Contract Documents without adjustment of the Contract Time or the Contract Price. If notice is given by the Contractor, the Contractor shall set forth in detail the extent of Contract Price or Contract Time adjustments resulting from such details along with the basis upon which the requested Contract Time/Contract Price adjustment is

computed. The Architect/Construction Manager will review any such notice and request for adjustment of the Contract Time/Contract Price and render the Architect's decision in accordance with the Contract Documents.

3.2 Communications; Role of Construction Manager (CM) and Architect. All communications regarding the Work, the performance thereof or the Contract Documents shall be in writing; verbal communications shall be reduced to writing. Communications between the Contractor and the District or the Architect shall be through the Construction Manager. Communications between separate contractors, if any, shall be through the Construction Manager. All written communications between the Contractor and any Subcontractor, Material Supplier or others directly or indirectly engaged by the Contractor to perform or provide any portion of the Work shall be available to the District, the Construction Manager and the Architect for review, inspection and reproduction as may be requested from time to time. Failure or refusal of the Contractor to permit the District, the Construction Manager or Architect to review, inspect or reproduce such written communications may be deemed a default of Contractor hereunder.

3.3 Termination of Architect or Construction Manager; Substitute Architect or Construction Manager. In case of termination of employment of the Architect or the Construction Manager, the District shall appoint a substitute architect or substitute construction manager whose status under the Contract Documents shall be that of the Architect or the Construction Manager, as applicable.

ARTICLE 4: THE CONTRACTOR

4.1 Contractor Review of Contract Documents.

4.1.1 Examination of Contract Documents. The Contractor shall carefully study and compare the Contract Documents with each other and with information furnished by the District pursuant to the Contract Documents and shall at once report to the Architect any errors, inconsistencies or omissions discovered. If the Contractor performs any Work knowing, or with reasonable diligence should have known that, it involves an error, inconsistency or omission in the Contract Documents without prior notice to the Architect of the same, the Contractor shall assume full responsibility for such performance and shall bear all attributable costs for correction of the same.

4.1.2 Field Measurements. Prior to commencement of the Work, or portions thereof, the Contractor shall take field measurements and verify field conditions at the Site and shall carefully compare such field measurements and conditions and other information known to the Contractor with information provided in the Contract Documents. Errors, inconsistencies or omissions discovered shall be reported to the Architect at once.

4.1.3 Dimensions; Layouts and Field Engineering. Unless otherwise expressly provided, dimensions indicated in the Drawings are intended for reference only. The Drawings are intended to be diagrammatic and schematic in nature; the Contractor shall be solely responsible for coordinating the Work of the Contract Documents. All field engineering required for laying out the Work and establishing grades for earthwork operations shall be by the Contractor at its expense. Any field engineering or other engineering to be provided or performed by the Contractor under the Contract Documents and required or necessary for the proper execution or installation of the Work shall be provided and performed by the an engineer duly registered under the laws of the State of California in the engineering

discipline for such portion of the Work. Upon commencement of any item of the Work, the Contractor is responsible for dimensions of such item of Work and related Work; without adjustment of the Contract Time or Contract Price, the Contractor is responsible for making component parts of the Work fit together properly.

- 4.1.4 Work in Accordance With Contract Documents.** The Contractor shall perform all of the Work in strict conformity with the Contract Documents and approved Submittals.

4.2 Site Investigation; Subsurface Conditions.

- 4.2.1 Contractor Investigation.** The Contractor shall be responsible for, and by executing the Agreement acknowledges, that it has carefully examined the Site and has taken all steps it deems reasonably necessary to ascertain all conditions which may effect the Work, or the cost thereof, including, without limitation, conditions bearing upon transportation, disposal, handling or storage of materials; availability of labor and materials; access to the Site; and the physical conditions and the character of equipment, materials, labor and services necessary to perform the Work. Any failure of the Contractor to do so will not relieve it from the responsibility for fully and completely performing all Work without adjustment to the Contract Price or the Contract Time. The District assumes no responsibility to the Contractor for any understandings or representations concerning conditions or characteristics of the Site, or the Work, made by any of its officers, employees or agents prior to the execution of the Agreement, unless such understandings or representations are expressly set forth in the Agreement.

- 4.2.2 Subsurface Data.** By executing the Agreement, the Contractor acknowledges that it has examined the boring data and other subsurface data available and satisfied itself as to the character, quality and quantity of surface and subsurface materials, including without limitation, obstacles which may be encountered in performance of the Work, insofar as this information is reasonably ascertainable from an inspection of the Site, review of available subsurface data and analysis of information furnished by the District under the Contract Documents. Subsurface data or other soils investigation report provided by the District hereunder are not a part of the Contract Documents. Information contained in such data or report regarding subsurface conditions, elevations of existing grades, or below grade elevations are approximate only and is neither guaranteed or warranted by the District to be complete and accurate. The Contractor shall examine all boring and other subsurface data to make its own independent interpretation of the subsurface conditions and acknowledges that its bid is based upon its own opinion of the conditions which may be encountered.

- 4.2.3 Subsurface Conditions.** If the Work under the Contract Documents involves digging trenches or other excavations that extend deeper than four feet below the surface, the Contractor shall promptly and before the following conditions are disturbed, notify the Project Inspector, in writing, of any: (i) material that the Contractor believes may be material that is hazardous waste, as defined in California Health and Safety Code §25117, that is required to be removed to a Class I or Class II or Class III disposal site in accordance with provisions of existing law; (ii) subsurface or latent physical conditions at the site differing from those indicated; or (iii) unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in the Work or the character provided for in the Contract Documents. If upon notice to the District of the conditions described above and upon the District's investigation thereof, the District determines that the conditions so materially differ or involve such hazardous

materials which require an adjustment to the Contract Price or the Contract Time, the District shall issue a Change Order in accordance with Article 9 hereof. In accordance with California Public Contract Code §7104, any dispute arising between the Contractor and the District as to any of the conditions listed in (i), (ii) or (iii) above, shall not excuse the Contractor from the completion of the Work within the Contract Time and the Contractor shall proceed with all Work to be performed under the Contract Documents. The District reserves the right to terminate the Contract pursuant to Article 15.2 hereof should the District determine not to proceed because of any condition described in (i), (ii) or (iii) above.

4.3 Supervision and Construction Procedures.

4.3.1 Supervision of the Work. The Contractor shall supervise and direct performance of the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract Documents, unless Contract Documents give other specific instructions concerning these matters. The Contractor shall be responsible for inspection of completed or partially completed portions of Work to determine that such portions are in proper condition to receive subsequent Work.

4.3.2 Responsibility for the Work. The Contractor shall be responsible to the District for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and all other persons performing any portion of the Work under a contract with the Contractor. The Contractor shall not be relieved of the obligation to perform the Work in accordance with the Contract Documents either by activities or duties of the Construction Manager, Project Inspector or the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Contractor.

4.3.3 Layouts. The Contractor is solely responsible for laying-out the Work so that construction of the Work conforms to the requirements of the Contract Documents and so that all component parts of the Work are coordinated. The Contractor shall be responsible for maintenance and preservation of benchmarks, reference points and stakes for the Work. The cost of maintenance and preservation of benchmarks, reference points and stakes shall be included within the Contract Price. The Contractor shall be solely responsible for all loss or costs resulting from the loss, destruction, disturbance or damage of benchmarks, reference points or stakes.

4.3.4 Construction Utilities. The District will furnish and pay the costs of utility services for the Work as set forth in the Special Conditions; all other utilities necessary to complete the Work and to completely perform all of the Contractors' obligations shall be obtained by the Contractor without adjustment of the Contract Price. The Contractor shall furnish and install necessary or appropriate temporary distributions of utilities, including utilities furnished by the District. Any such temporary distributions shall be removed by the Contractor upon completion of the Work. The costs of all such utility services, including the installation and removal of temporary distributions thereof, shall be borne by the Contractor and included in the Contract Price.

4.3.5 Existing Utilities; Removal, Relocation and Protection. In accordance with California Government Code §4215, the District shall assume the responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities located

on the Site which are not identified in the Drawings, Specifications or other Contract Documents. Contractor shall be compensated for the costs of locating, repairing damage not due to the Contractor's failure to exercise reasonable care, and removing or relocating such utility facilities not indicated in the Drawings, Specifications and other Contract Documents with reasonable accuracy and for equipment on the Site necessarily idled during such work. Contractor shall not be assessed Liquidated Damages for delay in completion of the Work when such delay is caused by the failure of the District or the District of the utility to provide for removal or relocation of such utility facilities. Nothing in this Article 4.3.5 shall be deemed to require the District to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the Site can be inferred from the presence of other visible facilities, such as buildings, meters and junction boxes, on or adjacent to the Site. If the Contractor encounters utility facilities not identified by the District in the Drawings, Specifications, or other Contract Documents, the Contractor shall immediately notify, in writing, the District, the Project Inspector, the Architect, the Construction Manager and the utility owner. In the event that such utility facilities are owned by a public utility, the public utility shall have the sole discretion to perform repairs or relocation work or permit the Contractor to do such repairs or relocation work at a reasonable price.

4.3.6 Conferences and Meetings. A material obligation of the Contractor under the Contract Documents is the attendance at required meetings by the Contractor's supervisory personnel for the Work and the Contractor's management personnel as required by the Contract Documents or as requested by the District. The Contractor's personnel participating in conferences and meetings relating to the Work shall be authorized to act on behalf of the Contractor and to bind the Contractor. The Contractor is solely responsible for arranging for the attendance by Subcontractors, Material Suppliers at meetings and conferences relating to the Work as necessary, appropriate or as requested by the District.

4.3.6.1 Pre-Construction Conference. The Contractor's representatives (and representatives of Subcontractors as requested by the District) shall attend a Pre-Construction Conference at such time and place as designated by the District. The Pre-Construction Conference will generally address the requirements of the Work and Contract Documents, and to establish construction procedures. Subject matters of the Pre-Construction Conference will include as appropriate: (a) administrative matters, including an overview of the respective responsibilities of the District, Architect, Construction Manager, Contractor, Subcontractor, Project Inspector and others performing any part of the Work or services relating to the Work; (b) Submittals; (c) Changes and Change Order processing; (d) employment practices, including Certified Payroll preparation and submission and prevailing wage rate responsibilities of the Contractor and Subcontractors; (e) Progress Schedule development and maintenance; (f) development of Schedule of Values and payment procedures; (g) communication procedures, including the handling of Requests for Information; (h) emergency and safety procedures; (i) Site visitor policies; (j) conduct of Contractor/Subcontractor personnel at the Site; and (k) punchlist/close-out procedures.

4.3.6.2 Progress Meetings. Progress meetings will be conducted on regular intervals (weekly unless otherwise expressly indicated elsewhere in the Contract Documents). The Contractor's representatives and representatives of Subcontractors (as requested by the District) shall attend Progress Meetings. Progress Meetings will be

chaired by the Construction Manager and will generally include as agenda items: Site safety, field issues, coordination of Work, construction progress and impacts to timely completion, if any. The purposes of the Progress Meetings include: a formal and regular forum for discussion of the status and progress of the Work by all Project participants, a review of progress or resolution of previously raised issues and action items assigned to the Project participants, and reviews of the Progress Schedule and Submittals.

4.3.6.3 Special Meetings. As deemed necessary or appropriate by the District, Special Meetings will be conducted with the participation of the Contractor, Subcontractors and other Project participants as requested by the District.

4.3.6.4 Minutes of Meetings. Following conclusion of the Pre-Construction Conference, Progress Meetings and Special Meetings, the Construction Manager or Architect will prepare and distribute minutes reflecting the items addressed and actions taken at a meeting or conference. Unless the Contractor notifies the Architect and the Construction Manager in writing of objections or corrections to minutes prepared hereunder within five (5) dates of the date of distribution of the minutes, the minutes as distributed shall constitute the official record of the meeting or conference. No objections or corrections of any Subcontractor or Material Supplier shall be submitted directly to the Architect or the Construction Manager; such objections or corrections shall be submitted to the Architect and the Construction Manager through the Contractor. If the Contractor timely interposes objections or notes corrections, the resolution of such matters shall be addressed at the next scheduled Progress Meeting.

4.3.7 Temporary Sanitary Facilities. At all times during Work at the Site, the Contractor shall obtain and maintain temporary sanitary facilities in conformity with applicable law, rule or regulation. The Contractor shall maintain temporary sanitary facilities in a neat and clean manner with sufficient toilet room supplies. Personnel engaged in the Work are not permitted to use toilet facilities at the Site.

4.3.8 Noise and Dust Control.

4.3.8.1 Noise Control. The Contractor shall install noise reducing devices on construction equipment. Contractor shall comply with the requirements of the city and county having jurisdiction with regard to noise ordinances governing construction sites and activities. Construction Equipment noise at the Site shall be limited and only as permitted by applicable law, rule or regulation. If classes are in session at any point during the progress of the Work, and, in the District's reasonable discretion, the noise from any Work disrupts or disturbs the students or faculty or the normal operation of the college, at the District's request, the Contractor shall schedule the performance of all such Work around normal college hours or make other arrangements so that the Work does not cause such disruption or disturbance. In no event shall such arrangements result in adjustment of the Contract Price or the Contract Time.

4.3.8.2 Dust Control. The Contractor shall be fully and solely responsible for maintaining and upkeeping all areas of the Site and adjoining areas, outdoors and indoors, free from flying debris, grinding powder, sawdust, dirt and dust as well as any other product, product waste or work waste, that by becoming airborne may cause

respiratory inconveniences to persons, particularly to students and District personnel. Additionally, the Contractor shall take specific care to avoid deposits of airborne dust or airborne elements. Such protection devices, systems or methods shall be in accordance with the regulations set forth by the EPA and OSHA, and other applicable law, rule or regulation. Additionally, the Contractor shall be the sole party responsible to regularly and routinely clean up and remove any and all deposits of dust and other elements. Damage and/or any liability derived from the Contractor's failure to comply with these requirements shall be exclusively at the cost of the Contractor, including, without limitation, any and all penalties that may be incurred for violations of applicable law, rule or regulation, and any amounts expended by the District to pay such damages shall be due and payable to the District on demand. Contractor shall replace any damages property or part thereof and professionally clean any and all items that become covered or partially covered to any degree by dust or other airborne elements. If classes are in session at any point during the progress of Work, and, in the District's reasonable discretion, flying debris, grinding powder, sawdust, dirt or dust from any Work disrupts or disturbs the students or faculty or the normal operation of the college, at the District's request, the Contractor shall schedule the performance of all such Work around normal college hours and make other arrangements so that the Work does not cause such disruption or disturbance. In no event shall such arrangements result in adjustment of the Contract Price or the Contract Time.

4.3.8.3 Contractor Failure to Comply. If the Contractor fails to comply with the requirements for dust control, noise control, or any other maintenance or clean up requirement of the Contract Documents, upon notice from the District, Architect, Project Inspector or Construction Manager to the Contractor, the Contractor shall take immediate action. Should the Contractor fail to respond with immediate and responsive action and not later than twenty-four (24) hours from such notification, the District shall have the absolute right to proceed as it may deem necessary to remedy such matter. Any and all costs incurred by the District in connection with such actions shall be the sole responsibility of, and be borne by, the Contractor; the District may deduct such amounts from the Contract Price then or thereafter due the Contractor.

4.3.9 Debris Recycling; Contractor Submittal of Debris Recycling Statement. The Contractor and all Subcontractors shall maintain current, complete and accurate records of debris and other waste (collectively "Waste Materials") resulting from performance of the Work. The Contractor shall compile the records of the Contractor and all Subcontractors on a monthly basis. Based on such compilation, the Contractor shall, each month during performance of the Work, complete the form of Debris Recycling Statement (Attachment C to the Special Conditions) for itself and all Subcontractors performing Work at the Site. The Debris Recycling Statement must be executed by the Contractor's Superintendent, Construction Manager or other authorized employee; the completed/executed form of Debris Recycling Statement shall be submitted by the Contractor to the District each month during the Work concurrently with the Contractor's submission of its Applications for Progress Payment. During the Contract term, monthly records for each calendar year shall be compiled by the Contractor's Superintendent and submitted to the College's Project Manager, no later than January 15th of the following year.

4.4 Labor and Materials.

4.4.1 Payment for Labor, Materials and Services. Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, Construction Equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated in the Work.

4.4.2 Employee Discipline. The Contractor shall enforce strict discipline and good order among the Contractor's employees, the employees of any Subcontractor or Sub-subcontractor, and all other persons performing any part of the Work at the Site. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them. The Contractor shall dismiss from its employ and direct any Subcontractor or Sub-subcontractor to dismiss from their employment any person deemed by the District to be unfit or incompetent to perform Work and thereafter, the Contractor shall not employ nor permit the employment of such person for performance of any part of the Work without the prior written consent of the District, which consent may be withheld in the reasonable discretion of the District.

4.4.3 Contractor's Superintendent. Contractor shall employ a competent Superintendent who is fluent in spoken and written English along with necessary assistants who shall be in attendance at the Site at all times during the performance of Work at the Site. Before commencing the Work, Contractor shall designate in writing the name, qualifications, experience and references from owners and architects on previous projects for Contractor's proposed Superintendent who, on approval of District, shall have full authority to represent and act for Contractor. All directions given to the Superintendent shall be as binding as if given to Contractor. A facsimile of the signatures of the authorized representatives of Contractor shall be submitted to Architect and District. The Contractor's communications relating to the Work or the Contract Documents shall be through the Contractor's Superintendent. The Superintendent shall represent the Contractor and communications given to the Superintendent shall be binding as if given to the Contractor. The Contractor shall dismiss the Superintendent or any of his/her assistants if they are deemed, in the sole reasonable judgment of the District, to be unfit, incompetent or incapable of performing the functions assigned to them. In such event, the District shall have the right to approve of the replacement superintendent or assistant. Unless expressly excused by the District, the Contractor's Superintendent shall attend all Project meetings as the Contractor's representative.

4.4.4 Prohibition on Harassment.

4.4.4.1 District's Policy Prohibiting Harassment. The District is committed to providing a campus and workplace free of sexual harassment and harassment based on factors such as race, color religion, national origin, ancestry, age, medical condition, marital status, disability or veteran status. Harassment includes without limitation, verbal, physical or visual conduct which creates an intimidating, offensive or hostile environment such as racial slurs; ethnic jokes; posting of offensive statements, posters or cartoons or similar conduct. Sexual harassment includes without limitation the solicitation of sexual favors, unwelcome sexual advances, or other verbal, visual or physical conduct of a sexual nature.

4.4.4.2 Contractor's Adoption of Anti-Harassment Policy. Contractor shall adopt

and implement all appropriate and necessary policies prohibiting any form of discrimination in the workplace, including without limitation harassment on the basis of any classification protected under local, state or federal law, regulation or policy. Contractor shall take all reasonable steps to prevent harassment from occurring, including without limitation affirmatively raising the subject of harassment among its employees, expressing strong disapproval of any form of harassment, developing appropriate sanctions, informing employees of their right to raise and how to raise the issue of harassment and informing complainants of the outcome of an investigation into a harassment claim. Contractor shall require that any Subcontractor or Sub-subcontractor performing any portion of the Work to adopt and implement policies in conformity with this Article 4.4.4.

4.4.4.3 Prohibition on Harassment at the Site. Contractor shall not permit any person, whether employed by Contractor, a Subcontractor, Sub-subcontractor, or any other person or entity, performing any Work at or about the Site to engage in any prohibited form of harassment. Any such person engaging in a prohibited form of harassment directed to any individual performing or providing any portion of the Work at or about the Site shall be subject to appropriate sanctions in accordance with the anti-harassment policy adopted and implemented pursuant to Article 4.4.4.2 above. Any person, performing or providing Work on or about the Site engaging in a prohibited form of harassment directed to any student, faculty member or staff of the District or directed to any other person on or about the Site shall be subject to immediate removal and shall be prohibited thereafter from providing or performing any portion of the Work. Upon the District's receipt of any notice or complaint that any person employed directly or indirectly by Contractor in performing or providing the Work has engaged in a prohibited form of harassment, the District will promptly undertake an investigation of such notice or complaint. In the event that the District, after such investigation, reasonably determines that a prohibited form of harassment has occurred, the District shall promptly notify the Contractor of the same and direct that the person engaging in such conduct be immediately removed from the Site. Unless the District's determination that a prohibited form of harassment has occurred is grossly negligent or without reasonable cause, District shall have no liability for directing the removal of any person determined to have engaged in a prohibited form of harassment nor shall the Contract Price or the Contract Time be adjusted on account thereof. Contractor and the Surety shall defend, indemnify and hold harmless the District and its employees, officers, board of trustees, agents, and representatives from any and all claims, liabilities, judgments, awards, actions or causes of actions, including without limitation, attorneys' fees, which arise out of, or pertain in any manner to: (i) the assertion by any person dismissed from performing or providing work at the direction of the District pursuant to this Article 4.4.4.3; or (ii) the assertion by any person that any person directly or indirectly under the employment or direction of the Contractor has engaged in a prohibited form of harassment directed to or affecting such person. The obligations of the Contractor and the Surety under the preceding sentence are in addition to, and not in lieu of, any other obligation of defense, indemnity and hold harmless whether arising under the Contract Documents, at law or otherwise; these obligations survive completion of the Work or the termination of the Contract.

4.5 Taxes. The Contractor shall pay, without adjustment of the Contract Price, all sales, consumer, use and other taxes for the Work or portions thereof provided by the Contractor under the Contract Documents.

4.6 Permits, Fees and Notices; Compliance with Laws.

4.6.1 Payment of Permits, Fees. The District shall secure and pay for the building permits, other permits, governmental fees, licenses and inspections necessary or required for the proper execution and completion of the Work, except as otherwise provided in the Special Conditions. If permits/approvals are designated in the Special Conditions as the Contractor's responsibility, the Contractor shall obtain such permits/approvals at its sole cost and expense without adjustment of the Contract Price. Fees, costs or other expenses associated with or arising in connection with Deferred Approval Items shall be the responsibility of the Contractor without adjustment of the Contract Price.

4.6.2 Compliance With Laws. The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations and other orders of public authorities bearing on performance of the Work.

4.6.3 Notice of Variation From Laws. If the Contractor knows, or has reason to believe, that any portion of the Contract Documents are at variance with applicable laws, statutes, ordinances, building codes, regulations or rules, the Contractor shall promptly notify the Architect, Construction Manager and the Project Inspector, in writing, of the same. If the Contractor performs Work knowing, or with reasonable diligence should have known, it to be contrary to laws, statutes, ordinances, building codes, rules or regulations applicable to the Work without such notice to the Architect and the Project Inspector, the Contractor shall assume full responsibility for such Work and shall bear the attributable costs arising or associated therefrom, including without limitation, the removal, replacement or correction of the same.

4.7 Submittals.

4.7.1 Purpose of Submittals. Shop Drawings, Product Data, Samples and similar submittals (collectively "Submittals") are not Contract Documents. The purpose for submission of Submittals is to demonstrate, for those portions of the Work for which Submittals are required, the manner in which the Contractor proposes to provide or incorporate such item of the Work in conformity with the information given and the design concept expressed in the Contract Documents.

4.7.2 Contractor's Submittals.

4.7.2.1 Prompt Submittals. The Contractor shall review, approve and submit to the Architect or such other person or entity designated by the District, the number of copies of Submittals required by the Contract Documents. All Submittals required by the Contract Documents shall be prepared, assembled and submitted by the Contractor to the Architect within the time frames set forth in the Submittal Schedule incorporated and made a part of the Approved Construction Schedule prepared and submitted by the Contractor pursuant to Article 7 of these General Conditions. Contractor's submission of Submittals in conformity with the Submittal Schedule is a material obligation of the Contractor. In the event of Contractor's failure or refusal to deliver Submittals to the Architect in accordance with the Submittal Schedule, the Contractor shall be subject to per diem assessments in the amount set forth in the Special Conditions for each day of delayed submission for any Submittal beyond the date set forth in the Submittal Schedule for Contractor's submission of such Submittal. Contractor and District acknowledge and agree that if Contractor shall fail to deliver

Submittals in accordance with the Submittal Schedule, the District will incur costs and expenses not contemplated by the Contract Documents, the exact amount of which are difficult to ascertain and fix. Contractor and the District acknowledge and agree that the per diem assessment for delayed submission of Submittals set forth in the Special Conditions represents a reasonable estimate of costs and expenses the District will incur as a result of delayed submission of Submittals and that the same is not a penalty. Notwithstanding Contractor's submission of all required Submittals in accordance with the Submittal Schedule, in the event that the District or the Architect reasonably determines that all or any portion of such Submittals fail to comply with the requirements of Articles 4.7.2.2, 4.7.2.3 and 4.7.2.4 of these General Conditions and/or such Submittals are not otherwise complete and accurate so as to require re-submission, Contractor shall bear all costs associated with the review and approval of the second resubmitted Submittals, including without limitation Architect's fees incurred in connection therewith; provided that such costs are in addition to, and not in lieu of, any per diem assessments imposed under this Article 4.7.2.1 for Contractor's delayed submission of Submittals. In the event of the District's imposition of the per diem assessments due to the Contractor's delayed submission of Submittals or in the event of the District's assessment of costs and expenses incurred to review incomplete or inaccurate Submittals, the District may deduct the same from any portion the Contract Price then or thereafter due the Contractor. Submittals not required by the Contract Documents or which do not otherwise conform to the requirements of the Contract Documents may be returned without action. No adjustment to the Contract Time or the Contract Price shall be granted to the Contractor on account of its failure to make timely submission of any Submittal.

4.7.2.2 Approval of Subcontractor Submittals. All Submittals prepared by Subcontractors, of any tier, Material Suppliers, manufacturers or distributors shall bear the written approval of the Contractor thereto prior to submission to the Architect for review. Any Submittal not bearing the Contractor's written approval shall be subject to return to the Contractor for re-submittal in conformity herewith, with the same being deemed to not have been submitted. Any delay, impact or cost associated therewith shall be the sole and exclusive responsibility of the Contractor without adjustment to the Contract Time or the Contract Price.

4.7.2.3 Verification of Submittal Information. By approving and submission of Submittals, the Contractor represents to the District and Architect that the Contractor has determined and verified materials, field measurements, field construction criteria, catalog numbers and similar data related thereto and has checked and coordinated the information contained within such Submittals with the requirements of the Work and of the Contract Documents. Each Submittal shall include the following certification duly executed by the Contractor's Superintendent or Construction Manager for the Work:

"The Contractor has reviewed and approved the field dimensions and construction criteria of the attached Submittal. The Contractor has verified that the Submittal includes notations of any portion of the Work depicted in the Submittal which is not in strict conformity with the Contract Documents. The information in the attached Submittal has been reviewed and coordinated by the Contractor with information included in other Submittals."

4.7.2.4 Contractor Responsibility for Deviations. The Contractor shall not be

relieved of responsibility for correcting deviations from the requirements of the Contract Documents by the Architect's review of Submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submission of the Submittal and the Architect has given written approval to the specific deviation. A material obligation of the Contractor is its specific/detailed identification and notation on the transmittal cover-sheet of each submission of Submittals any deviation between the Work as indicated in the Contract Documents and as indicated in the Submittal. The Contractor shall not be relieved of responsibility for errors or omissions in Submittals by the Architect's review thereof.

4.7.2.5 No Performance of Work Without Architect Review. The Contractor shall perform no portion of the Work requiring the Architect's review of Submittals until the Architect has completed its review and returned the Submittal to the Contractor indicating "No Exception Taken" to such Submittal. The Contractor shall not perform any portion of the Work forming a part of a Submittal or which is affected by a related Submittal until the entirety of the Submittal or other related Submittal has been fully processed. Such Work shall be in accordance with the final action taken by the Architect in review of Submittals and other applicable portions of the Contract Documents.

4.7.3 Architect Review of Submittals. The purpose of the Architect's review of Submittals and the time for the Architect's return of Submittals to the Contractor shall be as set forth elsewhere in the Contract Documents. If the Architect returns a Submittal as rejected or requiring correction(s) with re-submission, the Contractor, so as not to delay the progress of the Work, shall promptly thereafter resubmit a Submittal conforming to the requirements of the Contract Documents; the resubmitted Submittal shall indicate the portions thereof modified in accordance with the Architect's direction. When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the Architect shall be entitled to rely upon the accuracy and completeness of such calculations and certifications accompanying Submittals. The Architect's review of the Submittals is for the limited purposes described in the Contract Documents.

4.7.4 Deferred Approval Items. In the event that any portion of the Work is designated in the Contract Documents as a "Deferred Approval" item, Contractor shall be solely and exclusively responsible for the preparation of Submittals for such item(s) in a timely manner so as not to delay or hinder the completion of the Work within the Contract Time.

4.8 Materials and Equipment.

4.8.1 Specified Materials, Equipment. References in the Contract Documents to any specific article, device, equipment, product, material, fixture, patented process, form, method or type of construction, by name, make, trade name, or catalog number, with or without the words "or equal" shall be deemed to establish a minimum standard of quality or performance, and shall not be construed as limiting competition.

4.8.2 Approval of Substitutions or Alternatives. The Contractor may propose to furnish alternatives or substitutes for a particular item specified in the Contract Documents, provided that such proposed substitution or alternative complies with the requirements of the Specifications relating to substitutions of specified items and the Contractor certifies to the Architect that the quality, performance capability and functionality (including visual and/or aesthetic effect) of the proposed alternative or substitute will meet or exceed the

quality, performance capability and functionality of the item or process specified, and must demonstrate to the Architect that the use of the substitution or alternative is appropriate and will not delay completion of the Work or result in an increase to the Contract Price. The Contractor shall submit engineering, construction, dimension, visual, aesthetic and performance data to the Architect to permit its proper evaluation of the proposed substitution or alternative. If requested by the Architect, Contractor shall promptly furnish any additional information or data regarding a proposed substitution or alternative which the Architect deems reasonably necessary for the evaluation of the proposed substitution or alternative. The Contractor shall not provide, furnish or install any substitution or alternative without the Architect's review and final action on the proposed substitution or alternative; any alternative or substitution installed or incorporated into the Work without first obtaining the Architect's review and final action of the same shall be subject to removal pursuant to Article 12 hereof. The Architect's decision evaluating the Contractor's proposed substitutions or alternatives shall be final. Neither the Contract Time nor the Contract Price shall be increased on account of any substitution or alternative proposed by the Contractor and which is accepted by the Architect; provided, however, that in the event a substitution or alternative accepted by the Architect and purchase, fabrication and/or installation or such accepted substitution or alternative shall be less expensive than the originally specified item, the Contract Price shall be reduced by the actual cost savings realized by the Contractor's furnishing and/or installation of such approved substitution or alternative. The Contractor shall be solely responsible for all costs and fees incurred by the District to review a proposed substitution or alternative, including without limitation fees of the Architect, of the Architect's consultant(s) and/or governmental agencies to review and/or approve any proposed substitution or alternative. The Contractor shall be solely responsible for any increase in the cost of any accepted substitution or alternative or any Work affected by such alternative or substitution. The foregoing notwithstanding, all requests for the Architect's review and approval of any proposed substitution or alternative and all engineering, construction, dimension and performance data substantiating the equivalency of the proposed substitution or alternative shall be submitted by Contractor not later than thirty-five (35) days following the date of the District's award of the Contract to Contractor by action of the District's Board of Trustees; any request for approval of proposed alternatives or substitutions submitted thereafter may be rejected summarily. The foregoing process and time limits shall apply to any proposed substitution or alternative regardless of whether the substitute or alternate item is to be provided, furnished or installed by Contractor, any Subcontractor, any Sub-Subcontractor, Material Supplier or Manufacturer.

4.8.3 "Sole Source" Products. If any material, equipment, product or other item is designated in the Contract Documents as a "District Standard" or similar words/terms, the District shall be deemed to have made a finding that such material, equipment, product or other item is designated and specified to match other materials, equipment, products, or other item in use in a completed or to be completed work of improvement and not subject to substitution. If any material, equipment, or other item is identified in the Contract Documents as being the only source of the material, equipment or other item necessary to accomplish the intended result(s), such material, equipment or other item shall not be subject to substitution.

4.8.4 Placement of Material and Equipment Orders. Contractor shall, after award of the Contract, promptly and timely place all orders for materials and/or equipment necessary for completion of the Work so that delivery of the same shall be made without delay or interruption to the timely completion of the Work. Contractor shall require that any

Subcontractor or Sub-Subcontractor performing any portion of the Work similarly place orders for all materials and/or equipment to be furnished by any such Subcontractor or Sub-Subcontractor in a prompt and timely manner so that delivery of the same shall be made without delay or interruption to the timely completion of the Work. Upon request of the District, Construction Manager or the Architect, the Contractor shall furnish reasonably satisfactory written evidence of the placement of orders for materials and/or equipment necessary for completion of the Work, including without limitation, orders for materials and/or equipment to be provided, furnished or installed by any Subcontractor or Sub-Subcontractor.

4.8.5 District's Right to Place Orders for Materials and/or Equipment. Notwithstanding any other provision of the Contract Documents, in the event that the Contractor shall, upon request of the District or the Architect, fail or refuse, for any reason, to provide reasonably satisfactory written evidence of the placement of orders for materials and/or equipment necessary for completion of the Work, or should the District determine, in its sole and reasonable discretion, that any orders for materials and/or equipment have not been placed in a manner so that such materials and/or equipment will be delivered to the Site so the Work can be completed without delay or interruption, the District shall have the right, but not the obligation, to place such orders on behalf of the Contractor. If the District exercises the right to place orders for materials and/or equipment pursuant to the foregoing, the District's conduct shall not be deemed to be an exercise, by the District, of any control over the means, methods, techniques, sequences or procedures for completion of the Work, all of which remain the responsibility and obligation of the Contractor. Notwithstanding the right of the District to place orders for materials and/or equipment pursuant to the foregoing, the election of the District to exercise, or not to exercise, such right shall not relieve the Contractor from any of Contractor's obligations under the Contract Documents, including without limitation, completion of the Work within the Contract Time and for the Contract Price. If the District exercises the right hereunder to place orders for materials and/or equipment on behalf of Contractor pursuant to the foregoing, Contractor shall reimburse the District for all costs and fees incurred by the District in placing such orders; such costs and fees may be deducted by the District from the Contract Price then or thereafter due the Contractor.

4.9 Safety.

4.9.1 Safety Programs. 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. The Contractor's safety program 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 §§8350 et seq.). 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 Architect, Project Inspector, the Construction Manager and District with the Contractor's proposed safety program for the Work for the Construction Manager's review. The Architect, the Construction Manager and the Project Inspector are authorized to enforce the Contractor's obligation to implement the safety program accepted by the Construction Manager.

4.9.2 Safety Precautions. 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: (i) employees on the Work and other persons who may be affected thereby; (ii) the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and (iii) 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 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. Contractor's personnel who do not abide by Contractor's accepted Safety Plan shall be removed from the site.

4.9.3 Safety Signs, Barricades. 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. Contractor shall provide directional and informational signage as required to direct pedestrian traffic around the work area. Contractor will be required to fence in the Construction Site and all gates shall be closed while students are on campus. Contractor shall provide spotters, both front and rear, for any vehicles moving throughout occupied student or faculty areas.

4.9.4 Safety Notices. The Contractor shall give or post all notices required by applicable law and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

4.9.5 Safety Coordinator. The Contractor shall designate a responsible member of the Contractor's organization at the Site whose duty shall be the prevention of accidents and the implementation and maintenance safety precautions and programs. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Project Inspector and the Architect.

4.9.6 Emergencies; First Aid. In an emergency affecting safety of persons or property, the Contractor shall act, to prevent threatened damage, injury or loss. The Contractor shall maintain stocked emergency first aid kits at the Site which comply with applicable law, rule or regulation.

4.9.7 Hazardous Materials.

4.9.7.1 General. In the event that the Contractor, any Subcontractor or anyone employed directly or indirectly by them shall use, at the Site, or incorporate into the Work, any material or substance deemed to be hazardous or toxic under any law, rule, ordinance, regulation or interpretation thereof (collectively "Hazardous Materials"), the Contractor shall comply with all laws, rules, ordinances or regulations applicable thereto and shall exercise all necessary safety precautions relating to the

use, storage or disposal thereof.

4.9.7.2 Prohibition on Use of Asbestos Construction Building Materials ("ACBMs"). Notwithstanding any provision of the Drawings or the Specifications to the contrary, it is the intent of the District that ACBMs not be used or incorporated into any portion of the Work. In the event that any portion of the Work depicted in the Drawings or the Specifications shall require materials or products which the Contractor knows, or should have known with reasonably diligent investigation, to contain ACBMs, Contractor shall promptly notify the Architect and the Project Inspector of the same so that an appropriate alternative can be made in a timely manner so as not to delay the progress of the Work. Contractor warrants to the District that there are no materials or products used or incorporated into the Work which contain ACBMs. Whether before or after completion of the Work, if it is discovered that any product or material forming a part of the Work or incorporated into the Work contains ACBMs, the Contractor shall at its sole cost and expense remove such product or material in accordance with any laws, rules, procedures and regulations applicable to the handling, removal and disposal of ACBMs and to replace such product or material with non-ACBM products or materials and to return the affected portion(s) of the Work to the finish condition depicted in the Drawings and Specifications relating to such portion(s) of the Work. Contractor's obligations under the preceding sentence shall survive the termination of the Contract, the warranty period provided under the Contract Documents, the Contractor's completion of the Work or the District's acceptance of the Work. In the event that the Contractor shall fail or refuse, for any reason, to commence the removal and replacement of any material or product containing ACBMs forming a part of, or incorporated into the Work, within ten (10) days of the date of the District's written notice to the Contractor of the existence of ACBM materials or products in the Work, the District may thereafter proceed to cause the removal and replacement of such materials or products in any manner which the District determines to be reasonably necessary and appropriate; all costs, expenses and fees, including without limitation fees and costs of consultants and attorneys, incurred by the District in connection with such removal and replacement shall be the responsibility of the Contractor and the Contractor's Performance Bond Surety.

4.9.7.3 Disposal of Hazardous Materials. Contractor shall be solely and exclusively responsible for the disposal of any Hazardous Materials on or about Site resulting from the Contractor's performance of Work and other activities. The Contractor's obligations hereunder shall include without limitation, the transportation and disposal of any Hazardous Materials in strict conformity with any and all applicable laws, regulations, orders, procedures or ordinances.

4.10 Maintenance of Documents.

4.10.1 Documents at Site. The Contractor shall maintain at the Site: (i) one record copy of the Drawings, Specifications and all addenda thereto; (ii) Change Orders approved by the District and all other modifications to the Contract Documents; (iii) Submittals reviewed by the Architect; (iv) Record Drawings; (v) Material Safety Data Sheets ("MSDS") accompanying any materials, equipment or products delivered or stored at the Site or incorporated into the Work; and (vi) all building and other codes or regulations applicable to the Work, including without limitation, Title 24, Part 2 of the California Code of Regulations. During performance of the Work, all documents maintained by Contractor at

the Site shall be available to the District, the Construction Manager, the Architect, the Project Inspector and DSA for review, inspection or reproduction. Upon completion of the Work, all documents maintained at the Site by the Contractor pursuant to the foregoing shall be assembled and transmitted to the Architect for delivery to the District.

4.10.2 Maintenance of Record Drawings. During its performance of the Work, the Contractor shall maintain Record Drawings consisting of a set of the Drawings which are marked to indicate all field changes made to adapt the Work depicted in the Drawings to field conditions, changes resulting from Change Orders and all concealed or buried installations, including without limitation, piping, conduit and utility services. All buried or concealed items of Work shall be completely and accurately marked and located on the Record Drawings. The Record Drawings shall be clean and all changes, corrections and dimensions shall be marked in a neat and legible manner in a contrasting color. Record Drawings relating to the Structural, Mechanical, Electrical and Plumbing portions of the Work shall indicate without limitation, circuiting, wiring sizes, equipment/member sizing and shall depict the entirety of the as built conditions of such portions of the Work. The Record Drawings shall be continuously maintained by the Contractor during the performance of the Work. At any time during the Contractor's performance of the Work, upon the request of the District, the Project Inspector or the Architect, the Contractor shall make the Record Drawings maintained here under available for the District's review and inspection. The District's review and inspection of the Record Drawings during the Contractor's performance of the Work shall be only for the purpose of generally verifying that Contractor is continuously maintaining the Record Drawings in a complete and accurate manner; any such inspection or review shall not be deemed to be the District's approval or verification of the completeness or accuracy thereof. The failure or refusal of the Contractor to continuously maintain complete and accurate Record Drawings or to make available the Record Drawings for inspection and review by the District may be deemed by the District to be Contractor's default of a material obligation hereunder. Without waiving, restricting or limiting any other right or remedy of the District for the Contractor's failure or refusal to continuously maintain the Record Drawings, the District may, upon reasonably determining that the Contractor has not, or is not, continuously maintaining the Record Drawings in a complete and accurate manner, take appropriate action to cause the continuous maintenance of complete and accurate Record Drawings, in which event all fees and costs incurred or associated with such action shall be charged to the Contractor and the District may deduct the amount of such fees and costs from any portion of the Contract Price then or thereafter due the Contractor. In accordance with Article 8.4.2 of these General Conditions, prior to receipt of the Final Payment, Contractor shall deliver the Record Drawings to the Construction Manager for transmittal of the District.

4.11 Use of Site. The Contractor shall confine operations at the Site to areas permitted by law, ordinances or permits, subject to any restrictions or limitations set forth in the Contract Documents. The Contractor's construction site and lay down area shall be limited to the agreed upon construction site. The entire construction site shall be fenced in with temporary construction fencing until project or current phase of project is substantially complete. The fencing will be privacy screened. The Contractor shall not unreasonably encumber the Site or adjoining areas with materials or equipment. The Contractor shall be solely responsible for providing security at the Site with all such costs included in the Contract Price. The District shall at all times have access to the Site.

4.12 Clean-Up. The Contractor shall at all times keep the Site and all adjoining areas free from

the accumulation of any waste material or rubbish caused or generated by performance of the Work. Without limiting the generality of the foregoing, Contractor shall maintain the Site in a "broom-clean" standard on a daily basis. In the event that the Work of the Contract Documents includes painting and/or the installation of floor covering, prior to commencement of any painting operations or the installation of any flooring covering, the area and adjoining areas of the Site where paint is to be applied or floor covering is to be installed shall be in a "broom-clean" condition. Prior to completion of the Work, Contractor shall remove from the Site all rubbish, waste material, excess excavated material, tools, Construction Equipment, machinery, surplus material and any other items which are not the property of the District under the Contract Documents. At completion of the Work, the Contractor shall clean the building interior and exterior, including fixtures, equipment, walls, floors, ceilings, roofs, window sills and ledges, horizontal surfaces, areas where debris, dust and similar items have collected, clean and polish all glass, plumbing fixtures, finish hardware, metal/wood/stone finishes. As directed by the Construction Manager, District or Architect, the Contractor shall remove temporary fencing, barricades, planking, temporary sanitary facilities, temporary utility distributions and other temporary facilities. Upon completion of the Work, the Site and all adjoining areas shall be left in a neat and broom clean condition satisfactory to District. The Project Inspector or Construction Manager shall be authorized to direct the Contractor's clean-up obligations hereunder. If the Contractor fails to clean up as provided for in the Contract Documents, the District may do so, and all costs incurred in connection therewith shall be charged to the Contractor; the District may deduct such costs from any portion of the Contract Price then or thereafter due the Contractor.

- 4.13 Access to the Work.** The Contractor shall provide the DSA, the District, the Construction Manager, the Project Inspector, the Architect and the Architect's consultant(s) with access to the Work, whether in place, preparation and progress and wherever located.
- 4.14 Information and Facilities/Services for the Project Inspector.** The Contractor shall furnish the Project Inspector access to the Work for obtaining such information as may be necessary to keep the Project Inspector fully informed respecting the progress, quality and character of the Work and materials, equipment or other items incorporated therein. The Contractor shall provide, without adjustment of the Contract Price, for use by the Project Inspector, the District and Construction Manager the facilities, equipment, furnishings and services set forth in the Special Conditions. If the Contractor does not provide the facilities, furnishings, equipment and services set forth in the Special Conditions, or fails to pay timely any charges or fees arising out of the use of the same, the District may, as applicable, procure facilities, furnishings, equipment and services required by the Contract Documents or pay outstanding charges. Contractor shall reimburse the District for all costs, including the District's administrative costs, incurred by the District pursuant to the preceding sentence; in lieu of the Contractor's reimbursement and at the sole and exclusive discretion of the District, such costs may be deducted by the District from any portion of the Contract Price or thereafter due the Contractor.
- 4.15 Patents and Royalties.** The Contractor and the Surety shall defend, indemnify and hold harmless the District and its agents, employees and officers from any claim, demand or legal proceeding arising out of or pertaining, in any manner, to any actual or claimed infringement of patent rights in connection with performance of the Work under the Contract Documents.
- 4.16 Cutting and Patching.** The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make the component parts thereof fit together properly. The Contractor shall not damage or endanger any portion of the Work, or the fully or partially

completed construction of the District or separate contractors by cutting, patching, excavation or other alteration. When modifying new Work or when installing Work adjacent to an existing structure/facility, the Contractor shall match, as closely as conditions of the Site and materials will allow the finishes, textures and colors of the existing structure/facility and refinish elements of the existing structure/facility. The Contractor shall not cut, patch or otherwise alter the construction by the District or separate contractor without the prior written consent of the District or separate contractor thereto, which consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold consent to the request of the District or separate contractor to cut, patch or otherwise alter the Work.

4.17 Encountering of Hazardous Materials. In the event the Contractor encounters Hazardous Materials at the Site which have not been rendered harmless or for which there is no provision in the Contract Documents for containment, removal, abatement or handling of such Hazardous Materials, the Contractor shall immediately stop the Work in the affected area, but shall diligently proceed with the Work in all other unaffected areas. Upon encountering such Hazardous Materials, the Contractor shall immediately notify the Project Inspector and the Architect, in writing, of such condition. The Contractor shall proceed with the Work in such affected area only after such Hazardous Materials have been rendered harmless, contained, removed or abated. In the event such Hazardous Materials are encountered, the Contractor shall be entitled to an adjustment of the Contract Time to the extent that the Work is stopped and Substantial Completion of the Work is affected thereby. In no event shall there be an adjustment to the Contract Price solely on account of the Contractor encountering such Hazardous Materials.

4.18 Wage Rates; Employment of Labor.

4.18.1 Determination of Prevailing Rates. Pursuant to the provisions of Division 2, Part 7, Chapter 1, Article 2 of the California Labor Code at §§1770 et seq., the District has obtained from the Director of the Department of Industrial Relations the general prevailing rate of per diem wages and the prevailing rate for holiday and overtime work in the locality in which the Work is to be performed. Holidays shall be as defined in the collective bargaining agreement applicable to each particular craft, classification or type of worker employed under the Contract. Per diem wages include employer payments for health and welfare, pensions, vacation, travel time and subsistence pay as provided in California Labor Code §1773.8, apprenticeship or other training programs authorized by California Labor Code §3093, and similar purposes when the term “per diem wages” is used herein. Holiday and overtime work, when permitted by law, shall be paid for at the rate of at least one and one-half (1½) times the above specified rate of per diem wages, unless otherwise specified. The Contractor shall post, at appropriate and conspicuous locations on the Site, a schedule showing all determined general prevailing wage rates.

4.18.2 Payment of Prevailing Rates. There shall be paid 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.

4.18.3 Prevailing Rate Penalty. The Contractor shall, as a penalty, forfeit not more than Fifty Dollars (\$50.00) to the District for each calendar day or portion thereof, for each worker paid less than the prevailing rates for such work or craft in which such worker is employed for the Work by the Contractor or by any Subcontractor, of any tier, in connection with the Work. The amount of the penalty for failure to pay applicable prevailing wage rates shall

be determined and assessed in accordance with the standards established pursuant to Labor Code §1775(a)(2). The amount of the penalty shall be determined based on consideration of both of the following: (i) whether the failure of the Contractor or Subcontractor to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily corrected when brought to the attention of the Contractor or Subcontractor; and (ii) whether the Contractor or Subcontractor has a prior record of failing to meet its prevailing wage obligations. The penalty may not be less than ten dollars (\$10) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, unless the failure of the Contractor or Subcontractor to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily corrected when brought to the attention of the contractor or subcontractor. The penalty may not be less than twenty dollars (\$20) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, if the Contractor or Subcontractor has been assessed penalties within the previous three years for failing to meet its prevailing wage obligations on a separate contract, unless those penalties were subsequently withdrawn or overturned. The penalty may not be less than thirty dollars (\$30) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, if the Labor Commissioner determines that the violation was willful, as defined in subdivision (c) of Section 1777.1. When the penalty amount due hereunder is collected from the Contractor or Subcontractor, any outstanding wage claim under Chapter 1 (commencing with Section 1720) of Part 7 of Division 2 against that Contractor or Subcontractor shall be satisfied before applying that amount to the penalty imposed on that Contractor or Subcontractor hereunder. The difference between prevailing wage rates and the amount paid to each worker each calendar day, or portion thereof, for which each worker paid less than the prevailing wage rate, shall be paid to each worker by the Contractor.

- 4.18.4 Payroll Records.** Pursuant to California Labor Code §1776, the Contractor and each Subcontractor, of any tier, shall keep an accurate payroll record, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each person employed for the Work. The payroll records shall be certified and available for inspection at all reasonable hours at the principal office of the Contractor on the following basis: (i) 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; (ii) 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; (iii) 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 either the District, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided, the requesting party shall, prior to being provided the records, reimburse the cost of preparation by the Contractor, Subcontractors and the entity through which the request was made; the public shall not be given access to such records at the principal office of the Contractor; (iv) the Contractor shall file a certified copy of the payroll records with the entity that requested such records within ten (10) days after receipt of a written request; (v) any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the District, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address and social security number. The name

and address of the Contractor or any Subcontractor, of any tier, performing a part of the Work shall not be marked or obliterated. The Contractor shall inform the District of the location of payroll records, including the street address, city and county and shall, within five (5) working days, provide a notice of a change of location and address. In the event of noncompliance with the requirements of this Article 4.18.4, the Contractor shall have ten (10) days in which to comply, subsequent to receipt of written notice specifying in what respects the Contractor must comply herewith. Should noncompliance still 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. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, such penalties shall be withheld from any portion of the Contract Price then or thereafter due the Contractor. The Contractor is solely responsible for compliance with the foregoing provisions.

4.18.5 Hours of Work.

4.18.5.1 Limits on Hours of Work. Pursuant to California Labor Code §1810, eight (8) hours of labor shall constitute a legal day's work. Pursuant to California Labor Code §1811, the time of service of any worker employed at any time by the Contractor or by a Subcontractor, of any tier, upon the Work or upon any part of the Work, is limited and restricted to eight (8) hours during any one calendar day and forty (40) hours during any one calendar week, except as hereafter provided. Notwithstanding the foregoing provisions, Work performed by employees of Contractor or any Subcontractor, of any tier, in excess of eight (8) hours per day and forty (40) hours during any one week, shall be permitted upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half (1½) times the basic rate of pay.

4.18.5.2 Penalty for Excess Hours. The Contractor shall pay to the District a penalty of Twenty-five Dollars (\$25.00) for each worker employed on the Work by the Contractor or any Subcontractor, of any tier, for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any calendar day and forty (40) hours in any one calendar week, in violation of the provisions of the California Labor Code, unless compensation to the worker so employed by the Contractor is not less than one and one-half (1½) times the basic rate of pay for all hours worked in excess of eight (8) hours per day.

4.18.5.3 Contractor Responsibility. Any Work performed by workers necessary to be performed after regular working hours or on Sundays or other holidays shall be performed without adjustment to the Contract Price or any other additional expense to the District. The Contractor shall be responsible for costs incurred by the District which arise out of Work performed by the Contractor at times other than regular working hours and regular working days. Upon determination of such costs, the District may deduct such costs from the Contract Price then or thereafter due the Contractor.

4.18.6 Apprentices.

4.18.6.1 Employment of Apprentices. Any apprentices employed to perform any of the Work shall be paid the standard wage paid to apprentices under the regulations of the craft or trade for which such apprentice is employed, and such individual shall

be employed only for the work of the craft or trade to which such individual is registered. Only apprentices, as defined in California Labor Code §3077 who are in training under apprenticeship standards and written apprenticeship agreements under California Labor 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.

4.18.6.2 Apprenticeship Certificate. When the Contractor or any Subcontractor, of any tier, in performing any of the Work employs workers in any Apprenticeable Craft or Trade, the Contractor and such Subcontractor shall apply to the Joint Apprenticeship Committee administering the apprenticeship standards of the craft or trade in the area of the site of the Work for a certificate approving the Contractor or such Subcontractor under the apprenticeship standards for the employment and training of apprentices in the area or industry affected, provided, however, that the approval as established by the Joint Apprenticeship Committee or Committees shall be subject to the approval of the Administrator of Apprenticeship. The Joint Apprenticeship Committee or Committees, subsequent to approving the Contractor or Subcontractor, shall arrange for the dispatch of apprentices to the Contractor or such Subcontractor in order to comply with California Labor Code §1777.5. 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. There shall be an affirmative duty upon the Joint Apprenticeship Committee or Committees, administering the apprenticeship standards of the crafts or trades in the area of the site of the Work, to ensure equal employment and affirmative action and apprenticeship for women and minorities. Contractors or Subcontractors shall not be required to submit individual applications for approval to local Joint Apprenticeship Committees provided they are already covered by the local apprenticeship standards.

4.18.6.3 Ratio of Apprentices to Journeymen. 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 of apprentice work for each five hours of labor performed by a journeyman, except as otherwise provided in California Labor Code §1777.5. The minimum ratio for the land surveyor classification shall not be less than one apprentice for each five journeymen. 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 land 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. The Contractor or any Subcontractor covered by this Article and California Labor Code §1777.5, upon the issuance of the approval

certificate, or if it has been previously approved in such craft or trade, shall employ the number of apprentices or the ratio of apprentices to journeymen stipulated in the apprenticeship standards. Upon proper showing by the Contractor that it employs apprentices in such craft or trade in the State of California on all of its contracts on an annual average of not less than one apprentice to each five journeymen, the Division of Apprenticeship Standards may grant a certificate exempting the Contractor from the 1-to-5 ratio as set forth in this Article and California Labor Code §1777.5. 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 (\$30,000.00) or twenty (20) working days. The term "Apprenticeable Craft or Trade," as used herein shall mean a craft or trade determined as an Apprenticeable occupation in accordance with rules and regulations prescribed by the Apprenticeship Council.

4.18.6.4 Exemption From Ratios. The Joint Apprenticeship Committee shall have the discretion to grant a certificate, which shall be subject to the approval of the Administrator of Apprenticeship, exempting the Contractor from the 1-to-5 ratio set forth in this Article when it finds that any one of the following conditions are met: (i) unemployment for the previous three-month period in such area exceeds an average of fifteen percent (15%) or; (ii) the number of apprentices in training in such area exceeds a ratio of 1-to-5 in relation to journeymen, or; (iii) the Apprenticeable Craft or Trade is replacing at least one-thirtieth (1/30) of its journeymen annually through apprenticeship training, either on a statewide basis or on a local basis, or; (iv) if assignment of an apprentice to any Work performed under the Contract Documents would create a condition which would jeopardize such apprentice's life or the life, safety or property of fellow employees or the public at large, or if the specific task to which the apprentice is to be assigned is of such a nature that training cannot be provided by a journeyman. When such exemptions from the 1-to-5 ratio between apprentices and journeymen are granted to an organization which represents contractors in a specific trade on a local or statewide basis, the member contractors will not be required to submit individual applications for approval to local Joint Apprenticeship Committees, provided they are already covered by the local apprenticeship standards.

4.18.6.5 Contributions to Trust Funds. 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 Division of Labor Standards Enforcement is authorized to enforce the payment of such contributions to such fund(s) as set forth in California Labor Code §227. Such contributions shall not result in an increase in the Contract Price.

4.18.6.6 Contractor's Compliance. The responsibility of compliance with this Article for all Apprenticeable Trades or Crafts is solely and exclusively that of the Contractor. All decisions of the Joint Apprenticeship Committee(s) under this Article are subject

to the provisions of California Labor Code §3081. In the event the Contractor willfully fails to comply with the provisions of this Article and California Labor Code §1777.5, 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, Fifty Dollars (\$50.00) for each calendar day of noncompliance. Notwithstanding the provisions of California Labor Code §1727, upon receipt of such determination, the District shall withhold such amount from the Contract Price then due or to become due. Any such determination shall be issued after a full investigation, a fair and impartial hearing, and reasonable notice thereof in accordance with reasonable rules and procedures prescribed by the California Apprenticeship Council. Any funds withheld by the District pursuant to this Article shall be deposited in the General Fund or other similar fund of the District. The interpretation and enforcement of California Labor Code §§1777.5 and 1777.7 shall be in accordance with the rules and procedures of the California Apprenticeship Council.

4.18.7 Employment of Independent Contractors. Pursuant to California Labor Code §1021.5, Contractor shall not willingly and knowingly enter into any agreement with any person, as an independent contractor, to provide any services in connection with the Work where the services provided or to be provided requires that such person hold a valid contractors license issued pursuant to California Business and Professions Code §§7000 et seq. and such person does not meet the burden of proof of his/her independent contractor status pursuant to California Labor Code §2750.5. In the event that Contractor shall employ any person in violation of the foregoing, Contractor shall be subject to the civil penalties under California Labor Code §1021.5 and any other penalty provided by law. In addition to the penalties provided under California Labor Code §1021.5, Contractor's violation of this Article 4.18.7 or the provisions of California Labor Code §1021.5 shall be deemed an event of Contractor's default under Article 15.1 of these General Conditions. The Contractor shall require any Subcontractor or Sub-Subcontractor performing or providing any portion of the Work to adhere to and comply with the foregoing provisions.

4.19 Assignment of Antitrust Claims. Pursuant to California Government Code §4551, the Contractor and its Subcontractor(s), of any tier, hereby offers and agrees to assign to the District all rights, title and interest in and to all causes of action they may have under Section 4 of the Clayton Act, (15 U.S.C. §15) or under the Cartwright Act (California Business and Professions Code §§16700 et seq.), arising from purchases of goods, services or materials hereunder or any Subcontract. This assignment shall be made and become effective at the time the District tenders Final Payment to the Contractor, without further acknowledgment by the parties. If the District receives, either through judgment or settlement, a monetary recovery in connection with a cause of action assigned under California Government Code §§4550 et seq., the assignor thereof shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the District any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the District as part of the Contract Price, less the expenses incurred by the District in obtaining that portion of the recovery. Upon demand in writing by the assignor, the District shall, within one year from such demand, reassign the cause of action assigned pursuant to this Article if the assignor has been or may have been injured by the violation of law for which the cause of action arose: and (i) the District has not been injured thereby; or (ii) the District declines to file a court action for the cause of action.

4.20 Limitations Upon Site Activities. Except in the circumstances of an emergency, no construction activities shall be permitted at or about the Site except during the District's hours and days set forth in the Special Conditions. Work performed outside of the hours and days noted in the Special Conditions will not result in adjustment of the Contract Time or the Contract Price; unless Work outside of the hours and days noted in the Special Conditions is expressly authorized by the District.

4.21 Labor Compliance Program ("LCP"). Pursuant to Labor Code §1771.7, the District has established a Labor Compliance Program. Unless otherwise expressly provided in the Contract Documents, the LCP is applicable to the entirety of the Work. A material obligation of the Contractor awarded the Contract is its strict compliance with all applicable provisions and requirements of the LCP and its strict enforcement of such provisions and requirements on its Subcontractors and others under the direction or control of the Contractor relating to the Work or the Project. A copy of the LCP is available for review and reproduction in the District's administrative office.

4.21.1 Pre-Construction Conference. In addition to the matters included in the scope of the Pre-Conference, as set forth in Article 4.3.6.1 of the General Conditions, the Pre-Construction conference will include a discussion of the subject matters indicated in the Pre-Construction Conference portion of the LCP, including general requirements of the LCP, measures for compliance with, and enforcement of, LCP requirements, and penalties for failure to comply. The Contractor awarded the Contract and each Subcontractor identified by such Contractor in its Subcontractors List submitted with its Bid Proposal. The foregoing notwithstanding, if the District reasonably determines that individuals or entities in addition to the Contractor and its listed Subcontractor are necessary attendees at the Pre-Construction conference, the Contractor is responsible for measures necessary to secure the attendance of such other persons or entities at the Pre-Construction conference.

4.21.2 Maintenance and Weekly Submission of Certified Payroll Records. The Contractor and each of its Subcontractors shall maintain accurate, complete and current payroll records as required by the LCP. During the progress of the Work, until Final Payment is due, the Contractor and its Subcontractors shall maintain and submit Certified Payroll Records on a weekly basis. No later than the 5:00 P.M. on each Monday during the Work, the Contractor shall submit to the Construction Manager Certified Payroll Records for the Contractor and its Subcontractors for all persons providing or performing any Work in the immediately preceding week. The Certified Payroll Records maintained and submitted hereunder shall be in strict conformity with requirements established in the LCP. A material obligation of the Contractor under the Contract Documents is the Contractor's and its Subcontractor's strict compliance with requirements of the LCP relating to maintenance and submission of Certified Payroll Records. The Contractor's submittal of weekly Certified Payroll Records in strict conformity with requirements of the LCP is an express condition precedent to the District's obligation to disburse any Progress Payment to the Contractor and the Contractor's entitlement to receipt of any Progress Payment.

4.21.3 District Audit of Certified Payroll Records. Pursuant to the LCP, the District shall, as appropriate or necessary conduct audits of Certified Payroll Records. If upon conducting such audits, the District determines that the Contractor or its Subcontractors have committed violations of the LCP, the Contractor and/or its Subcontractors shall be subject to all penalties, assessments and other remedies set forth in the LCP or by

operation of law for such violations.

4.21.4 Contractor's Rights Upon Determination of Violation. If upon audit of Certified Payroll Records, the District determines that the Contractor has violated, or failed to comply with, applicable provisions of the LCP, the Contractor shall be subject to the penalties, assessments and other remedies set forth in the LCP for the Contractor's violation of, or failure to comply with, the LCP. To the extent applicable, the Contractor shall be entitled to contest or appeal such determination, as set forth in the LCP, provided that the Contractor strictly complies with all applicable provisions of applicable law and the LCP relating to the initiation and completion of proceeding to contest or appeal a determination that the Contractor has committed a violation of, or has failed to comply with, the LCP.

4.21.5 LCP Not Exclusive. The LCP is not the exclusive source of Contractor's obligations relating to the payment of prevailing wages and compliance with apprenticeship standards. A material obligation of the Contractor under the Contract Documents is the Contractor's compliance with all applicable laws, codes, regulations, rules and orders relating to the employment of labor, working conditions, and payments to laborers for Work performed or provided by laborers.

4.22 State Audit. Pursuant to and in accordance with the provisions of Government Code §8546.7, or any amendments thereto, all books, records and files of the District, the Contractor, or any Subcontractor relating to the Work or the performance of work involving the expenditure of public funds in excess of Ten Thousand Dollars (\$10,000), including, but not limited to, the administration thereof, shall be subject to the examination and audit by the State Auditor of the State of California, at the request of District or as part of any audit of District, for a period of three (3) years after Final Payment is made under this Contract. Contractor shall preserve and cause to be preserved such books, records and files for the audit period. Upon request of the District, the Contractor shall make all such books, records or files available for review, inspection and/or reproduction.

ARTICLE 5: SUBCONTRACTORS

5.1 Subcontracts. Any Work performed for the Contractor by a Subcontractor shall be pursuant to a written agreement between the Contractor and such Subcontractor which specifically incorporates by reference the Contract Documents and which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents, including without limitation, the policies of insurance required under Article 6 of these General Conditions and the termination provisions of Article 15, and obligates the Subcontractor to assume toward the Contractor all the obligations and responsibilities of the Contractor which by the Contract Documents the Contractor assumes toward the District, the Project Inspector, DSA, the Construction Manager and the Architect. The foregoing notwithstanding, no contractual relationship shall exist, or be deemed to exist, between any Subcontractor and the District, unless the Contract is terminated and District, in writing, elects to assume the Subcontract. Each Subcontract for a portion of the Work shall provide that such Subcontract may be assigned to the District if the Contract is terminated by the District pursuant to Article 15.1 hereof, subject to the prior rights of the Surety obligated under a bond relating to the Contract. The Contractor shall provide to the District copies of all executed Subcontracts and Purchase Orders to which Contractor is a party within thirty (30) days after Contractor's execution of the Agreement. During performance of the Work, the Contractor shall, from time to time, as and when requested by the District, the Architect or the Construction Manager provide the District with copies of any and all Subcontracts or Purchase Orders relating to

the Work and all modifications thereto. The Contractor's failure or refusal, for any reason, to provide copies of such Subcontracts or Purchase Orders in accordance with the two preceding sentences is Contractor's default of a material term of the Contract Documents.

5.2 Substitution of Listed Subcontractor.

5.2.1 Substitution Process. Any request of the Contractor to substitute a listed Subcontractor will be considered only if such request is in strict conformity with this Article 5.2 and California Public Contract Code §4107. All costs incurred by the District, including without limitation, costs of the Project Inspector, the Architect, the Construction Manager or attorneys fees in the review and evaluation of a request to substitute a listed Subcontractor shall be borne by the Contractor; such costs may be deducted by the District from the Contract Price then or thereafter due the Contractor.

5.2.2 Responsibilities of Contractor Upon Substitution of Subcontractor. The District's consent to Contractor's substitution of a listed Subcontractor shall not relieve Contractor from its obligation to complete the Work within the Contract Time and for the Contract Price. The substitution of a listed Subcontractor shall not, under any circumstance, result in, or give rise to any to any increase of the Contract Price or the Contract Time on account of such substitution. In the event of the District's consent to the substitution of a listed Subcontractor, the Architect shall determine the extent to which, if any, revised or additional Submittals will be required of the newly substituted Subcontractor. In the event that the Architect determines that revised or additional Submittals are required of the newly substituted Subcontractor, the Architect shall promptly notify the Contractor, in writing, of such requirement. In such event, revised or additional Submittals shall be submitted to Architect not later than thirty (30) days following the date of the Architect's written notice to the Contractor pursuant to the foregoing sentence; provided that if in the reasonable and good faith judgment of the Architect, the progress of the Work or completion of the Work requires submission of additional or revised Submittals by the newly substituted Subcontractor in less than thirty (30) days, the Architect shall so state in its written notice to the Contractor. In the event that the revised or additional Submittals are not submitted by Contractor within thirty (30) days, or such earlier time as determined by the Architect pursuant to the preceding sentence, following the Architect's written notice of the requirement for revised or additional Submittals, Contractor shall be subject to the per diem assessments for late Submittals as set forth in Article 4.7.2.1 of these General Conditions. Any revised or additional Submittals required pursuant to this Article 5.2.2 shall conform to the requirements of Article 4.7 of these General Conditions. Contractor shall reimburse the District for all fees and costs, including without limitation fees of the Construction Manager, Architect and/or any design consultant to the Architect or the District and DSA fees, incurred or associated with the processing, review and evaluation of any revised or additional Submittals required pursuant to this Article 5.2.2; the District may deduct such fees and costs from any portion of the Contract Price then or thereafter due the Contractor. In the event that additional or revised Submittals are required pursuant to this Article 5.2.2, such requirement shall not result in an increase to the Contract Time or the Contract Price.

5.2.3 Subcontractors' Work. Whenever the Work of a Subcontractor is dependent upon the Work of the Contractor or another Subcontractor, the Contractor shall require the Subcontractor to: (a) coordinate its Work with the dependent Work; (b) provide necessary dependent data and requirements; (c) supply and/or install items to be built into the dependent Work of others; (d) make appropriate provisions for dependent Work of others; (e) carefully examine and understand the portions of the Contract Documents (including Drawings,

Specifications and Field Clarifications) and Submittals relating to the dependent Work; and (f) examine the existing dependent Work and verify that the dependent Work is in proper condition for the Subcontractor's Work. If the dependent Work is not in a proper condition, the Subcontractor shall notify the Contractor in writing and not proceed with the Subcontractor's Work until the dependent Work has been corrected or replaced and is in a proper condition for the Subcontractor's Work.

5.3 Subcontractors' Compliance with LCP. As applicable, each Subcontractor performing Work shall comply with the LCP. A material obligation of the Contractor is its enforcement of Subcontractor obligations relating to the LCP; failure of the Contractor to strictly enforce such Subcontractor obligations is a material obligation of the Contractor under the Contract Documents.

ARTICLE 6: INSURANCE; INDEMNITY; BONDS

6.1 Workers' Compensation Insurance; Employer's Liability Insurance. The Contractor shall purchase and maintain Workers' Compensation Insurance as will protect the Contractor from claims under workers' or workmen's compensation, disability benefit and other similar employee benefit acts which are applicable to the Work to be performed, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. Contractor shall purchase and maintain Employer's Liability Insurance covering bodily injury (including death) by accident or disease to any employee which arises out of the employee's employment by Contractor. The Employer's Liability Insurance required of Contractor hereunder may be obtained by Contractor as a separate policy of insurance or as an additional coverage under the Workers' Compensation Insurance required to be obtained and maintained by Contractor hereunder. The limits of liability for the Employer's Liability Insurance required hereunder shall be as set forth in the Special Conditions.

6.2 Commercial General Liability and Property Insurance. The Contractor shall purchase and maintain Commercial General Liability and Property Insurance covering the types of claims set forth below which may arise out of or result from Contractor's operations under the Contract Documents and for which the Contractor may be legally responsible: (i) claims for damages because of bodily injury, sickness or disease or death of any person other than the Contractor's employees; (ii) claims for damages insured by usual personal injury liability coverage which are sustained (a) by a person as a result of an offense directly or indirectly related to employment of such person by the Contractor, or (b) by another person; (iii) claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom; (iv) claims for damages because of bodily injury, death of a person or property damages arising out of ownership, maintenance or use of a motor vehicle; (v) contractual liability insurance applicable to the Contractor's obligations under the Contract Documents; and (vi) Completed Operations.

6.3 Builder's Risk "All-Risk" Insurance. The Contractor shall obtain Builders Risk insurance covering the full insurable value of the Work from risks of loss, damage or destruction of Work in progress or in place at the Site prior to Final Acceptance including without limitation coverage for losses resulting from the perils of fire, malicious mischief, vandalism, and collapse. The Builder's Risk Insurance Policy shall include coverage for seismic risks if so indicated in the Special Conditions.

6.4 Insurance Policy Requirements. Each policy of insurance required by the Contract

Documents shall confirm the following requirements.

6.4.1 Minimum Coverage Amounts. The insurance required of the Contractor hereunder shall be written for not less than any limits of liability specified in the Contract Documents, or required by law, whichever is greater. In the event of any loss or damage covered by a policy of insurance required to be obtained and maintained by the Contractor hereunder, the Contractor shall be solely and exclusively responsible for the payment of the deductible, if any, under such policy of insurance, without adjustment to the Contract Price on account thereof.

6.4.2 Required Qualifications of Insurers. The Contractor and Subcontractors' policies of Commercial General Liability and Property/Casualty insurance and the Contractor's Builders Risk insurance will be accepted by the District only if the insurer(s) are: (a) A.M. Best rated A- or better; (b) A.M. Best Financial Size Category VII or higher; and (c) authorized under California law to transact business in the State of California and authorized to issue insurance policies in the State of California. If at any time during performance of the Work, the insurer(s) issuing a policy of insurance covering Commercial General Liability, Property/Casualty or Builder Risk is/are not A.M. Best rated A- or better and is/are not A.M. Best Financial Size Category VII or higher, the Contractor or Subcontractor, as applicable shall within thirty (30) days of the District's written notice of the insufficiency of an insurer to the Contractor, obtain insurance coverage(s) from alternative insurer(s) who is/are then A.M. Best rated A- or better and who is/are A.M. Best Financial Size Category VII or higher. If the Contractor fails to deliver Certificate(s) of Insurance from an alternative insurer(s) meeting or exceeding the A.M. Best rating and A.M. Best Financial Size Category set forth above, within thirty (30) days of the date of the District's issuance of a written notice pursuant to the preceding sentence, in addition to any other right or remedy of the District under the Contract Documents or arising by operation of law, the District may withhold disbursement of any Progress Payment otherwise due hereunder until the Contractor has delivered such Certificate(s) of Insurance from an alternative insurer(s).

6.5 Evidence of Insurance; Subcontractor's Insurance.

6.5.1 Certificates of Insurance. Prior to commencing the Work, Contractor shall deliver to the District Certificates of Insurance evidencing the insurance coverages required by the Contract Documents. Failure or refusal of the Contractor to so deliver Certificates of Insurance may be deemed by the District to be a default of a material obligation of the Contractor under the Contract Documents, and thereupon the District may proceed to exercise any right or remedy provided for under the Contract Documents or at law. The Certificates of Insurance and the insurance policies required by the Contract Documents shall contain a provision that coverages afforded under such policies will not be canceled or allowed to expire until at least thirty (30) days prior written notice has been given to the District. The insurance policies required of Contractor hereunder shall also name the District, the Architect and the Construction Manager as additional insureds as their interests may appear. Should any policy of insurance be canceled before Final Acceptance of the Work by the District and the Contractor fails to immediately procure replacement insurance as required, the District reserves the right to procure such insurance and to deduct the premium cost thereof and other costs incurred by the District in connection therewith from any sum then or thereafter due the Contractor under the Contract Documents. The Contractor shall, from time to time, furnish the District, when requested, with satisfactory proof of coverage of each type of insurance required by the Contract

Documents; failure of the Contractor to comply with the District's request may be deemed by the District to be a default of a material obligation of the Contractor under the Contract Documents.

- 6.5.2 Subcontractors' Insurance.** Contractor shall require that every Subcontractor, of any tier, performing or providing any portion of the Work obtain and maintain the policies of insurance set forth in Articles 6.1 and 6.2 of these General Conditions; the coverages and limits of liability of such policies of insurance to be obtained and maintained by Subcontractors shall be as set forth in the Special Conditions. The policies of insurance to be obtained and maintained by Subcontractors hereunder are in addition to, and not in lieu of, Contractor obtaining and maintaining such policies of insurance. Each of the policies of insurance obtained and maintained by a Subcontractor hereunder shall conform with the requirements of this Article 6. Upon request of the District, Contractor shall promptly deliver to the District Certificates of Insurance evidencing that the Subcontractors have obtained and maintained policies of insurance in conformity with the requirements of this Article 6. Failure or refusal of the Contractor to provide the District with Subcontractors' Certificates of Insurance evidencing the insurance coverages required hereunder is a material default of Contractor hereunder.
- 6.6 Maintenance of Insurance.** Any insurance bearing on the adequacy of performance of Work shall be maintained after the District's Final Acceptance of all of the Work for the full one year correction of Work period and any longer specific guarantee or warranty periods set forth in the Contract Documents. Should such insurance be canceled before the end of any such periods and the Contractor fails to immediately procure replacement insurance as specified, the District reserves the right to procure such insurance and to charge the cost thereof to the Contractor. Nothing contained in these insurance requirements is to be construed as limiting the extent of the Contractor's responsibility for payment of damages resulting from its operations or performance of the Work under the Contract Documents, including without limitation the Contractor's obligation to pay Liquidated Damages. In no instance will the District's exercise of its option to occupy and use completed portions of the Work relieve the Contractor of its obligation to maintain insurance required under this Article until the date of Final Acceptance of the Work by the District, or such time thereafter as required by the Contract Documents. The insurer providing any insurance coverage required hereunder shall be to the reasonable satisfaction of the District.
- 6.7 Contractor's Insurance Primary.** All insurance and the coverages thereunder required to be obtained and maintained by Contractor hereunder, if overlapping with any policy of insurance maintained by the District, shall be deemed to be primary and non-contributing with any policy maintained by the District and any policy or coverage thereunder maintained by District shall be deemed excess insurance. To the extent that the District maintains a policy of insurance covering property damage arising out of the perils of fire or other casualty covered by the Contractor's Builder's Risk Insurance or the Comprehensive General Liability Insurance of the Contractor or any Subcontractor, the District, Contractor and all Subcontractors waive rights of subrogation against the others. The costs for obtaining and maintaining the insurance coverages required herein shall be included in the Contract Price.
- 6.8 Indemnity.** Unless arising solely out of the active negligence, gross negligence or willful misconduct the District or the Architect, the Contractor shall indemnify, defend and hold harmless the Indemnified Parties who are: (i) the District and its Board of Trustees, officers, employees, agents and representatives (including the Project Inspector); (ii) the Architect and its consultants for the Work and their respective agents and employees; and (iii) the

Construction Manager and its agents and employees. The Contractor's obligations hereunder includes indemnity, defense and hold harmless of the Indemnified Parties from and against any and all damages, losses, claims, demands or liabilities whether for damages, losses or other relief, including, without limitation attorneys fees and costs which arise, in whole or in part, from the Work, the Contract Documents or the acts, omissions or other conduct of the Contractor, any Subcontractor or any person or entity engaged by them for the Work. The Contractor's obligations under the foregoing include without limitation: (i) injuries to or death of persons; (ii) damage to property; or (iii) theft or loss of property; (iv) Stop Notice claims asserted by any person or entity in connection with the Work; and (v) other losses, liabilities, damages or costs resulting from, in whole or part, any acts, omissions or other conduct of Contractor, any of Contractor's Subcontractors, of any tier, or any other person or entity employed directly or indirectly by Contractor in connection with the Work and their respective agents, officers or employees. The obligations of the Contractor, as set forth in (v) above shall include, without limitation losses, costs, expenses, damages and other claims asserted by any other Contractor to the District in connection with the Work or in connection with a work of improvement related to or affected by the Work. If any action or proceeding, whether judicial, administrative, arbitration or otherwise, shall be commenced on account of any claim, demand or liability subject to Contractor's obligations hereunder, and such action or proceeding names any of the Indemnified Parties as a party thereto, the Contractor shall, at its sole cost and expense, defend the named Indemnified Parties in such action or proceeding with counsel reasonably satisfactory to the named Indemnified Parties. In the event that there shall be any judgment, award, ruling, settlement, or other relief arising out of any such action or proceeding to which any of the Indemnified Parties are subject to, or bound by, Contractor shall pay, satisfy or otherwise discharge any such judgment, award, ruling, settlement or relief; Contractor shall indemnify and hold harmless the Indemnified Parties from any and all liability or responsibility arising out of any such judgment, award, ruling, settlement or relief. The Contractor's obligations hereunder are binding upon Contractor's Performance Bond Surety and these obligations shall survive notwithstanding Contractor's completion of the Work or the termination of the Contract.

- 6.9 Payment Bond; Performance Bond.** Prior to commencement of the Work, the Contractor shall furnish a Performance Bond as security for Contractor's faithful performance of the Contract and a Labor and Material Payment Bond as security for payment of persons or entities performing work, labor or furnishing materials in connection with Contractor's performance of the Work under the Contract Documents. Unless otherwise stated in the Special Conditions, the amounts of the Performance Bond and the Payment Bond required hereunder shall be one hundred percent (100%) of the Contract Price. Said Labor and Material Payment Bond and Performance Bond shall be in the form and content set forth in the Contract Documents. The failure or refusal of the Contractor to furnish either the Performance Bond or the Labor and Material Payment Bond in strict conformity with this Article 6.9 may be deemed by the District as a default by the Contractor of a material obligation hereunder. Upon request of the Contractor, the District may consider and accept, but is not obligated to do so, multiple sureties on such bonds. The Surety on any bond required under the Contract Documents shall be: (i) an Admitted Surety Insurer as that term is defined in California Code of Civil Procedure §995.120; (ii) A.M. Best rated A- or better; and (iii) A.M. Best Financial Size Category VII or better. The Contractor's delivery of Bonds issued by a Surety who does not meet or exceed each of the criteria set forth above will be rejected.

ARTICLE 7: CONTRACT TIME

7.1 Substantial Completion of the Work Within Contract Time. Unless otherwise expressly provided in the Contract Documents, the Contract Time is the period of time, including authorized adjustments thereto, allotted in the Contract Documents for achieving Substantial Completion of the Work. The date for commencement of the Work is the date established by the Notice to Proceed issued by the District pursuant to the Agreement, which shall not be postponed by the failure to act of the Contractor or of persons or entities for whom the Contractor is responsible. The date of Substantial Completion is the date certified by the Architect and the Project Inspector, as such in accordance with the Contract Documents.

7.2 Progress and Completion of the Work.

7.2.1 Time of Essence. Time limits stated in the Contract Documents are of the essence. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing and achieving Substantial Completion of the Work. The Contractor shall employ and supply a sufficient force of workers, material and equipment, and prosecute the Work with diligence so as to maintain progress, to prevent Work stoppage and to achieve Substantial Completion of the Work within the Contract Time.

7.2.2 Substantial Completion. Substantial Completion is that stage in the progress of the Work when the Work is complete in accordance with the Contract Documents so the District can occupy or use the Work for its intended purpose. Substantial Completion shall be determined by the Architect, the Construction Manager and the Project Inspector upon request by the Contractor in accordance with the Contract Documents. The good faith and reasonable determination of Substantial Completion by the Project Inspector, the Construction Manager and the Architect shall be controlling and final.

7.2.3 Correction or Completion of the Work After Substantial Completion.

7.2.3.1 Punchlist. Upon achieving Substantial Completion of the Work, the District, The Project Inspector, the Construction Manager, the Architect and the Contractor shall jointly review the Work and prepare a comprehensive list of items of the Work to be corrected or completed by the Contractor ("the Punchlist"). The exclusion of, or failure to include, any item on the Punchlist shall not alter or limit the obligation of the Contractor to complete or correct any portion of the Work in accordance with the Contract Documents.

7.2.3.2 Time for Completing Punchlist Items. In addition to setting forth items for correction or completion pursuant to Article 7.2.3.1, the Construction Manager if any, Contractor and Architect shall, after the jointly review, establish a reasonable time for Contractors' completion of all Punchlist items. If mutual agreement is not reached for the Contractor's completion of Punchlist items, the Architect shall determine such time, and in such event, the time determined by the Architect shall be final and binding upon the District and Contractor so long as the Architect's determination is made in good faith. The Contractor shall promptly and diligently proceed to complete all Punchlist items within the time established. In the event that the Contractor shall fail or refuse, for any reason, to complete all Punchlist items within the time established, Contractor shall be subject to assessment of Liquidated Damages in accordance with Article 7.4 hereof. The foregoing notwithstanding, if the Contractor fails or refuses to complete all Punchlist items, the District may in its sole and exclusive discretion and without further notice to Contractor, elect to cause the completion of all remaining Punchlist items provided, however that such election by the District is in addition to

and not in lieu of any other right or remedy of the District under the Contract Documents or at law. If the District elects to complete Punchlist items of the Work, pursuant to the foregoing, Contractor shall be responsible for all costs incurred by the District in connection herewith and the District may deduct such costs from the Contract Price then or thereafter due the Contractor, if these costs exceed the remaining Contract Price due to the Contractor, the Contractor and the Performance Bond Surety are liable to District for any such excess costs

7.2.4 Final Completion. Final Completion is that stage of the Work when all Work has been completed in accordance with the Contract Documents, including without limitation, the performance of all correction or completion items noted upon Substantial Completion, and the Contract has been otherwise fully performed by the Contractor. Final Completion shall be determined by the Architect and the Project Inspector upon request of the Contractor. The good faith and reasonable determination of Final Completion by the Project Inspector and the Architect shall be controlling and final.

7.2.5 Contractor Responsibility for Multiple Inspections. In the event the Contractor shall request determination of Substantial Completion or Final Completion by the Project Inspector and the Architect and it is determined by the Project Inspector and the Architect that the Work does not then justify certification of Substantial Completion or Final Completion and re-inspection is required at a subsequent time to make such determination, the Contractor shall be responsible for all costs of such re-inspection, including without limitation, the fees of the Architect and the salary of the Project Inspector. The District may deduct such costs from the Contract Price then due or thereafter due to the Contractor.

7.2.6 Final Acceptance. Final Acceptance of the Work shall occur upon approval of the Work by the District's Board of Trustees; such approval shall be submitted for adoption at the next regularly scheduled meeting of the District's Board of Trustees after the determination of Final Completion. The commencement of any warranty or guarantee period under the Contract Documents shall be deemed to be the date upon which the District's Board of Trustees approves of the Final Acceptance of the Work.

7.3 Construction Schedule.

7.3.1 General Construction Schedule Requirements. Unless otherwise provided in the Special Conditions, the Construction Schedules required under this Article 7 shall; (i) indicate the date(s) for commencement and completion of various portions of the Work including without limitation, procurement, fabrication and delivery of major items, materials or equipment; (ii) indicate manpower and other resources required for completion of each Construction Schedule activity; (iii) indicate costs for completion of each Construction Schedule activity; (iv) identify each Submittal required by the Contract Documents, the date for the Contractor's submission of each Submittal and the date for the return of the reviewed Submittal to the Contractor; (v) no Site activity shall reflect a duration of less than one (1) or more than fifteen (15) working days; (vi) no more than twenty five percent (25%) of the total number of activities shown on any Construction Schedule shall be critical path activities or near critical path activities; "near critical path" is defined as float less than ten (10) working days; (viii) indicate major milestones, including without limitation, development of Punchlists and completion of Punchlists, equipment start-up and testing, close-out activities; and (ix) shall incorporate an activity code structure sufficient to allow future sorting/grouping by responsibility, Site area/location, CSI divisions and Milestones.

Failure by the Contractor to include any element of the Work required by the Contract Documents or completion of the Work shall not excuse the Contractor from completing all work required within the Contract Time, notwithstanding District's, Construction Manager's and Architect's acceptance of any Construction Schedule prepared by the Contractor.

7.3.2 Submittal of Preliminary Construction Schedule. Within ten (10) days following execution of the Agreement, the Contractor shall prepare and submit one (1) electronic and two (2) hard copies to the District, the Construction Manager and the Architect a Preliminary Construction Schedule indicating, in graphic form, the estimated rate of progress and sequence of all Work required under the Contract Documents. Failure of the Contractor to submit the Preliminary Construction Schedule within said ten (10) days will result in assessment of Liquidated Damages as set forth in the Special Conditions for each calendar beyond such ten (10) day period, until the Preliminary Construction Schedule is submitted by the Contractor. The purpose of the Preliminary Construction Schedule is to ensure adequate planning and execution of the Work so that it is completed within the Contract Time and to permit evaluation of the progress of the Work. The Contractor may submit a Preliminary Construction Schedule depicting completion of the Work in a duration shorter than the Contract Time; provided that such Preliminary Construction Schedule shall not be a basis for adjustment to the Contract Price in the event that completion of the Work shall occur after the time depicted therein, nor shall such Preliminary Construction Schedule be the basis for any extension of the Contract Time, the Contractor's entitlement to any extension of the Contract Time shall be based upon the Contract Time and not on any shorter duration which may be depicted in the Contractor's Preliminary Construction Schedule. If the Construction Schedules required under this Article 7.3 incorporate therein any "float" time, such float shall be deemed to jointly belong to and owned by the District and the Contractor. As used herein, "float time" shall be deemed to refer to the time between earliest finish date and the latest finish date of each activity shown on the Construction Schedule.

7.3.3 Review of Preliminary Construction Schedule. The District, the Construction Manager and the Architect shall review the Preliminary Construction Schedule submitted by the Contractor pursuant to Article 7.3.1 above for conformity with the requirements of the Contract Documents. Within fifteen (15) days of the date of receipt of the Preliminary Construction Schedule, the Preliminary Construction Schedule will be returned to the Contractor with comments to the form or content thereof. Review of the Preliminary Progress Schedule and any comments thereto by the District, the Construction Manager and/or the Architect shall not be deemed to be the assumption of construction means, methods or sequences by the District, the Construction Manager or the Architect, all of which remain the Contractor's obligations under the Contract Documents.

7.3.4 Preparation and Submittal of Contract Construction Schedule. Within ten (10) days of the District's return of the Preliminary Construction Schedule to the Contractor pursuant to Article 7.3.2 above, the Contractor shall prepare and submit to the District, Architect and the Construction Manager the Construction Schedule which incorporates therein the comments to the Preliminary Construction Schedule. Upon the Contractor's submittal of such Construction Schedule, the District, the Construction Manager and the Architect shall review the same for purposes of determining conformity with the requirements of the Contract Documents. Within fifteen (15) days of the receipt of the Construction Schedule, the District will accept such Construction Schedule or will return the same to the Contractor with comments to the form or content. In the event there are comments to the form or content thereof, the Contractor, shall within seven (7) days of

receipt of such comments, revise and resubmit the Construction Schedule incorporating therein such comments. Upon the District's acceptance of the form and content of a Construction Schedule, the same shall be deemed the "Accepted Construction Schedule." The District's acceptance of a Construction Schedule shall be for the sole and limited purpose of determining conformity with the requirements of the Contract Documents. By the Accepted Construction Schedule, the District shall not be deemed to have exercised control over, or approval of, construction means, methods or sequences, all of which remain the responsibility and obligation of the Contractor in accordance with the terms of the Contract Documents. Further, the Accepted Construction Schedule shall not operate to limit or restrict any of Contractor's obligations under the Contract Documents nor relieve the Contractor from the full, faithful and timely performance of such obligations in accordance with the terms of the Contract Documents. The activities, commencement and completion dates of activities, and the sequencing of activities depicted on the Accepted Construction Schedule shall not be modified or revised by the Contractor without the prior consent, or direction, of the District, Construction Manager and the Architect. Updates to the Accepted Construction Schedule pursuant to Article 7.3.5 below shall not be deemed revisions to the Accepted Construction Schedule. In the event that the Accepted Construction Schedule shall depict completion of the Work in a duration shorter than the Contract Time, the same shall not be a basis for an adjustment of the Contract Time or the Contract Price in the event that actual completion of the Work shall occur after such the time depicted in such Accepted Construction Schedule. In such event, the Contract Price shall not be subject to adjustment on account of any additional costs incurred by the Contractor to complete the Work prior to the Contract Time, as adjusted in accordance with the terms of the Contract Documents. Any adjustment of the Contract Time or the Contract Price shall be based upon the Contract Time set forth in the Contract Documents and not any shorter duration which may depicted in the Accepted Construction Schedule.

7.3.5 Revisions to Accepted Construction Schedule. In the event that the progress of the Work or the sequencing of the activities of the Work shall materially differ from that indicated in the Accepted Construction Schedule, as determined by the District in its reasonable discretion and judgment, the District may direct the Contractor to revise the Accepted Construction Schedule; within fifteen (15) days of the District's direction, the Contractor shall prepare and submit to the District, Architect and the Construction Manager a revised Accepted Construction Schedule, for review and approval by the District. The Contractor may request consent of the District to revise the Accepted Construction Schedule. Any such request shall be considered by the District only if in writing setting forth the Contractor's proposed revision(s) to the Accepted Construction Schedule and the reason(s) therefor. The District may consent to, or deny, any such request of the Contractor to revise the Accepted Construction Schedule in its reasonable discretion.

7.3.6 Updates to Accepted Construction Schedule.

7.3.6.1 Updated Construction Schedule Requirements. The Contractor shall monitor and update the Accepted Construction Schedule on a monthly basis, or more frequently as required by the conditions or progress of the Work, or as may be requested by the District. The Contractor shall provide the District, the Construction Manager and the Architect with Updated Accepted Construction Schedules indicating progress achieved and activities commenced or completed within the prior Updated Accepted Construction Schedule. Updates to the Accepted Construction Schedule shall not include any revisions to the activities, commencement and completion dates of activities or the sequencing of activities depicted on the Accepted Construction

Schedule. Any such revisions to the Accepted Construction Schedule shall result in the District's rejection of such update and Contractor shall, within seven (7) days of the District's rejection of such update, submit to the Architect and the Construction Manager an Updated Accepted Construction Schedule which does not incorporate any such revisions. The Contractor shall also submit, with its updates to the Accepted Construction Schedule a narrative statement including a description of current and anticipated problem areas of the Work, delaying factors and their impact, and an explanation of corrective action taken or proposed by the Contractor. If the progress of the Work is behind the Accepted Construction Schedule, the Contractor shall indicate what measures will be taken to place the Work back on schedule. The District may, from time to time, and in the District's sole and exclusive discretion, transmit to the Contractor's Performance Bond Surety the Accepted Construction Schedule, any updates thereof and the narrative statement described hereinabove. The District's election to transmit, or not to transmit such information, to the Contractor's Performance Bond Surety shall not limit the Contractor's obligations under the Contract Documents.

7.3.6.2 Monthly Submission of Updated Construction Schedules. Concurrently with its submission of its Applications for Progress Payments, the Contractor shall submit the Updated Construction Schedule for the immediately preceding month. Each submission of a monthly Updated Construction Schedule shall consist of: (i) one (1) reproducible copy; (ii) three (3) color copies; and (iii) electronic file stored on CD or DVD. If a narrative report accompanies any monthly Updated Construction Schedule, the Contractor shall submit four (4) copies of such narratives.

7.3.7 Contractor Responsibility for Construction Schedule. The Contractor shall be responsible for the preparation, submittal and maintenance of the Construction Schedules required by the Contract Documents, and any failure of the Contractor to do so may be deemed by the District as the Contractor's default in the performance of a material obligation of the Contractor under Contract Documents. Any and all costs or expenses required or incurred to prepare, submit, revise, maintain or update the Construction Schedules shall be solely that of the Contractor and no such cost or expense shall be charged to the District. The Contract Price shall not be subject to adjustment on account of costs, fees or expenses incurred or associated with the Contractor's preparation, submittal, and maintenance or updating of the Construction Schedules.

7.3.8 Three (3) Week Look-Ahead Schedule; One (1) Week As Built Schedule. A combined three (3) week Look-Ahead Schedule for the three (3) week period immediately following each weekly Progress Meeting with a one (1) week As-Built Schedule for the previous week shall be prepared by the Contractor and submitted by the Contractor to the Construction Manager for review and approval at each weekly Progress Meeting. The Contractor's preparation and submittal of the Three (3) Week Look-Ahead Schedule; One (1) Week As Built Schedule described above are material obligations of the Contractor; failure or refusal of the Contractor to strictly comply with the foregoing shall be a basis for the District's exercise of the default termination procedures set forth in the Contract Documents.

7.3.9 Unanticipated Unusually Severe Weather Conditions. The Baseline Construction Schedule and all subsequent Construction Schedule Updates shall incorporate a critical path activity entitled "Remaining Inclement Weather Days" which shall be the last activity in each Construction Schedule prior to the activity entitled "Final Completion". The sole

successor to "Remaining Inclement Weather Days" (with zero lag) shall be "Final Completion" and the sole predecessor (with zero lag) shall be "Punchlist".

The Contractor shall apply in writing to the District to use an Inclement Weather Day only when a critical path activity on the then current Updated Construction Schedule has been delayed because of inclement weather conditions. The duration of the "Remaining Inclement Weather Days" activity shall be reduced by the number of approved work days of actual weather caused delay, and be included in the monthly schedule updates.

The "Remaining Inclement Weather Days" activity shall have an initial duration as set forth in the Special Conditions, Paragraph 4.3. If, at Final Completion, there are inclement weather days remaining, the unused days shall be considered "float" as defined by Paragraph 7.3.1 of the General Conditions. If, additional inclement weather days are required, the District shall adjust the Substantial Completion date accordingly.

7.3.10 Construction Schedules; Conditions Precedent To Progress Payment Disbursements. In addition to, and not in lieu of conditions precedent set forth elsewhere in the Contract Documents relating to the District's disbursement of Progress Payments, the Contractor's preparation and submission of the Preliminary Construction Schedule, Construction Schedule Updates and the Three (3) Week Look-Ahead Schedule; One (1) Week As Built Schedule in accordance with the Contract Documents requirements are conditions precedent to the District's obligation to disburse any Progress Payment to the Contractor.

7.3.11 Contractor Schedule Compliance Obligations. If in the sole reasonable judgment of the District: (i) the Contractor's progress of Work is materially behind that indicated in the then current Construction Schedule or (ii) the Contractor's progress of Work will not result in the Contractor's achievement of Substantial Completion within the Contract Time or the Contractor's completion of Milestones/Phases of the Work as required by the Contract Documents, the Contractor shall take the action(s) described herein, as directed or authorized by the District. Unless the actions of the District, Construction Manager, Architect or Project Inspector are the sole causative factors resulting in delayed progress of the Work or the inability to achieve Substantial Completion within the Contract Time, the Contractor's actions hereunder shall not result in adjustment of the Contract Time or the Contract Price. Actions to be directed or authorized by the District include, without limitation, the Contractor's (i) increase of labor resources (whether on-Site or off-Site); (ii) increase the number of working hours per shift, increase the number of shifts per working day, increase the number of working days and/or increase Construction Equipment at the Site; and/or (iii) re-sequence Work activities to achieve maximum concurrent performance and completion of multiple Work activities.

7.4 Adjustment of Contract Time. If Substantial Completion is delayed, adjustment, if any, to the Contract Time on account of such delay shall be in accordance with this Article 7.4.

7.4.1 Excusable Delays. If Substantial Completion of the Work is delayed by Excusable Delays, the Contract Time shall be subject to adjustment for such reasonable period of time as determined by the Architect; Excusable Delays shall not result in any increase in the Contract Price. Excusable Delays refer to unforeseeable and unavoidable casualties or other unforeseen causes beyond the control, and without fault or neglect, of the Contractor, any Subcontractor, Material Supplier or other person directly or indirectly engaged by the Contractor in performance of any portion of the Work. Excusable Delays

include unanticipated and unavoidable labor disputes, unusual and unanticipated delays in transportation of equipment, materials or Construction Equipment reasonably necessary for completion and proper execution of the Work, unanticipated unusually severe weather conditions or DSA directive to stop the Work. Neither the financial resources of the Contractor or any person or entity directly or indirectly engaged by the Contractor in performance of any portion of the Work shall be deemed conditions beyond the control of the Contractor. If an event of Excusable Delay occurs, the Contract Time shall be subject to adjustment hereunder only if the Contractor establishes: (i) full compliance with all applicable provisions of the Contract Documents relative to the method, manner and time for Contractor's notice and request for adjustment of the Contract Time; (ii) that the event(s) forming the basis for Contractor's request to adjust the Contract Time are outside the reasonable control and without any fault or neglect of the Contractor or any person or entity directly or indirectly engaged by Contractor in performance of any portion of the Work; and (iii) that the event(s) forming the basis for Contractor's request to adjust the Contract Time directly and adversely impacted the critical path of the Work as indicated in the Approved Construction Schedule or the most recent updated Approved Construction Schedule relative to the date(s) of the claimed event(s) of Excusable Delay. The foregoing provisions notwithstanding, if the Special Conditions set forth a number of "Rain Days" to be anticipated during performance of the Work, the Contract Time shall not be adjusted for rain related unusually severe weather conditions until and unless the actual number of Rain Days during performance of the Work shall exceed those noted in the Special Conditions and such additional Rain Days shall have directly and adversely impacted the critical path of the Work as depicted in the Approved Construction Schedule or the most recent updated Approved Construction Schedule relative to the date(s) of such additional Rain Days.

7.4.2 Compensable Delays. If Substantial Completion of the Work is delayed and such delay is caused by the acts or omissions of the District, the Architect, the Inspector of Record, or separate contractor employed by the District (collectively "Compensable Delays"), upon Contractor's request and notice, in strict conformity with Articles 7 and 9 of these General Conditions, the Contract Time will be adjusted by Change Order for such reasonable period of time as determined by the Architect and the District. In accordance with California Public Contract Code §7102, if the Contractor's progress is delayed by any of the events described in the preceding sentence, Contractor shall not be precluded from the recovery of damages directly and proximately resulting therefrom, provided that the District is liable for the delay, the delay is unreasonable under the circumstances involved and the delay was not within the reasonable contemplation of the District and the Contractor at the time of execution of the Agreement. In such event, Contractor's damages, if any, shall be limited to direct, actual and unavoidable additional costs of labor, materials or Construction Equipment directly resulting from such delay, and shall exclude indirect or other consequential damages. Except as expressly provided for herein, Contractor shall not have any other claim, demand or right to adjustment of the Contract Price arising out of delay, interruption, hindrance or disruption to the progress of the Work. Adjustments to the Contract Price and the Contract Time, if any, on account of Changes to the Work or Suspension of the Work shall be governed by the applicable provisions of the Contract Documents, including without limitation, Articles 9 and 14 of these General Conditions.

7.4.3 Inexcusable Delays. Inexcusable Delays refer to any delay to the progress of the Work caused by events or factors other than those specifically identified in Articles 7.4.1 and 7.4.2 above. Neither the Contract Price nor the Contract Time shall be adjusted on account of Inexcusable Delays.

7.4.4 Adjustment of Contract Time.

7.4.4.1 Procedure for Adjustment of Contract Time. The Contract Time shall be subject to adjustment only in strict conformity with applicable provisions of the Contract Documents. Failure of Contractor to request adjustment(s) of the Contract Time in strict conformity with applicable provisions of the Contract Documents shall be deemed Contractor's waiver of the same.

7.4.4.1.1 Contractor Notice of Adjustment of Contract Time. The Contract Time shall be subject to adjustment only if the Contractor provides notice of an adjustment of the Contract Time and supporting substantiation and documentation of the basis and extent of the requested Contract Time adjustment in strict conformity to Article 9.6 of these General Conditions.

7.4.4.1.2 Time Impact Evaluation. The supporting substantiation and documentation of the basis and extent of Contract Time adjustments required by the provisions of Article 9.6 shall include, without limitation, a complete Time Impact Evaluation ("TIE") of the factors justifying an adjustment of the Contract Time and the extent of such adjustment of the Contract Time.

7.4.4.2 Limitations Upon Adjustment of Contract Time on Account of Delays. Any adjustment of the Contract Time on account of an Excusable Delay or a Compensable Delay shall be limited as set forth herein. If an Excusable Delay and a Compensable Delay occur concurrently, the maximum extension of the Contract Time shall be the number of days from the commencement of the first delay to the cessation of the delay which ends last. If an Unexcusable Delay occurs concurrently with either an Excusable Delay or a Compensable Delay, the maximum extension of the Contract Time shall be the number of days, if any, which the Excusable Delay or the Compensable Delay exceeds the period of time of the Unexcusable Delay. In addition to the foregoing limitations upon extension of the Contract Time, no adjustment of the Contract Time shall be made on account of any Excusable Delays or Compensable Delays unless such delay(s) actually and directly impact Work or Work activities on the critical path of the then current and updated Approved Construction Schedule as of the date on which such delay first occurs. The District shall not be deemed in breach of, or otherwise in default of any obligation hereunder, if the District shall deny any request by the Contractor for an adjustment of the Contract Time for any delay which does not actually and directly impact Work or Work activities on the critical path of the then current and updated Approved Construction Schedule.

7.5 Liquidated Damages. Should the Contractor neglect, fail or refuse to: (i) submit the Preliminary Construction Schedule within the time set forth in the Contract Documents; (ii) submit Submittals in accordance with Submittal Schedule incorporated into the Accepted Construction Schedule; (iii) achieve Substantial Completion of the Work within the Contract Time, (subject to adjustments authorized under the Contract Documents); or (iv) to complete Punchlist items within the time established pursuant to the Contract Documents, the Contractor agrees to pay to the District the amount of per diem Liquidated Damages set forth in the Special Conditions, not as a penalty but as Liquidated Damages. The Liquidated Damages amounts set forth in the Special Conditions are agreed upon by and between the Contractor and the District because of the difficulty of fixing the District's actual damages in the event of the Contractor's delayed submission of the Preliminary Construction Schedule, delayed submission of Submittals, delayed Substantial Completion or delayed completion of

Punchlist items. The Contractor and the District specifically agree that said amounts are reasonable estimates of the District's damages in such event, and that such amounts do not constitute a penalty. Liquidated Damages may be deducted by the District from the Contract Price then or thereafter due the Contractor. The Contractor and the Surety shall be liable to the District for any Liquidated Damages exceeding any amount of the Contract Price then held or retained by the District. In the event that the Contractor shall fail or refuse to complete Punchlist items and the District elects to exercise its right to cause completion or correction of such items pursuant to Article 7.2.3.2 hereof, the District's assessment of Liquidated Damages pursuant to the foregoing shall be in addition, and not in lieu of, the District's right to charge Contractor with the cost of completing or correcting such items of the Work, as provided for under Article 7.2.3.2. The Contractor and the District acknowledge and agree that the provisions of this Article 7.5 are reasonable under the circumstances existing at the time of the Contractor's execution of the Agreement.

- 7.6 District Right to Take-Over Work.** Unless caused by the District, Architect, Construction Manager or the Project Inspector, if the Contractor fails or refuses, for any reason and at any time, to furnish adequate materials, labor, equipment or services to maintain progress of the Work in accordance with the then current Construction Schedule after twenty-four (24) hours advance written notice from the Construction Manager to the Contractor of its failure or refusal, the District may thereafter furnish or cause to be furnished such materials, labor, equipment or services necessary to maintain progress of the Work in accordance with the then current Construction Schedule. All costs, expenses or other charges (whether direct, indirect and administrative) incurred by the District in furnishing such materials, labor, equipment or services shall be at the sole cost of the Contractor and the District may deduct the same from the Contract Price then or thereafter due the Contractor. The District's exercise of rights pursuant to the foregoing shall not be deemed a waiver or limitation of any other right or remedy of the District under the Contract Documents.

ARTICLE 8: CONTRACT PRICE

- 8.1 Contract Price.** The Contract Price is the amount stated in the Agreement as such, and subject to any authorized adjustments thereto in accordance with the Contract Documents, is the total amount payable by the District to the Contractor for performance of the Work under the Contract Documents. The District's payment of the Contract Price to the Contractor shall be in accordance with the Contract Documents.
- 8.2 Cost Breakdown.** Within fifteen (15) days of the execution of the Agreement by Contractor, Contractor shall furnish, on forms approved by the District, a detailed estimate and complete Cost Breakdown of the Contract Price. The Cost Breakdown shall be subject to review and approval by the Construction Manager, Architect and District of the form and content thereof. In the event that the District shall reasonably object to any portion of the Cost Breakdown, within ten (10) days of the District's receipt of the Cost Breakdown, the District shall notify the Contractor, in writing of the District's objection(s) to the Cost Breakdown. Within five (5) days of the date of the District's written objection(s), Contractor shall submit a revised Cost Breakdown to the District, Architect and the Construction Manager for review and acceptance. The foregoing procedure for the preparation, review and approval of the Cost Breakdown shall continue until the District, Architect and the Construction Manager have approved of the entirety of the Cost Breakdown. Once the Cost Breakdown is accepted by the District, Architect and the Construction Manager, the Cost Breakdown shall not be thereafter modified or amended by the Contractor without the prior consent and approval of the District, Architect and the Construction Manager, which may be granted or withheld in

their sole reasonable discretion.

8.3 Progress Payments.

8.3.1 Applications for Progress Payments. During the Contractor's performance of the Work, the Contractor shall submit monthly, on the first working day of each month, to the Project Inspector, Construction Manager and the Architect, Applications for Progress Payments, on forms approved by the District, setting forth an itemized estimate of Work completed in the preceding month for the purpose of the District's making of Progress Payments thereon. Values utilized in the Applications for Progress Payments shall be based upon the District accepted Cost Breakdown pursuant to Article 8.2 above and such values shall be only for determining the basis of Progress Payments to Contractor, and shall not be considered as fixing a basis for adjustments, whether additive or deductive, to the Contract Price, or for determining the extent of Work actually completed.

8.3.2 Initial Progress Payment Meeting. Prior to submitting any Application for Progress Payment and for the purpose of expediting review of Application for Progress Payments and disbursement of Progress Payments, Contractor agrees to meet with the Project Inspector, Construction Manager and Architect to review and discuss each of the Contractor's Proposed Applications for Progress Payment. If any item submitted for payment is disputed during this review, Contractor agrees to use its best efforts to resolve the disputed items with Project Inspector, Construction Manager and Architect before formally submitting the Application for Progress Payment. The Architect, the Construction Manager and District specifically reserve the right to dispute any item included in Contractor's Application for Progress Payment, regardless of whether such item was identified as disputed in the initial review process provided for herein.

8.3.3 District's Review of Applications for Progress Payments. In accordance with Public Contract Code §20104.50, upon receipt of an Application for Progress Payment, the District shall cause the same to be reviewed by the Project Inspector, the Construction Manager, if one is designated by the District, and the Architect, as soon as is practicable after receipt of such Application for Progress Payment. Such review shall be for the purpose of determining that the Application for Progress Payment is a proper Progress Payment request. For purposes of this Article 8.3.2, an Application for Progress Payment shall be deemed "proper" only if it is submitted on the form approved by the District, with all of the requested information of such form of Application for Progress Payment completely and accurately provided by the Contractor and such completed Application for Progress Payment is accompanied by: (i) a Certification, executed under penalty of perjury by the Contractor's Superintendent and/or Construction Manager, that all weekly Certified Payroll Records for the Contractor and all Subcontractors required to submit weekly Certified Payroll Records under the LCP for the period of time covered by the Application for Progress Payment have been completed and submitted in strict conformity with the LCP; (ii) Certified Payrolls of the any Subcontractors, of any tier, (who are not required under the LCP to submit Certified Payroll Records on weekly basis) for laborers performing any portion of the Work for which a Progress Payment is requested; (iii) duly completed and executed forms of Conditional Waiver and Release of Rights Upon Progress Payment in accordance with California Civil Code §3262 of the Contractor, all Subcontractors of any tier, and Material Suppliers covering the Progress Payment requested; (iv) duly completed and executed forms of Unconditional Waiver and Release of Rights upon Progress Payment in accordance with California Civil Code §3262 of the Contractor, all Subcontractors of any tier, and Material Suppliers covering the Progress Payment received

by the Contractor under the prior Application for Progress Payment; (v) an updated Construction Schedule in accordance with Article 7.3.5 of the General Conditions and applicable provisions of the Specifications relating to the Contractor's updates to the Construction Schedule; (vi) for the first (1st) Application for Progress Payment, a certification that the Preliminary Construction Schedule conforming to requirements of the Contract Documents has been prepared and submitted by the Contractor; for subsequent Applications for Progress Payment a certification by the Contractor that it has continuously maintained, or caused to be maintained, the Record Drawings reflecting the actual as-built conditions of the Work performed for which the Progress Payment is requested, it being understood that such certification is subject to verification by the District, Architect, Project Inspector or the Construction Manager prior to disbursement of the Progress Payment; and (vii) completed/executed form of Debris Recycling Statement. In accordance with Public Contract Code §20104.50, an Application for Progress Payment determined by the District not to be a proper Application for Progress Payment shall be returned by the District to the Contractor as soon as is practicable after receipt of the same from the Contractor, but in no event not more than seven (7) days after the District's receipt thereof. The District's return of any Application for Progress Payment pursuant to the preceding sentence shall be accompanied by a written document setting forth the reason(s) why the Application for Progress Payment is not proper.

8.3.4 Review of Applications for Progress Payments. Upon receipt of an Application for Progress Payment, the Architect, Construction Manager and the Project Inspector shall inspect and verify the Work to determine whether it has been performed in accordance with the terms of the Contract Documents and to determine the portion of the Application for Progress Payment which is properly due to the Contractor under the terms of the Contract Documents.

8.3.5 District's Disbursement of Progress Payments

8.3.5.1 Timely Disbursement of Progress Payments. In accordance with Public Contract Code §20104.50, within thirty (30) days after the District's receipt of a proper Application for Progress Payment, there shall be paid, by District, to Contractor a sum equal to ninety-five percent (95%) of the value of the Work indicated in the Application for Progress Payment which is actually in place as of the date of the Application for Progress Payment and as verified and approved by the Project Inspector and the Architect and the pro rata portion of the Contractor's overhead, supervision and general conditions costs and profit for that month; provided, however, that the District's obligation to disburse any Progress Payment shall be subject to the District's receipt of all documents set forth in Article 8.3.3 above, each and all of which are conditions precedent to the District's obligation to disburse Progress Payments. If an Application for Progress Payment is determined not to be proper due to the failure or refusal of the Contractor to submit documents with the Application for Progress Payment, as required by Article 8.3.2, or incompleteness or inaccuracies in any such documents submitted or if it is reasonably determined that the Record Drawings have not been continuously maintained to reflect the actual as built conditions of the Work completed in the period for which the Progress Payment is requested, the thirty (30) day period hereunder for the District's timely disbursement of a Progress Payment shall be deemed to commence on the date that the District is actually in receipt of documents not submitted with the Application for Progress Payment, or corrections to documents with the Application for Progress Payment so as to render them complete and accurate, or the date upon which the Contractor accurately and fully

completes preparation of the Record Drawings relating to the Work for which the Progress Payment is requested.

8.3.5.2 Untimely Disbursement of Progress Payments. In accordance with Public Contract Code §20104.50, in the event that the District shall fail to make any Progress Payment within thirty (30) days after receipt of an undisputed and properly submitted Application for Progress Payment, the District shall pay the Contractor interest on the undisputed amount of such Application for Progress Payment equal to the legal rate of interest set forth in California Code of Civil Procedure §685.010(a). The foregoing notwithstanding, in the event that the District shall determine that any Application for Progress Payment is not proper, pursuant to Article 8.3.3 above, and the District does not return such Application for Progress Payment within the seven (7) day period provided for in Article 8.3.3, the period of time for the District's disbursement of the Progress Payment on such Application for Progress Payment without incurring the interest liability shall be reduced by the number of days exceeding the seven (7) day return period.

8.3.5.3 District's Right to Disburse Progress Payments by Joint Checks. Provided that the District is in receipt of the applicable Subcontract or Purchase Order, the District, may in its sole discretion, issue joint checks to the Contractor and such Subcontractor or Material Supplier in satisfaction of its obligation to make Progress Payments or the Final Payment due hereunder.

8.3.5.4 No Waiver of Defective or Non-Conforming Work. The approval of any Application for Progress Payment or the disbursement of any Progress Payment to the Contractor shall not be deemed nor constitute acceptance of defective Work or Work not in conformity with the Contract Documents.

8.3.6 Progress Payments for Changed Work. The Contractor's Applications for Progress Payment may include requests for payment on account of Changes in the Work which have been properly authorized and approved by the Project Inspector, the Architect and all other governmental agencies with jurisdiction over such Change in accordance with the terms of the Contract Documents and for which a Change Order has been issued. Except as provided for herein, no other payment shall be made by the District for Changes in the Work.

8.3.7 Materials or Equipment Not Incorporated Into the Work.

8.3.7.1 Limitations Upon Payment. Except as expressly provided for herein, no payments shall be made by the District on account of any item of the Work, including without limitation, materials or equipment which, at the time of the Contractor's submittal of an Application for Progress Payment, has/have not been incorporated into and made a part of the Work.

8.3.7.2 Materials or Equipment Delivered and Stored at the Site. The District may, in its sole and exclusive discretion, make payment for materials or equipment not yet incorporated into the Work if, at or prior to the time of the Contractor's submittal of an Application for Progress Payment incorporating therein a request for payment of such materials or equipment if all of the following are complied with: (i) the materials or equipment have been delivered to the Site; (ii) adequate arrangements, reasonably satisfactory to the District, have been made by the Contractor to store and protect

such materials or equipment at the Site including without limitation, insurance reasonably satisfactory to the District, covering and protecting against the risk of loss, destruction, theft or other damage to such materials or equipment while in storage if such coverage is not afforded under the policy of Builder's Risk insurance obtained by the District pursuant to the Contract Documents; and (iii) the establishment of procedures reasonably satisfactory to the District by which title to such materials or equipment will be vested in the District upon the District's payment therefor. The Contractor acknowledges that the discretion to make, or not to make, payment for materials or equipment delivered or stored at the site of the Work pursuant to the preceding sentence shall be exercised exclusively by the District; the District's exercise of discretion not to make payment for materials or equipment delivered or stored at the Site, but not yet incorporated into the Work shall not be deemed the District's default hereunder. In the event that the District shall elect to make payment for materials or equipment delivered and stored at the Site, the costs and expenses incurred to comply with the requirements of (ii) and (iii) of this Article 8.3.6.2 shall be borne solely and exclusively by the Contractor and no payment shall be made by the District on account of such costs and expenses.

8.3.7.3 Materials or Equipment Not Delivered or Stored at the Site. No payments shall be made by the District for materials or equipment to be incorporated into the Work where such materials or equipment have not been delivered or stored at the Site. The foregoing notwithstanding, the District may, in its sole and exclusive discretion, elect to make payment for materials or equipment not incorporated into the Work and which are not delivered or stored at the Site at or prior to the time of the Contractor's submittal of an Application for Progress Payment incorporating therein a request for payment of such materials or equipment provided that each and all of the following have been complied with: (i) adequate arrangements, reasonably satisfactory to the District, have been made by the Contractor to store and protect such materials or equipment which include without limitation, insurance reasonably satisfactory to the District, covering and protecting against the risk of loss, destruction, theft or other damage to such materials or equipment while in storage if coverage for the same is not afforded under the policy of Builder's Risk insurance obtained by the District pursuant to the Contract Documents; and (ii) the establishment of procedures reasonably satisfactory to the District by which title to such materials or equipment will be vested in the District upon the District's payment therefor. The Contractor acknowledges that the discretion to make, or not to make, payment for such materials or equipment pursuant to the preceding sentence shall be exercised exclusively by the District; the District's exercise of discretion not to make payment for such materials or equipment shall not be deemed the District's default hereunder. In the event that the District shall elect to make payment for materials or equipment not at the Site, the costs and expenses incurred to comply with the requirements of (i) and (ii) of this Article 8.3.7.3 shall be borne solely and exclusively by the Contractor and no payment shall be made by the District on account of such costs and expenses.

8.3.7.4 Materials or Equipment in Fabrication or Transit. The provisions of this Article 8.3.7 notwithstanding, the District shall not make any payment on account of any materials or equipment which is in the process of being fabricated or which are in transit to the Site of or other storage location.

8.3.8 Exclusions From Progress Payments. In addition to the District's right to withhold disbursement of any Progress Payment provided for in the Contract Documents, neither

the Contractor's Application for Progress Payment shall include, nor shall the District be obligated to disburse any portion of the Contract Price for amounts which the Contractor does not intend to pay any Subcontractor, of any tier, or Material Supplier because of a dispute or any other reason.

8.3.9 Title to Work. The Contractor warrants that title to all Work covered by an Application for Progress Payment will pass to the District no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Progress Payment, all Work for which a Progress Payment has been previously issued and the Contractor has received payment from the District therefor shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, stop notices, security interests or encumbrances in favor of the Contractor, Subcontractors, Material Suppliers or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

8.3.10 Substitute Security for Retention. In accordance with the provisions of California Public Contract Code §22300, eligible and equivalent securities may be substituted for any monies withheld by the District to ensure the Contractor's performance under the Contract Documents at the request and expense of the Contractor and in conformity with the provisions of California Public Contract Code §22300. The foregoing and the provisions of California Public Contract Code §22300 notwithstanding, failure of the Contractor to request the substitution of eligible and equivalent securities for monies to be withheld by the District prior to the Contractor's submission of its first Application for Progress Payment shall be deemed a waiver of such right.

8.4 Final Payment.

8.4.1 Application for Final Payment. When the Contractor has achieved Final Completion of the Work and has otherwise fully performed its obligations under the Contract Documents, the Contractor shall submit an Application for Final Payment on such form as approved by the District. Thereupon, the Architect and the Project Inspector will promptly make a final inspection of the Work and when the Architect and the Project Inspector find the Work acceptable under the Contract Documents and that the Contract has been fully performed by the Contractor, the Architect and the Project Inspector will thereupon promptly approve the Application for Final Payment, stating that to the best their knowledge, information and belief, the Work has been completed in accordance with the terms of the Contract Documents. The Final Payment shall include the remaining balance of the Contract Price and any retention from Progress Payments previously withheld by the District.

8.4.2 Conditions Precedent to Disbursement of Final Payment. Neither Final Payment nor any remaining Contract Price shall become due until the Contractor submits to the District each and all of the following, the submittal of which are conditions precedent to the District's obligation to disburse the Final Payment: (i) an affidavit or certification by the Contractor that payrolls, bills for materials and other indebtedness incurred in connection with the Work for which the District or the District's property may or might be responsible or encumbered have been paid or otherwise satisfied; (ii) a certificate evidencing that insurance required by the Contract Documents to remain in force after the Contractor's receipt of Final Payment is currently in effect; (iii) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover any period following Final Payment as required by the Contract Documents; (iv) consent of the Surety

on the Labor and Material Payment Bond and Performance Bond, to Final Payment if required; (v) duly completed and executed forms of Conditional or Unconditional Waivers and Releases of rights upon Final Payment of the Contractor, Subcontractors of any tier and Material Suppliers in accordance with California Civil Code §3262, with each of the same stating that there are, or will be, no claims for additional compensation after disbursement of the Final Payment; (vi) Operations and Maintenance manuals and separate warranties provided by any manufacturer or distributor of any materials or equipment incorporated into the Work; (vii) the Record Drawings; (viii) the form of Guarantee included in the Contract Documents duly executed by an authorized representative of the Contractor; (ix) any and all other items or documents required by the Contract Documents to be delivered to the District upon completion of the Work; (x) the completion and submittal of all reports required by the Contract Documents, including without limitation, verified reports required by applicable provisions of the California Code of Regulations; and (xi) if required by the District, such other data establishing payment or satisfaction of obligations such as receipts, releases and waivers of liens, stop notices, claims, security interest or encumbrances arising out of the Contract to the extent and in such form as may be required by the District.

8.4.3 Disbursement of Final Payment. Provided that the District is then in receipt of all documents and other items in Article 8.4.2 above as conditions precedent to the District's obligation to disburse Final Payment, not later than sixty (60) days following Final Acceptance the District shall disburse the Final Payment to the Contractor. Pursuant to California Public Contract Code §7107, if there is any dispute between the District and the Contractor at the time that disbursement of the Final Payment is due, the District may withhold from disbursement of the Final Payment an amount not to exceed one hundred fifty percent (150%) of the amount in dispute.

8.4.4 Waiver of Claims. The Contractor's acceptance of the Final Payment is a waiver and release by the Contractor of any and all claims against the District for compensation or otherwise in connection with the Contractor's performance of the Contract.

8.4.5 Claims Asserted After Final Payment. Any lien, stop notice or other claim filed or asserted after the Contractor's acceptance of the Final Payment by any Subcontractor, of any tier, laborer, Material Supplier or others in connection with or for Work performed under the Contract Documents shall be the sole and exclusive responsibility of the Contractor who further agrees to indemnify, defend and hold harmless the District and its officers, agents, representatives and employees from and against any claims, demands or judgments arising or associated therewith, including without limitation attorneys fees incurred by the District in connection therewith. In the event any lien, stop notice or other claim of any Subcontractor, Laborer, Material Supplier or others performing Work under the Contract Documents remain unsatisfied after Final Payment is made, Contractor shall refund to District all monies that the District may pay or be compelled to pay in discharging any lien, stop notice or other claim, including, without limitation all costs and reasonable attorneys fees incurred by District in connection therewith.

8.5 Withholding of Payments. The District may withhold any Progress Payment or the Final Payment, in whole or in part, or backcharge the Contractor to the extent it may deem advisable to protect the District on account of: (i) defective Work or Work not in conformity with the requirements of the Contract Documents which is not remedied; (ii) failure of the Contractor to make payments when due Subcontractors or Material Suppliers for materials or labor; (iii) claims filed or reasonable evidence of the probable filing of claims by

Subcontractors, laborers, Material Suppliers, or others performing any portion of the Work under the Contract Documents for which the District may be liable or responsible including, without limitation, Stop Notice Claims filed with the District pursuant to California Civil Code §3179 et seq.; (iv) a reasonable doubt that the Contract can be completed for the then unpaid balance of the Contract Price; (v) tax demands filed in accordance with California Government Code §12419.4; (vi) other claims, penalties and/or forfeitures for which the District is required or authorized to retain funds otherwise due the Contractor; (vii) any amounts due from the Contractor to the District under the terms of the Contract Documents; (viii) violations of the LCP or other obligations of the Contractor or any Subcontractor relating to the employment of labor in connection with the Work (including without limitation, delinquent submission of weekly Certified Payroll Records or the submission of inadequate weekly Certified Payroll Records; or (ix) the Contractor's failure to perform any of its obligations under the Contract Documents or its default under the Contract Documents or its failure to maintain adequate progress of the Work. In addition to the foregoing, the District shall not be obligated to process any Application for Progress Payment or Final Payment, nor shall Contractor be entitled to any Progress Payment or Final Payment so long as any lawful or proper direction concerning the Work or the performance thereof or any portion thereof, given by the District, the Project Inspector, the Architect or any public authority having jurisdiction over the Work, or any portion thereof, shall not be fully and completely complied with by the Contractor. When the District is reasonably satisfied that the Contractor has remedied any such deficiency, payment shall be made of the amount withheld. In lieu of making payment of withheld amounts to the Contractor, the District may, in its sole exclusive discretion, apply withheld amounts to the payment and satisfactions of debts and obligations of the Contractor relating to the Work. In doing, the District shall be an agent of the Contractor for the sole and limited purpose of making payment(s) to others for the Work on behalf of the Contractor; payments made by the District pursuant to the foregoing shall be deemed payments to the Contractor and the Contract Price shall be adjusted to reflect such payment(s). The District shall not be liable to the Contractor or others for its good faith decision to make or not make payment(s) of amounts withheld from the Contractor pursuant to the foregoing. If the District elects to make payments to other of amounts withheld from the Contractor, the District may do so without prior judicial determination; the District will render the Contractor a complete and accurate accounting of amounts withheld and paid to others on behalf of the Contractor.

8.6 Payments to Subcontractors. The Contractor shall pay all Subcontractors for and on account of Work of the Contract performed by such Subcontractors in accordance with the terms of their respective subcontracts and as provided for pursuant to California Public Contract Code §10262, the provisions of which are deemed incorporated herein by this reference. In the event of the Contractor's failure to make payment to Subcontractors in conformity with California Public Contract Code §10262, the provisions of California Public Contract Code §10253 shall apply; by this reference, the provisions of California Public Contract Code §10253 are incorporated herein in its entirety, except that the references in said Section 10253 to "the director" shall be deemed to refer to the District. The Contractor shall timely make payment of retention due Subcontractors in accordance with Public Contract Code §7107.

8.7 Computerized Job Cost Reporting System.

8.7.1 Job Cost Reporting. The Contractor and each Subcontractor with a Subcontract valued at Seven Hundred and Fifty Thousand Dollars (\$500,000) or greater shall maintain a computerized job cost reporting system conforming to the requirements set forth herein.

The computer program(s) utilized by the Contractor and applicable Subcontractors shall be subject to the review and acceptance by the District. The job cost reporting systems for the Work shall be updated in regular intervals of not less than one (1) calendar month.

8.7.2 Job Cost Reporting System Requirements. The computerized job cost programs utilized by the Contractor and applicable Subcontractors shall conform and comply with generally accepted accounting principles applied in a consistent manner and with recognized and generally accepted construction industry accounting standards, guidelines and procedures. The job cost reporting system format and configuration shall follow the general format of the District approved Cost Breakdown and budgets established for each line item shall be traceable to a bid estimate of costs. The job cost reporting systems utilized by the Contractor and applicable Subcontractors shall be capable of: (a) providing overall cost status on a monthly and cumulative basis; (b) providing comparative analysis of the original budgeted costs, actual costs, remaining budget, and projected cost of completion; the job cost reporting system shall be capable of providing comparative analysis for individual line items and the totality of the Work reflected in the job cost report and; (c) tracking adjustments to original budget amounts for Changes to the Work (including, without limitation, issued, pending and potential Change Orders).

8.7.3 Job Cost System Information. Upon request of the District or the Construction Manager, the Contractor and applicable Subcontractors shall make available written job cost reports and provide the District and the Construction Manager with the electronic files of the then current or requested job cost report. The Contractor's obligations hereunder are material.

ARTICLE 9: CHANGES

9.1 Changes in the Work. The District, at any time, by written order, may make Changes within the general scope of the Work under the Contract Documents or issue additional instructions, require additional Work or direct deletion of Work. The Contractor shall not proceed with any Change involving an increase or decrease in the Contract Price or the Contract Time without prior written authorization from the District. The foregoing notwithstanding, the Contractor shall promptly commence and diligently complete any Change to the Work subject to the District's written authorized issued pursuant to the preceding sentence; the Contractor shall not be relieved or excused from its prompt commencement and diligent completion of any Change subject to the District's written authorization by virtue of the absence or inability of the Contractor and the District to agree upon the extent of any adjustment to the Contract Time or the Contract Price on account of such Change. The issuance of a Change Order pursuant to this Article 9 in connection with any Change authorized by the District under this Article 9.1 shall not be deemed a condition precedent to Contractor's obligation to promptly commence and diligently complete any such Change authorized by the District hereunder. The District's right to make Changes shall not invalidate the Contract nor relieve the Contractor of any liability or other obligations under the Contract Documents. Any requirement of notice of Changes in the scope of Work to the Surety shall be the responsibility of the Contractor. Changes to the Work depicted or described in the Drawings or the Specifications shall be subject to approval by the DSA. The District may make Changes to bring the Work or the Project into compliance with environmental requirements or standards established by state or federal statutes and regulations enacted after award of the Contract.

9.2 Oral Order of Change in the Work. Any oral order, direction, instruction, interpretation, or determination from the District, the Project Inspector or the Architect which in the opinion of

the Contractor causes any change to the scope of the Work, or otherwise requires an adjustment to the Contract Price or the Contract Time, shall be treated as a Change only if the Contractor gives the Architect and the Project Inspector written notice within ten (10) days of the order, directions, instructions, interpretation or determination and prior to acting in accordance therewith. Time is of the essence in Contractor's written notice pursuant to the preceding sentence so that the District can promptly investigate and consider alternative measures to address the order, direction, instruction, interpretation or determination giving rise to Contractor's notice. Accordingly, Contractor acknowledges that its failure, for any reason, to give written notice within ten (10) days of such order, direction, instruction, interpretation or determination shall be deemed Contractor's waiver of any right to assert or claim any entitlement to an adjustment of the Contract Time or the Contract Price on account of such order, direction, instruction, interpretation or determination. The written notice shall state the date, circumstances, extent of adjustment to the Contract Price or the Contract Time, if any, requested, and the source of the order, directions, instructions, interpretation or determination that the Contractor regards as a Change. Unless the Contractor acts in strict accordance with this procedure, any such order, direction, instruction, interpretation or determination shall not be treated as a Change and the Contractor hereby waives any claim for any adjustment to the Contract Price or the Contract Time on account thereof.

9.3 Contractor Submittal of Data. Within ten (10) days after receipt of a written order directing a Change in the Work or furnishing the written notice regarding any oral order directing a Change in the Work, the Contractor shall submit to the Architect, the Project Inspector, the Construction Manager and the District a detailed written statement setting forth the general nature of the Change, the amount of any adjustment to the Contract Price on account thereof, properly itemized and supported by sufficient substantiating data to permit evaluation of the same, and the extent of adjustment of the Contract Time, if any, required by such Change. No claim or adjustment to the Contract Price or the Contract Time shall be allowed if not asserted by the Contractor in strict conformity herewith or if asserted after Final Payment is made under the Contract Documents.

9.4 Adjustment to Contract Price and Contract Time on Account of Changes to the Work.

9.4.1 Adjustment to Contract Price. Adjustments to the Contract Price due to Changes in the Work shall be determined by application of one of the following methods, in the following order of priority:

9.4.1.1 Mutual Agreement. By negotiation and mutual agreement, on a lump sum basis, between the District and the Contractor on the basis of the estimate of the actual and direct increase or decrease in costs on account of the Change. Upon request of the District or the Architect, the Contractor shall provide a detailed estimate of increase or decrease in costs directly associated with performance of the Change along with cost breakdowns of the components of the Change and supporting data and documentation. The Contractor's estimate of increase or decrease in costs pursuant to the foregoing, if requested, shall be in sufficient detail and in such form as to allow the District, the Project Inspector and the Architect to review and assess the completeness and accuracy thereof. The Contractor shall be solely responsible for any additional costs or additional time arising out of, or related in any manner to, its failure to provide the estimate of costs within the time specified in the request of the District or the Architect for such estimate.

9.4.1.2 Determination by the District. By the District, whether or not negotiations are

initiated pursuant to Article 9.4.1.1 above based upon actual and necessary costs incurred by the Contractor as determined by the District on the basis of the Contractor's records. In the event that the procedure set forth in this Article 9.4.1.2 is utilized to determine the extent of adjustment to the Contract Price on account of Changes to the Work, promptly upon determining the extent of adjustment to the Contract Price, the District shall notify the Contractor in writing of the same; the Contractor shall be deemed to have accepted the District's determination of the amount of adjustment to the Contract Price on account of a Change to the Work unless Contractor shall notify the District, the Architect and the Project Inspector, in writing, not more than fifteen (15) days from the date of the District's written notice, of any objection to the District's determination. Failure of the Contractor to timely notify the District, the Architect and the Project Inspector of Contractor's objections to the District's determination of the extent of adjustment to the Contract Price shall be deemed Contractor's acceptance of the District's determination and a waiver of any right or basis of the Contractor to thereafter protest or otherwise object to the District's determination. Notwithstanding any objection of the Contractor to the District's determination of the extent of any adjustment to the Contract Price pursuant to this Article 9.4.1.2, Contractor shall, pursuant to Article 9.7 below, diligently proceed to perform and complete any such Change.

9.4.1.3 Basis for Adjustment of Contract Price. If Changes in the Work require an adjustment of the Contract Price pursuant to Articles 9.4.1.1 or 9.4.1.2 above, the basis for adjustment of the Contract Price shall be as follows:

9.4.1.3.1 Labor. Contractor shall be compensated for the costs of labor actually and directly utilized in the performance of the Change. Such labor costs shall be limited to field labor for which there is a prevailing wage rate classification. Wage rates for labor shall not exceed the prevailing wage rates in the locality of the Site and shall be in the labor classification(s) necessary for the performance of the Change. Use of a labor classification which would increase labor costs associated with any Change shall not be permitted. Labor costs shall exclude costs incurred by the Contractor in preparing estimate(s) of the costs of the Change, in the maintenance of records relating to the costs of the Change, coordination and assembly of materials and information relating to the Change or performance thereof, or the supervision and other overhead and general conditions costs associated with the Change or performance thereof.

9.4.1.3.2 Materials and Equipment. Contractor shall be compensated for the costs of materials and equipment necessarily and actually used or consumed in connection with the performance of Changes. Costs of materials and equipment may include reasonable costs of transportation from a source closest to the site of the Work and delivery to the Site. If discounts by Material Suppliers are available for materials necessarily used in the performance of Changes, they shall be credited to the District. If materials and/or equipment necessarily used in the performance of Changes are obtained from a supplier or source owned in whole or in part by the Contractor, compensation therefor shall not exceed the current wholesale price for such materials or equipment. If, in the reasonable opinion of the District, the costs asserted by the Contractor for materials and/or equipment in connection with any Change is excessive, or if the Contractor fails to provide satisfactory evidence of the actual costs of such materials and/or equipment from its supplier or vendor of the same, the costs of such materials

and/or equipment and the District's obligation for payment of the same shall be limited to the then lowest wholesale price at which similar materials and/or equipment are available in the quantities required to perform the Change. The District may elect to furnish materials and/or equipment for Changes to the Work, in which event the Contractor shall not be compensated for the costs of furnishing such materials and/or equipment or any mark-up thereon.

9.4.1.3.3 Construction Equipment. Contractor shall be compensated for the actual cost of the necessary and direct use of Construction Equipment in the performance of Changes to the Work. Use of such Construction Equipment in the performance of Changes to the Work shall be compensated in increments of fifteen (15) minutes. Rental time for Construction Equipment moved by its own power shall include time required to move such Construction Equipment to the site of the Work from the nearest available rental source of the same. If Construction Equipment is not moved to the Site by its own power, Contractor will be compensated for the loading and transportation costs in lieu of rental time. The foregoing notwithstanding, neither moving time or loading and transportation time shall be allowed if the Construction Equipment is used for performance of any portion of the Work other than Changes to the Work. Unless prior approval in writing is obtained by the Contractor from the Architect, the Project Inspector and the District, no costs or compensation shall be allowed for time while Construction Equipment is inoperative, idle or on standby, for any reason. The Contractor shall not be entitled to an allowance or any other compensation for Construction Equipment or tools used in the performance of Changes to the Work where such Construction Equipment or tools have a replacement value of \$750.00 or less. Construction Equipment costs claimed by the Contractor in connection with the performance of any Change to the Work shall not exceed rental rates established by distributors or construction equipment rental agencies in the locality of the Site; any costs asserted which exceed such rental rates shall not be allowed or paid. Unless otherwise specifically approved in writing by the Architect, the Project Inspector and the District, the allowable rate for the use of Construction Equipment in connection with Changes to the Work shall constitute full compensation to the Contractor for the cost of rental, fuel, power, oil, lubrication, supplies, necessary attachments, repairs or maintenance of any kind, depreciation, storage, insurance, labor (exclusive of labor costs of the Construction Equipment operator), and any all other costs incurred by the Contractor incidental to the use of such Construction Equipment.

9.4.1.3.4 Mark-up on Costs of Changes to the Work. In determining the cost to the District and the extent of increase to the Contract Price resulting from a Change adding to the Work, the allowance for mark-ups on the costs of the Change for all overhead (including home office and field overhead), general conditions costs and profit associated with the Change shall not exceed the percentage set forth in the Special Conditions, regardless of the number of Subcontractors, of any tier, performing any portion of any Change to the Work. If a Change to the Work reduces the Contract Price, no profit, general conditions or overhead costs shall be paid by the District to the Contractor for the reduced or deleted Work. In such event, the adjustment to the Contract Price shall be the actual cost reduction realized by the reduced or deleted Work multiplied by the percentage set forth in the Special Conditions for mark-ups on the cost of a Change adding to the scope of the Work.

9.4.1.3.5 Contractor Maintenance of Records. In the event that Contractor shall be directed to perform any Changes to the Work pursuant to Article 9.1 or 9.2, or should the Contractor encounter conditions which the Contractor, pursuant to Article 9.6, believes would obligate the District to adjust the Contract Price and/or the Contract Time, Contractor shall maintain detailed records on a daily basis. Such records shall include without limitation hourly records for labor and Construction Equipment and itemized records of materials and equipment used that day in connection with the performance of any Change to the Work. In the event that more than one Change to the Work is performed by the Contractor in a calendar day, Contractor shall maintain separate records of labor, Construction Equipment, materials and equipment for each such Change. In the event that any Subcontractor, of any tier, shall provide or perform any portion of any Change to the Work, Contractor shall require that each such Subcontractor maintain records in accordance with this Article. Each daily record maintained hereunder shall be signed by Contractor's Superintendent or Contractor's authorized representative; such signature shall be deemed Contractor's representation and warranty that all information contained therein is true, accurate, complete and relate only to the Change referenced therein. All records maintained by a Subcontractor, of any tier, relating to the costs of a Change to the Work shall be signed by such Subcontractor's authorized representative or Superintendent. All records maintained hereunder shall be subject to inspection, review and/or reproduction by the District, the Architect or the Project Inspector upon request. In the event that Contractor shall fail or refuse, for any reason, to maintain or make available for inspection, review and/or reproduction such records and the adjustment to the Contract Price on account of any Change to the Work is determined pursuant to this Article, the District's reasonable good faith determination of the extent of adjustment to the Contract Price on account of such Change shall be final, conclusive, dispositive and binding upon Contractor. Contractor's obligation to maintain records hereunder is in addition to, and not in lieu of, any other Contractor obligation under the Contract Documents with respect to Changes to the Work.

9.4.2 Adjustment to Contract Time. In the event of any Change(s) to the Work pursuant to this Article 9, the Contract Time shall be extended or reduced by Change Order for a period of time commensurate with the time reasonably necessary to perform such Change. In the event that any Change shall require an extension of the Contract Time, the Contractor shall not be subject to Liquidated Damages for such period of time. If completion of the Work is delayed by causes for which the District is responsible and the delay is unreasonable under the circumstances involved, and not within the contemplation of the Contractor and the District at the time of execution of the Agreement, the Contractor shall not be precluded from the recovery of damages arising therefrom.

9.4.3 Addition or Deletion of Alternate Bid Item(s). If the Bid for the Work includes proposal(s) for Alternate Bid Item(s), during Contractor's performance of the Work, the District may elect, pursuant to this Article to add any such Alternate Bid Item(s) if the same did not form a basis for award of the Contract or delete any such Alternate Bid Item(s) if the same formed a basis for award of the Contract. If the District elects to add or delete any such Alternate Bid Item(s) pursuant to the foregoing, the cost or credit for such Alternate Bid Item(s) shall be as set forth in the Contractor's Bid. If any Alternate Bid Item is added or deleted from the Work pursuant to the foregoing, the Contract Time shall be adjusted by the number of days allocated for the added or deleted Alternate Bid Item in the

Contract Documents; if days are not allocated for any Alternate Bid Item added or deleted pursuant to the foregoing, the Contract Time shall be equitably adjusted.

9.5 Change Orders. If the District approves of a Change, a written Change Order prepared by the Construction Manager on behalf of the District shall be forwarded to the Contractor describing the Change and setting forth the adjustment to the Contract Time and the Contract Price, if any, on account of such Change. All Change Orders shall be in full payment and final settlement of all claims for direct, indirect and consequential costs, including without limitation, costs of delays or impacts related to, or arising out of, items covered and affected by the Change Order, as well as any adjustments to the Contract Time. Any claim or item relating to any Change incorporated into a Change Order not presented by the Contractor for inclusion in the Change Order shall be deemed waived. The Contractor shall execute the Change Order prepared pursuant to the foregoing; once the Change Order has been prepared and forwarded to the Contractor for execution, without the prior approval of the District which may be granted or withheld in the sole and exclusive discretion of the District, the Contractor shall not modify or amend the form or content of such Change Order, or any portion thereof. The Contractor's attempted or purported modification or amendment of any such Change Order, without the prior approval of the District, shall not be binding upon the District; any such unapproved modification or amendment to such Change Order shall be null, void and unenforceable. Unless otherwise expressly provided for in the Contract Documents or in the Change Order, any Change Order issued hereunder shall be binding upon the District only upon action of the District's Board of Trustees approving and ratifying such Change Order. In the event of any amendment or modification made by the Contractor to a Change Order for which there is no prior approval by the District, in accordance with the provisions of this Article 9.5, unless otherwise expressly stated in its approval and ratification of such Change Order, any action of the Board of Trustees to approve and ratify such Change Order shall be deemed to be limited to the Change Order as prepared by the Architect; such approval and ratification of such Change Order shall not be deemed the District's approval and ratification of any unapproved amendment or modification by the Contractor to such Change Order. Change Orders shall be issued on the form of Change Order and the content thereof, as attached to the Special Conditions.

9.6 Contractor Notice of Changes. If the Contractor should claim that any instruction, request, the Drawings, the Specifications, action, condition, omission, default, or other situation obligates the District to increase the Contract Price or to extend the Contract Time, the Contractor shall notify the District, Construction Manager, Project Inspector and the Architect, in writing, of such claim within ten (10) days from the date of its actual or constructive notice of the factual basis supporting the same. The District shall consider any such claim of the Contractor only if sufficient supporting documentation is submitted with the Contractor's notice to the District, Construction Manager, Project Inspector and the Architect. Time is of the essence in Contractor's written notice pursuant to the preceding sentence so that the District can promptly investigate and consider alternative measures to the address such instruction, request, Drawings, Specifications, action, condition, omission, default or other situation. Accordingly, Contractor acknowledges that its failure, for any reason, to give written notice (with sufficient supporting documentation to permit the District's review and evaluation) within ten (10) days of its actual or constructive knowledge of any instruction, request, Drawings, Specifications, action, condition, omission, default or other situation for which the Contractor believes there should an adjustment of the Contract Time or the Contract Price shall be deemed Contractor's waiver, release, discharge and relinquishment of any right to assert or claim any entitlement to an adjustment of the Contract Time or the Contract Price on account of any such instruction, request, Drawings, Specifications, action, condition,

omission, default or other situation. In the event that the District determines that the Contract Price or the Contract Time are subject to adjustment based upon the events, circumstances and supporting documentation submitted with the Contractor's written notice under this Article 9.6, any such adjustment shall be determined in accordance with the provisions of Articles 9.4.1 and 9.4.2.

- 9.7 Disputed Changes.** In the event of any dispute or disagreement between the Contractor and the District or the Architect regarding the characterization of any item as a Change to the Work or as to the appropriate adjustment of the Contract Price or the Contract Time on account thereof, the Contractor shall promptly proceed with the performance of such item of the Work, subject to a subsequent resolution of such dispute or disagreement in accordance with the terms of the Contract Documents. The Contractor's failure or refusal to so proceed with such Work may be deemed to be Contractor's default of a material obligation of the Contractor under the Contract Documents.
- 9.8 Emergencies.** In an emergency affecting the safety of life, or of the Work, or of property, the Contractor, without special instruction or prior authorization from the District or the Architect, is permitted to act at its discretion to prevent such threatened loss or injury. Any compensation claimed by the Contractor on account of such emergency work shall be submitted and determined in accordance with this Article 9.
- 9.9 Minor Changes in the Work.** The Architect may order minor Changes in the Work not involving an adjustment in the Contract Price or the Contract Time and not inconsistent with the intent of the Contract Documents. Such Changes shall be effected by written order and shall be binding on the District and the Contractor. The Construction Manager or the Project Inspector may direct the Contractor to perform Changes provided that each such Change does not result in an increase of more than \$750.00 to the Contract Price and no adjustment of the Contract Time. The Contractor shall carry out such orders promptly.
- 9.10 Unauthorized Changes.** Any Work beyond the extent of Work shown on the Contract Documents, or any extra Work performed or provided by the Contractor without notice to the Construction Manager, Architect, and the Project Inspector in the manner and within the time set forth in Articles 9.2 or 9.6 shall be considered unauthorized and at the sole expense of the Contractor. Work so done will not be measured or paid for, no extension to the Contract Time will be granted on account thereof and any such Work may be ordered removed at the Contractor's sole cost and expense. The failure of the District to direct or order removal of such Work shall not constitute acceptance or approval of such Work nor relieve the Contractor from any liability on account thereof.

ARTICLE 10: SEPARATE CONTRACTORS

- 10.1 District's Right to Award Separate Contracts.** The District reserves the right to perform construction or operations related to the Project with the District's own forces or to award separate contracts in connection with other portions of the Project or other construction or operations at or about the Site. If the Contractor claims that delay or additional cost is involved because of such action by the District, the Contractor shall seek an adjustment to the Contract Price or the Contract Time as provided for in the Contract Documents. Failure of the Contractor to request such an adjustment of the Contract Time or the Contract Price in strict conformity with the provisions of the Contract Documents applicable thereto shall be deemed a waiver of the same.

- 10.2 District's Coordination of Separate Contractors.** The District shall provide for coordination of the activities of the District's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the District in reviewing their respective Construction Schedules when directed to do so. The Contractor shall make any revisions to the Approved Construction Schedule for the Work hereunder deemed necessary after a joint review and mutual agreement. The Construction Schedules shall then constitute the Construction Schedules to be used by the Contractor, separate contractors and the District until subsequently revised.
- 10.3 Mutual Responsibility.** The Contractor shall afford the District and separate contractors' reasonable opportunity for storage of their materials and equipment and performance of their activities at the Site and shall connect and coordinate the Contractor's Work, construction and operations with theirs as required by the Contract Documents.
- 10.4 Discrepancies or Defects.** If part of the Contractor's Work depends for proper execution or results upon construction or operations by the District or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect and the Project Inspector any apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor to so report shall constitute an acknowledgment that the District's or separate contractors' completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then discoverable by the Contractor's reasonable diligence.

ARTICLE 11: TESTS AND INSPECTIONS

11.1 Tests; Inspections; Observations.

- 11.1.1 Contractor's Notice.** If the Contract Documents, laws, ordinances or any public authority with jurisdiction over the Work requires the Work, or any portion thereof, to be specially tested, inspected or approved, the Contractor shall give the Architect, the Construction Manager and the Project Inspector written notice of the readiness of such Work for observation, testing or inspection at least two (2) working days prior to the time for the conducting of such test, inspection or observation. If inspection, testing or observation is by authority other than the District, the Contractor shall inform the Project Inspector and the Construction Manager not less than two (2) working days prior to the date fixed for such inspection, test or observation. The Contractor shall not cover up any portion of the Work subject to tests, inspections or observations prior to the completion and satisfaction of the requirements of such test, inspection or observation. In the event that any portion of the Work subject to tests, inspection or approval shall be covered up by Contractor prior to completion and satisfaction of the requirements of such tests, inspection or approval, Contractor shall be responsible for the uncovering of such portion of the Work as is necessary for performing such tests, inspection or approval without adjustment of the Contract Price or the Contract Time on account thereof.
- 11.1.2 Cost of Tests and Inspections.** Except as set forth below, the District will pay for fees, costs and expenses to complete the initial tests/inspections of portions of the Work as required by law, code or regulation, provided that such tests/inspections are conducted and completed at a location within a one hundred (100) mile radius of the Site. The foregoing notwithstanding, if the portion(s) of the Work subject to tests/inspections is/are not ready for such test/inspection at the time indicated in the Contractor's notice under

Article 11.1.1 or if upon completion of such test/inspection, the portion(s) of the Work subject to such test/inspection do not meet or exceed the minimum requirements of such test/inspection, the Contractor shall be solely responsible for the payment of all fees, costs or expenses arising out of or related in any manner to subsequent tests/inspections of such portion(s) of the Work. Notwithstanding the District's payment of fees, costs or expenses for conducting initial tests/inspections, if any actions or failures to act of the Contractor or person or entity providing or performing Work under the direction or control of the Contractor require tests/inspections to be conducted over a period of more than eight (8) hours per day by any single person or on weekends/holidays, the Contractor shall be solely responsible for the payment of fees, costs or expenses which result from test/inspection services which exceed eight (8) hours per day by any single person or on weekends/holidays. If any tests/inspections are conducted outside a one hundred (100) mile radius of the Site, the Contractor shall be solely responsible for all costs, fees or expenses to conduct and complete such tests/inspections conducted at such location, including without limitation, costs to complete such tests/inspections and travel, meal and related expenses.

11.1.3 Testing/Inspection Laboratory. The District shall select duly qualified person(s) or testing laboratory(ies) to conduct the tests and inspections to be paid for by the District and required by the Contract Documents. Tests and inspections required of the Work shall be as set forth in the Contract Documents and as required by applicable law, rule or regulation, including without limitation, Title 24 of the California Code of Regulations. Test/inspection standards shall be as set forth in the Contract Documents or established by applicable law, rule or regulation. Where inspection or testing is to be conducted by an independent laboratory or testing agency, materials or samples thereof shall be selected by the laboratory, testing agency, the Project Inspector, the Construction Manager or the Architect and not by the Contractor.

11.1.4 Additional Tests, Inspections and Approvals. If the Architect, the Construction Manager, the Project Inspector or public authorities having jurisdiction over the Work determine that portions of the Work require additional testing, inspection or approval, the Architect will, upon written authorization from the District, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the District, and the Contractor shall give timely notice to the Architect, the Construction Manager and the Project Inspector of when and where tests and inspections are to be made so the Project Inspector and the Architect may observe such procedures. The District shall bear the costs of such additional tests, inspections or approvals, except to the extent that such additional tests, inspections or approvals reveal any failure of the Work to comply with the requirements of the Contract Documents, in which case the Contractor shall bear all costs made necessary by such failures, including without limitation, the costs of corrections, repeat tests, inspections or approvals and the costs of the Architect's services or its consultants in connection therewith.

11.2 Delivery of Certificates. Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Construction Manager.

11.3 Timeliness of Tests, Inspections and Approvals. Tests or inspections required and conducted pursuant to the Contract Documents shall be made or arranged by Contractor to avoid delay in the progress of the Work. Neither the Contract Time nor Contract Price shall be adjusted on account of the failure of the Contractor to timely arrange for the conduct of

required tests/inspections and the Contractor shall be liable to the District for all consequences of such failures, including without limitation, the assessment of Liquidated Damages for delayed Substantial Completion of the Work resulting from such failure of the Contractor.

ARTICLE 12: UNCOVERING AND CORRECTION OF WORK

12.1 Inspection of the Work.

12.1.1 Access to the Work. All Work and all materials and equipment forming a part of the Work or incorporated into the Work are subject to inspection by the District, the Construction Manager, the Architect and the Project Inspector for conformity with the Contract Documents. The Contractor shall, at its cost and without adjustment to the Contract Price or the Contract Time, furnish any facilities necessary for sufficient and safe access to the Work for purposes of inspection by the District, the Construction Manager, the Architect, the Project Inspector, DSA or any other public or quasi-public authority with jurisdiction over the Work or any portion thereof.

12.1.2 Limitations Upon Inspections. Inspections, tests, measurements, or other acts of the Architect, the Construction Manager and the Project Inspector hereunder are for the sole purpose of assisting them in determining that the Work, materials, equipment, progress of the Work, and quantities generally comply and conform with the requirements of the Contract Documents. These acts or functions shall not relieve the Contractor from performing the Work in full compliance with the Contract Documents. No inspection by the Architect or the Project Inspector shall constitute or imply acceptance of Work inspected. Inspection of the Work hereunder is in addition to, and not in lieu of, any other testing, inspections or approvals of the Work required under the Contract Documents.

12.2 Uncovering of Work. If any portion of the Work is covered contrary to the request of the Architect, the Construction Manager, the Project Inspector or the requirements of the Contract Documents, it must, if required by the Architect or the Project Inspector, be uncovered for observation by the Architect, Construction Manager and the Project Inspector and be replaced at the Contractor's expense without adjustment of the Contract Time or the Contract Price.

12.3 Rejection of Work. Prior to the District's Final Acceptance of the Work, any Work or materials or equipment forming a part of the Work or incorporated into the Work which is defective or not in conformity with the Contract Documents may be rejected by the District, the Construction Manager the Architect or the Project Inspector and the Contractor shall correct such rejected Work without any adjustment to the Contract Price or the Contract Time, even if the Work, materials or equipment have been previously inspected by the Architect or the Project Inspector or even if they failed to observe the defective or non-conforming Work, materials or equipment.

12.4 Correction of Work. The Contractor shall promptly correct any portion of the Work rejected by the District, the Construction Manager, the Architect or the Project Inspector for failing to conform to the requirements of the Contract Documents, or which is determined by them to be defective, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected Work, including additional testing and inspections and compensation for the Architect's services and expenses made necessary thereby. The Contractor shall bear all

costs of correcting destroyed or damaged construction, whether completed or partially completed, of the District or separate contractors, caused by the Contractor's correction or removal of Work which is not in accordance with the requirements of the Contract Documents, or which is defective. If the Contractor fails or refuses to correct Work deemed defective or non-conforming pursuant to the foregoing, such failure or refusal shall be deemed the Contractor's default in performance of a material obligation of the Contractor hereunder. In such event, the Contractor's Performance Bond Surety shall be liable for the costs to correct such defective or non-conforming Work and/or securing the performance of an alternative contractor to complete such corrective Work.

12.5 Removal of Non-Conforming or Defective Work. The Contractor shall, at its sole cost and expense, remove from the Site all portions of the Work which are defective or are not in accordance with the requirements of the Contract Documents which are neither corrected by the Contractor nor accepted by the District.

12.6 Failure of Contractor to Correct Work. If the Contractor fails to commence to correct defective or non-conforming Work within 3 days of notice of such condition and promptly thereafter complete the same within a reasonable time, the District may correct it in accordance with the Contract Documents. If the Contractor does not proceed with correction of such defective or non-conforming Work within the time fixed herein, the District may remove it and store the salvable materials or equipment at the Contractor's expense. If the Contractor does not pay costs of such removal and storage after written notice, the District may sell such materials or equipment at auction or at private sale and shall account for the proceeds thereof, after deducting costs and damages that should have been borne by the Contractor, including without limitation compensation for the Architect's services, attorneys fees and other expenses made necessary thereby. If such proceeds of sale do not cover costs which the Contractor should have borne, the Contract Price shall be reduced by the deficiency. If payments of the Contract Price then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor and the Surety shall promptly pay the difference to the District.

12.7 Acceptance of Defective or Non-Conforming Work. The District may, in its sole and exclusive discretion, elect to accept Work which is defective or which is not in accordance with the requirements of the Contract Documents, instead of requiring its removal and correction, in which case the Contract Price shall be reduced as appropriate and equitable.

ARTICLE 13: WARRANTIES

13.1 Workmanship and Materials. The Contractor warrants to the District that all materials and equipment furnished under the Contract Documents shall be new, of good quality and of the most suitable grade and quality for the purpose intended, unless otherwise specified in the Contract Documents. All Work shall be of good quality, free from faults and defects and in conformity with the requirements of the Contract Documents. If required by the Architect or the District, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment incorporated into the Work. Any Work, or portion thereof not conforming to these requirements, including substitutions or alternatives not properly approved in accordance with the Contract Documents may be deemed defective. Where there is an approved substitution of, or alternative to, material or equipment specified in the Contract Documents, the Contractor warrants to the District that such installation, construction, material, or equipment will equally perform the function and have the quality of the originally specified material or equipment. The Contractor expressly warrants the

merchantability, the fitness for use, and quality of all substitute or alternative items in addition to any warranty given by the manufacturer or supplier of such item.

13.2 Warranty Work. If, within one year after the date of Final Acceptance, or such other time frame set forth elsewhere in the Contract Documents, any of the Work is found to be defective or not in accordance with the requirements of the Contract Documents, or otherwise contrary to the warranties contained in the Contract Documents, the Contractor shall commence all necessary corrective action not more than seven (7) days after receipt of a written notice from the District to do so, and to thereafter diligently complete the same. In the event that Contractor shall fail or refuse to commence correction of any such item within said seven (7) day period or to diligently prosecute such corrective actions to completion, the District may, without further notice to Contractor, cause such corrective Work to be performed and completed. In such event, Contractor and Contractor's Performance Bond Surety shall be responsible for all costs in connection with such corrective Work, including without limitation, general administrative overhead costs of the District in securing and overseeing such corrective Work. Nothing contained herein shall be construed to establish a period of limitation with respect to any obligation of the Contractor under the Contract Documents. The obligations of the Contractor hereunder shall be in addition to, and not in lieu of, any other obligations imposed by any special guarantee or warranty required by the Contract Documents, guarantees or warranties provided by any manufacturer of any item or equipment forming a part of, or incorporated into the Work, or otherwise recognized, prescribed or imposed by law. Neither the District's Final Acceptance, the making of Final Payment, any provision in Contract Documents, nor the use or occupancy of the Work, in whole or in part, by District shall constitute acceptance of Work not in accordance with the Contract Documents nor relieve the Contractor or the Contractor's Performance Bond Surety from liability with respect to any warranties or responsibility for faulty or defective Work or materials, equipment and workmanship incorporated therein.

13.3 Guarantee. Upon completion of the Work, Contractor shall execute and deliver to the District the form of Guarantee included within the Contract Documents. The Contractor's execution and delivery of the form of Guarantee is an express condition precedent to any obligation of the District to disburse the Final Payment to the Contractor.

13.4 Survival of Warranties. The provisions of this Article 13 shall survive the Contractor's completion of Work under the Contract Documents, the District's Final Acceptance or the termination of the Contract.

ARTICLE 14: SUSPENSION OF WORK

14.1 District's Right to Suspend Work. The District may, without cause, and without invalidating or terminating the Contract, order the Contractor, in writing, to suspend, delay or interrupt the Work in whole or in part for such period of time as the District may determine. The Contractor shall resume and complete the Work suspended by the District in accordance with the District's directive, whether issued at the time of the directive suspending the Work or subsequent thereto.

14.2 Adjustments to Contract Price and Contract Time. In the event the District shall order suspension of the Work, an adjustment shall be made to the Contract Price for increases in the direct cost of performance of the Work of the Contract Documents, actually caused by suspension, delay or interruption ordered by the District; provided however that no adjustment of the Contract Price shall be made to the extent: (i) that performance is, was or

would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible under the Contract Documents; or (ii) that an equitable adjustment is made or denied under another provision of the Contract Documents. The foregoing notwithstanding, any such adjustment of the Contract Price shall not include any adjustment to increase the Contractor's overhead, general administrative costs or profit, all of which will remain as reflected in the Cost Breakdown submitted by the Contractor pursuant to the Contract Documents. In the event of the District's suspension of the Work, the Contract Time shall be equitably adjusted.

ARTICLE 15: TERMINATION

15.1 Termination for Cause.

15.1.1 District's Right to Terminate. The District may terminate the Contract upon the occurrence of any one or more of the following events of the Contractor's default: (i) if the Contractor refuses or fails to prosecute the Work with diligence as will insure Substantial Completion of the Work within the Contract Time, or if the Contractor fails to substantially Complete the Work within the Contract Time; (ii) if the Contractor becomes bankrupt or insolvent, or makes a general assignment for the benefit of creditors, or if the Contractor or a third party files a petition to reorganize or for protection under any bankruptcy or similar laws, or if a trustee or receiver is appointed for the Contractor or for any of the Contractor's property on account of the Contractor's insolvency, and the Contractor or its successor in interest does not provide adequate assurance of future performance in accordance with the Contract Documents within 10 days of receipt of a request for such assurance from the District; (iii) if the Contractor repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment; (iv) if the Contractor repeatedly fails to make prompt payments to any Subcontractor, of any tier, or Material Suppliers or others for labor, materials or equipment; (v) if the Contractor disregards laws, ordinances, rules, codes, regulations, orders applicable to the Work or similar requirements of any public entity having jurisdiction over the Work; (vi) if the Contractor disregards proper directives of the Architect, the Project Inspector or District under the Contract Documents; (vii) if the Contractor performs Work which deviates from the Contract Documents and neglects or refuses to correct such Work; or (viii) if the Contractor otherwise violates in any material way any provisions or requirements of the Contract Documents. Once the District determines that sufficient cause exists to justify the action, the District may terminate the Contract without prejudice to any other right or remedy the District may have, after giving the Contractor and the Surety at least seven (7) days advance written notice of the effective date of termination. The District shall have the sole discretion to permit the Contractor to remedy the cause for the termination without waiving the District's right to terminate the Contract, or otherwise waiving, restricting or limiting any other right or remedy of the District under the Contract Documents or at law.

15.1.2 District's Rights Upon Termination. In the event that the Contract is terminated pursuant to this Article 15.1, the District may take over the Work and prosecute it to completion, by contract or otherwise, and may exclude the Contractor from the site. The District may take possession of the Work and of all of the Contractor's tools, appliances, construction equipment, machinery, materials, and plant which may be on the site of the Work, and use the same to the full extent they could be used by the Contractor without liability to the Contractor. In exercising the District's right to prosecute the completion of the Work, the District may also take possession of all materials and equipment stored at the site of the Work or for which the District has paid the Contractor but which are stored

elsewhere, and finish the Work as the District deems expedient. In exercising the District's right to prosecute the completion of the Work, the District shall have the right to exercise its sole discretion as to the manner, methods, and reasonableness of the costs of completing the Work and the District shall not be required to obtain the lowest figure for completion of the Work. In the event that the District takes bids for remedial Work or completion of the Work, the Contractor shall not be eligible for the award of such contract(s).

15.1.3 Completion by the Surety. In the event that the Contract is terminated pursuant to this Article 15.1, the District may demand that the Surety take over and complete the Work. The District may require that in so doing, the Surety not utilize the Contractor in performing and completing the Work. Upon the failure or refusal of the Surety to take over and begin completion of the Work within twenty (20) days after demand therefor, the District may take over the Work and prosecute it to completion as provided for above.

15.1.4 Assignment and Assumption of Subcontracts. The District shall, in its sole and exclusive discretion, have the option of requiring any Subcontractor or Material Supplier to perform in accordance with its Subcontract or Purchase Order with the Contractor and assign the Subcontract or Purchase Order to the District or such other person or entity selected by the District to complete the Work.

15.1.5 Costs of Completion. In the event of termination under this Article 15.1, the Contractor shall not be entitled to receive any further payment of the Contract Price until the Work is completed. If the unpaid balance of the Contract Price as of the date of termination exceeds the District's direct and indirect costs and expenses for completing the Work, including without limitation, attorneys' fees and compensation for additional professional and consultant services, such excess shall be used to pay the Contractor for the cost of the Work performed prior to the effective date of termination with a reasonable allowance for overhead and profit. If the District's costs and expenses to complete the Work exceed the unpaid Contract Price, the Contractor and/or the Surety shall pay the difference to the District.

15.1.6 Contractor Responsibility for Damages. The Contractor and the Surety shall be liable for all damage sustained by the District resulting from, in any manner, the termination of Contract under this Article 15.1, including without limitation, attorneys' fees, and for all costs necessary for repair and completion of the Work over and beyond the Contract Price.

15.1.7 Conversion to Termination for Convenience. In the event the Contract is terminated under this Article 15.1, and it is determined, for any reason, that the Contractor was not in default under the provisions hereof, the termination shall be deemed a Termination for Convenience of the District and thereupon, the rights and obligations of the District and the Contractor shall be determined in accordance with Article 15.2 hereof.

15.1.8 District's Rights Cumulative. In the event the Contract is terminated pursuant to this Article 15.1, the termination shall not affect or limit any rights or remedies of the District against the Contractor or the Surety. The rights and remedies of the District under this Article 15.1 are in addition to, and not in lieu of, any other rights and remedies provided by law or otherwise under the Contract Documents. Any retention or payment of monies to the Contractor by the District shall not be deemed to release the Contractor or the Surety from any liability hereunder.

15.2 Termination for Convenience of the District. The District may at any time, in its sole and exclusive discretion, by written notice to the Contractor, terminate the Contract in whole or in part when it is in the interest of, or for the convenience of, the District. In such case, the Contractor shall be entitled to payment for: (i) Work actually performed and in place as of the effective date of such termination for convenience of the District, with a reasonable allowance for profit and overhead on such Work, and (ii) reasonable termination expenses for reasonable protection of Work in place and suitable storage and protection of materials and equipment delivered to the site of the Work but not yet incorporated into the Work, provided that such payments exclusive of termination expenses shall not exceed the total Contract Price as reduced by payments previously made to the Contractor and as further reduced by the value of the Work as not yet completed. The Contractor shall not be entitled to profit and overhead on Work which was not performed as of the effective date of the termination for convenience of the District. The District may, in its sole discretion, elect to have subcontracts assigned pursuant to Article 15.1.4 above after exercising the right hereunder to terminate for the District's convenience.

ARTICLE 16: MISCELLANEOUS

16.1 Governing Law. This Contract shall be governed by and interpreted in accordance with the laws of the State of California.

16.2 Marginal Headings; Interpretation. The titles of the various Articles of these General Conditions and elsewhere in the Contract Documents are used for convenience of reference only and are not intended to, and shall in no way, enlarge or diminish the rights or obligations of the District or the Contractor and shall have no effect upon the construction or interpretation of the Contract Documents. The Contract Documents shall be construed as a whole in accordance with their fair meaning and not strictly for or against the District or the Contractor.

16.3 Successors and Assigns. Except as otherwise expressly provided in the Contract Documents, all terms, conditions and covenants of the Contract Documents shall be binding upon, and shall inure to the benefit of the District and the Contractor and their respective heirs, representatives, successors-in-interest and assigns.

16.4 Cumulative Rights and Remedies; No Waiver. Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not in lieu of or otherwise a limitation or restriction of duties, obligations, rights and remedies otherwise imposed or available by law. No action or failure to act by the District shall constitute a waiver of a right or remedy afforded it under the Contract Documents or at law nor shall such an action or failure to act constitute approval of or acquiescence in a breach hereunder, except as may be specifically agreed in writing.

16.5 Severability. In the event any provision of the Contract Documents shall be deemed illegal, invalid, unenforceable and/or void, by a court or any other governmental agency of competent jurisdiction, such provision shall be deemed to be severed and deleted from the Contract Documents, but all remaining provisions hereof, shall in all other respects, continue in full force and effect.

16.6 No Assignment by Contractor. The Contractor shall not sublet or assign the Contract, or any portion thereof, or any monies due thereunder, without the express prior written consent and approval of the District, which approval may be withheld in the sole and exclusive discretion of the District. The District's approval to such assignment shall be upon such terms

and conditions as determined by the District in its sole and exclusive discretion.

16.7 Gender and Number. Whenever the context of the Contract Documents so require, the neuter gender shall include the feminine and masculine, the masculine gender shall include the feminine and neuter, the singular number shall include the plural and the plural number shall include the singular.

16.8 Independent Contractor Status. In performing its obligations under the Contract Documents, the Contractor is an independent contractor to the District and not an agent or employee of the District. Nothing contained herein shall be deemed or construed as creating a relationship of employer and employee between the District and the Contractor or any Subcontractors, employees of the Contractor or Subcontractors or their respective agents and representatives. Neither the Contractor, Subcontractors nor any employees of the Contractor or Subcontractors are entitled to any rights or privileges of District employees.

16.9 Notices. Except as otherwise expressly provided for in the Contract Documents, all notices which the District or the Contractor may be required, or may desire, to serve on the other, shall be effective only if delivered by personal delivery or by postage prepaid, First Class Certified Return Receipt Requested United States Mail, addressed to the District or the Contractor at their respective address set forth in the Contract Documents, or such other address(es) as either the District or the Contractor may designate from time to time by written notice to the other in conformity with the provisions hereof. In the event of personal delivery, such notices shall be deemed effective upon delivery, provided that such personal delivery requires a signed receipt by the recipient acknowledging delivery of the same. In the event of mailed notices, such notice shall be deemed effective on the third working day after deposit in the mail.

16.10 Disputes; Continuation of Work. Notwithstanding any claim, dispute or other disagreement between the District and the Contractor regarding performance under the Contract Documents, the scope of Work thereunder, or any other matter arising out of or related to, in any manner, the Contract Documents, the Contractor shall proceed diligently with performance of the Work in accordance with the District's written direction, pending any final determination or decision regarding any such claim, dispute or disagreement.

16.11 Dispute Resolution; Arbitration.

16.11.1 Claims Under \$375,000.00. Claims between the District and the Contractor of \$375,000.00 or less shall be resolved in accordance with the procedures established in Part 3, Chapter 1, Article 1.5 of the California Public Contract Code, §§20104 et seq.; provided however that California Public Contract Code §20104.2(a) shall not supersede the requirements of the Contract Documents with respect to the Contractor's notification to the District of such claim or extend the time for the giving of such notice as provided in the Contract Documents. The term "claims" as used herein shall be as defined in California Public Contract Code §20104(b) (2).

16.11.2 Government Code Claim Requirements. Pursuant to Government Code §930.6, any claim, demand, dispute, disagreement or other matter in controversy asserted by the Contractor against the District for money or damages, including, without limitation, a demand for arbitration, except for those subject to resolution pursuant to Article 16.11.1, shall be deemed a "suit for money or damages" and shall be subject to the provisions of Government Code §§945.4, 945.6 and 946. Notwithstanding the resolution of disputes

pursuant to the arbitration provisions set forth in Article 16.11.3 any claim, demand, dispute, disagreement or other matter in controversy between the Contractor and the District seeking money or damages in excess of \$375,000 shall first be presented to the District and acted upon or deemed rejected by the District in accordance with California Government Code section 900, et seq., as a condition precedent to the Contractor's commencement of arbitration proceedings. Any arbitration proceeding pursuant to Article 16.11.3 commenced by the Contractor without first complying with the foregoing provisions of the Government Code shall be stayed pending the Contractor's compliance with the foregoing provisions of the Government Code.

16.11.3 Arbitration. Except as provided in Article 16.11.1, any other claims, disputes, disagreements or other matters in controversy between the District and the Contractor arising out of, or related, in any manner, to the Contract Documents, or the interpretation, clarification or enforcement thereof shall be resolved by arbitration conducted in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association ("AAA") in effect as of the date that a Demand for Arbitration is filed, except as expressly modified herein. The locale for any arbitration commenced hereunder shall be the regional office of the AAA closest to the Site. The award rendered by the Arbitrator(s) ("Arbitration Award") shall be final and binding upon the District and the Contractor only if the Arbitration Award is supported by law and substantial evidence pursuant to California Code of Civil Procedure §1296, including findings of fact and conclusions of law in conformity with California Code of Civil Procedure §1296 and Rule R-43 of the AAA Construction Industry Arbitration Rules. The District and Contractor hereby expressly agree that the Court shall, subject to California Code of Civil Procedure §§1286.4 and 1296, vacate the Arbitration Award if, after review of the Arbitration Award, the Court determines either that the Arbitration Award is: (i) not supported by substantial evidence; (ii) not accompanied by findings of fact and conclusions of law; or (iii) based on an error of law. In connection with any arbitration proceeding commenced hereunder, the discovery rights and procedures provided for in California Code of Civil Procedure §1283.05 shall be applicable, and the same shall be deemed incorporated herein by this reference. A Demand for Arbitration shall be filed and served within a reasonable time after the occurrence of the claim, dispute or other disagreement giving rise to the Demand for Arbitration, but in no event shall a Demand for Arbitration be filed or served after the date when the institution of legal or equitable proceedings based upon such claim, dispute or other disagreement would be barred by the applicable statute of limitations. In the event more than one Demand for Arbitration is made by either the District or the Contractor, all such controversies shall be consolidated into a single arbitration proceeding, unless otherwise agreed to by the District and the Contractor. The Contractor's Surety, a Subcontractor or Material Supplier to the Contractor and other third parties may be permitted to join in and be bound by an arbitration commenced hereunder if required by the terms of their respective agreements with the Contractor, except to the extent that such joinder would unduly delay or complicate the expeditious resolution of the claim, dispute or other disagreement between the District and the Contractor, in which case an appropriate severance order shall be issued by the Arbitrator(s). The expenses and fees of the Arbitrator(s) shall be divided equally among the parties to the arbitration. Each party to any arbitration commenced hereunder shall be responsible for and shall bear its own attorneys' fees, witness fees and other cost and expense incurred in connection with such arbitration. The foregoing notwithstanding, the Arbitrator(s) may award arbitration costs, including Arbitrators' fees but excluding attorneys' fees, to the prevailing party. The confirmation, enforcement, vacation or correction of an arbitration award rendered hereunder shall be the Superior Court of the State of California for the county in which the

Site is situated. The substantive and procedural rules for such post-award proceedings shall be as set forth in California Code of Civil Procedure §1285 et seq.

16.11.4 Inapplicability to Bid Bond. The provisions of this Article 16.11 shall not be applicable to disputes, disagreements or enforcement of rights or obligations under the Bid Bond; all claims, disputes and actions to enforce rights or obligations under the Bid Bond shall be adjudicated only by judicial proceedings commenced in a court of competent jurisdiction.

16.12 Capitalized Terms. Except as otherwise expressly provided, capitalized terms used in the Contract Documents shall have the meaning and definition for such term as set forth in the Contract Documents.

16.13 Attorneys Fees. Except as expressly provided for in the Contract Documents, or authorized by law, neither the District nor the Contractor shall recover from the other any attorneys fees or other costs associated with or arising out of any legal, administrative or other proceedings filed or instituted in connection with or arising out of the Contract Documents or the performance of either the District or the Contractor thereunder.

16.14 Waiver of Special/Consequential Damages. Notwithstanding any right conferred by law or arising by operation of law, by executing the Agreement, the Contractor expressly waives and relinquishes any and all right or entitlement to assert or recover any damages, losses or liabilities from the District which are in the nature of special or consequential damages, losses or liabilities arising out of or related in any manner to the District's breach or default of its obligations under the Contract Documents.

16.15 Provisions Required by Law Deemed Inserted. Each and every provision of law and clause required by law to be inserted in the Contract Documents is deemed to be inserted herein and the Contract Documents shall be read and enforced as though such provision or clause are included herein, and if through mistake, or otherwise, any such provision or clause is not inserted or if not correctly inserted, then upon application of either party, the Contract Documents shall forthwith be physically amended to make such insertion or correction.

16.16 Days. Unless otherwise expressly stated, references to "days" in the Contract Documents shall be deemed to be calendar days.

16.17 Prohibited Interests. No employee of the District, who is authorized in such capacity on behalf of the District to negotiate, make, accept or approve, or to take part in negotiating, making, accepting or approving any architectural, engineering, inspection, construction or material supply contract or subcontract in connection with the Work shall become directly or indirectly financially interested in the Work or any part thereof.

16.18 Entire Agreement. The Contract Documents contain the entire agreement and understanding between the District and the Contractor concerning the subject matter hereof, and supersedes and replaces all prior negotiations, proposed agreements or amendments, whether written or oral. No amendment or modification to any provision of the Contract Documents shall be effective or enforceable except by an agreement in writing executed by the District and the Contractor.

END OF SECTION

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SPECIAL CONDITIONS

Application of Special Conditions. These Special Conditions are a part of the Contract Documents for the Work generally described as: **BID NO.: B23/24-10 CULTURAL COMMUNITY CENTER AT LAS POSITAS COLLEGE**

1. Drawings and Specifications The number of sets of the Drawings and Specifications which the District will provide the Contractor, pursuant to Article 2.1.3 of the General Conditions will be mutually agreed upon and reasonable at the District's discretion and will not exceed 3 sets.

2. Insurance

2.1 Insurance Requirements for Contractor Minimum coverage amounts for each policy of insurance required of the Contractor shall be as follows:

Workers Compensation Insurance	In accordance with applicable law
Employers Liability Insurance	\$1,000,000
Commercial General Liability Insurance (including coverage for bodily injury, death, property damage and motor vehicle liability)	
Per Occurrence	\$2,000,000
Aggregate	\$4,000,000
Builder's Risk	Full value of the Work; seismic coverage is not required

2.2 Insurance Requirements for Subcontractors Minimum coverage amounts for each policy of insurance to be obtained and maintained by each Subcontractor to the Contractor shall be as follows:

Workers Compensation Insurance	In accordance with applicable law
Employers Liability Insurance	\$1,000,000
Commercial General Liability Insurance (including coverage for bodily injury, death, property damage and motor vehicle liability)	
Per Occurrence	\$1,000,000
Aggregate	\$2,000,000

3. Contract Time, Liquidated Damages

3.1 Contract Time: The Contract Time for the Contractor's Final Completion of the Work is **One Hundred and Sixteen (116) Calendar days** after the date for commencement of the Work as set forth in the Notice to Proceed issued by or on behalf of the District to the Contractor. The anticipated Notice to Proceed date of September 16, 2024. All work must be ***complete by January 10, 2025.***

3.2 Liquidated Damages

3.2.1 Delayed Submission of Preliminary Construction Schedule If the Contractor fails to submit the Contractor's Preliminary Construction Schedule within the time established in the General Conditions, the Contractor shall be subject to assessment of Liquidated Damages in the amount of **Seven Hundred and Fifty**

Dollars (\$750.00) per day from the date the Preliminary Construction Schedule is required to be submitted until submission thereof to the District.

3.2.2 Delayed Substantial Completion If the Contractor fails to achieve Substantial Completion of the Work within the Contract Time, including adjustments thereto in accordance with the Contract Documents, the Contractor shall be subject to assessment of Liquidated Damages in the amount **Seven Hundred and Fifty Dollars (\$750.00)** per day from the scheduled date of Substantial Completion until Substantial Completion is achieved.

3.2.3 Delayed Final Completion If the Contractor fails to achieve Final Completion of the Work within the Contract Time, including adjustments thereto in accordance with the Contract Documents, the Contractor shall be subject to assessment of Liquidated Damages in the amount **Seven Hundred and Fifty Dollars (\$750.00)** per day from the scheduled date of Substantial Completion until Substantial Completion is achieved.

3.2.4 Delayed Completion of Punchlist Items If the Contractor fails to complete all Punchlist Items noted upon Substantial Completion within the time established for completion of all Punchlist Items, the Contractor shall be subject to assessment of Liquidated Damages in the amount **Seven Hundred and Fifty Dollars (\$750.00)** per day from the scheduled date of completion until all Punchlist Items are completed.

3.2.5 District Withhold of Liquidated Damages; Performance Bond Surety If the Contractor is subject to assessment of Liquidated Damages for delayed Substantial Completion and/or delay completion of Punchlist Items, the District may withhold such assessments from the Contract Price then or thereafter due the Contractor. If the assessment of Liquidated Damages exceeds the then remaining balance of the Contract Price, the Contractor and the Surety issuing the Performance Bond shall be jointly and severally liable to the District for such amounts.

3.3 Notice of Delay - The Contractor shall notify the Construction Manager, in writing, of all delays Pursuant to Articles 7 and 9 of the General Conditions. Weather day are non-compensable.

4. District Provided Temporary Utilities Pursuant to Article 4.3.4 of the General Conditions, during the Contractor's performance of the Work, the District will provide utility services and a point of connection for electrical power. The connection and placement, relocation and removal of temporary distributions of the electrical power service provided by the District will be by the Contractor at its cost and expense without adjustment of the Contract Price. The Contractor may use the temporary electrical power service furnished by the District provided that: (a) the District may discontinue, limit or condition use of such services by a Contractor if the District reasonably determines that the Contractor has wasted such utilities, and (b) the District shall not be liable to the Contractor, nor shall the Contract Time or the Contract Price be increased if any District provided temporary utility service is discontinued or disrupted for any reason other than the District's non-payment of undisputed utility charges.

5. Field Office

Contractor shall provide sufficient space and facilities for its own force's needs.

6. Job Sign(s)

Signs other than the specified Project sign and or signs required by law, for safety, or for egress, shall not be permitted, unless otherwise approved in advance by District.

7. Fixture, Furniture and Equipment – N/A

8. **Construction Laydown Area** will be the contractor's responsibility and shall be confined to within the project boundaries.
9. **Parking** The Contractor is permitted to park within the project site. If additional parking is needed, the Contractor may park in Lot C or D at a designated area, construction parking permit instruction will be provided with Notice to Proceed.
10. **Mark-Ups on Changes to the Work** In the event of Changes to the Work, pursuant to Article 9 of the General Conditions, the mark-up for all overhead (including home and field office overhead), general conditions costs and profit, shall not exceed the percentage of allowable direct actual costs for performance of the Change as set forth below. For the portion of any Change performed by Subcontractors of any tier, the percentage mark-up on allowable actual direct labor and materials costs incurred by all Subcontractors of any tier shall be Twelve Percent (12%). In addition, for the portion of any Change performed by a Subcontractor of any tier, the Contractor may add an amount equal to Five Percent (5%) of the allowable actual direct labor and materials costs of Subcontractors performing the Change. For the portion of any Change performed by the Contractor's own forces, the mark-up on the allowable actual direct labor and materials costs of such portion of a Change shall be Fifteen Percent (15%). Refer to section 01 26 00 Contract Modification Procedures.
11. **Form and Content of Change Orders** In accordance with the provisions of Article 9.5 of the General Conditions, if the District approves of a Change Order, the Change Order issued by the District and executed by the District, Architect, Construction Manager and Contractor shall be in the form and content as set forth in Attachment A to these Special Conditions.
12. **Asbestos and Other Hazardous Materials Certification** Upon completion of the Work and as an additional express condition precedent to the District's obligation to disburse the Final Payment to the Contractor, the Contractor's duly authorized representative shall deliver to the District the completed and executed form of Asbestos and Other Hazardous Materials Certification included as Attachment B to the Special Conditions; the signature of the Contractor's representative shall be notarized by a California Notary Public.
13. **Compliance with District Guidelines – Imported Soils** If the Project requires the use of imported soils, the Contractor shall be responsible to use and shall certify that the imported material it uses is free of any hazardous and/or toxic substance or material of any nature or type as defined in accordance with California Law and the California Health and Safety Code. The District and Architect reserves the right to reject any imported material that has come from agricultural or commercial land. Contractor must notify the District of the source of material and comply with all local applicable regulations, and when applicable, with the guidelines of the Department of Toxic Substances Control (DTSC).
14. **Debris Recycling Statement** The District's form of Debris Recycling Statement is attached to these Special Conditions as Attachment C. The Contractor shall complete, execute and submit the Debris Recycling Statement in accordance with applicable provisions of the Contract Documents, under General Conditions, Supervision and Construction Procedures, Section 4.3.9.
15. **Public Works Contractor Registration Certificate.** The District's form of Public Works Contractor Registration Certification form is attached to these Special Conditions as Attachment D. The Contractor and its Sub-Contractors shall complete, execute and submit the Public Works Contractor Registration Certification form with the Bid Proposal in accordance with the Bid Documents.
16. **Additional Definitions** In addition to terms defined elsewhere in the Contract Documents, the

following terms used in the Contract Documents are defined as set forth herein.

- 16.1** Owner Unless otherwise expressly provided, references to the “Owner” shall be deemed references to the District, as that term is defined in the Contract Documents.
- 16.2** Inspector; Inspector of Record; IOR; Owner’s Inspector Unless otherwise expressly provided, references to Inspector, Inspector of Record, IOR or Owner’s Inspector shall be deemed references to the Project Inspector as that term is defined in the Contract Documents.
- 16.3** Contract Sum Unless otherwise expressly provided, the terms “Contract Price” and “Contract Sum” are synonymous.
- 16.4** Campus Unless otherwise expressly provided, the term “Campus” shall be deemed to refer to the District’s Chabot College campus.
- 16.5** N/A - Rain Days. Pursuant to Article 7.3.9 of the General Conditions, the rain days included within the contract period shall be **Zero (0)** calendar days.

- 17. COVID 19** Where any District Consultant and its service professionals, employees or agents (“Consultant”) will be physically present on any District site, all such Consultants shall comply with all Center for Disease Control, State of California, Alameda County and District requirements related to COVID-19 and other communicable diseases. District Board Policy 7330 regarding Communicable Disease requires that all visitors to District campuses and sites must comply with all Cal/OSHA safety guidelines and other District policies and procedures, as well as any other District COVID-19 health and safety protocols in effect. Such health and safety protocols including requiring vaccinations of all employees providing services inside District owned/operated facilities as required by Board Policy 7330. Mask/Face Coverings are required at all times while inside District facilities, unless otherwise directed.

Please also take notice that, pursuant to Consultant’s Agreement with the District, Consultant “shall comply with all applicable federal, state, and local laws, ordinances, rules, regulations, and orders in effect throughout the term of this Agreement including, but not limited to Executive Order No. 11246 of September 24, 1965, as amended (regarding Equal Employment Opportunity), and the orders of the Secretary of Labor pursuant thereto.” (Exhibit C, General Provisions for Professional Services Agreement, Professional Services Agreement.)

This shall constitute sufficient notice of the applicable regulations and requirements set forth in District Board Policy 7330 and shall further act as a notice of compliance to all Consultants. The District requires compliance no later than bid award February 20, 2024 and will proceed to enforce all of its rights and remedies as a result of any non-compliance herein through the duration of the project.

**CHANGE ORDER FORM
(ATTACHMENT A TO SPECIAL CONDITIONS)**

Project: _____
Date: _____

Change Order #: _____

Contractor: _____

Pursuant to the General Conditions, this Change Order Form shall be used for all Change Orders associated with the Work. No additions or deletions to this form shall be allowed, except with permission of the District.

You are hereby directed to provide the extra work necessary to comply with this Change Order.

DESCRIPTION OF CHANGE:

Contractor accepts the terms and conditions stated as full and final settlement of any and all claims arising from this Change Order. Contractor agrees to perform the above described changes in accordance with the terms set forth herein and in compliance with applicable sections of the Contract Documents. This Change Order is hereby agreed to, accepted and approved, all in accordance with the General Conditions of the Contract Documents. The adjustment of the Contract Price and the Contract Time for the changes noted in this Change Order (the "Changes") represents the full and complete adjustment of the Contract Time and the Contract Price 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 overhead 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. 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 the Changes set forth in this Change Order or the Contractor's performance and completion of the Changes.

NOT VALID UNTIL SIGNED BY THE OWNER, ARCHITECT, AND CONTRACTOR

The original Contract Sum was \$ _____

Net change by previously authorized Change Orders \$ _____

The Contract Sum prior to this Change Order was. \$ _____

The Contract Sum will be changed by this Change Order in the amount of. \$ _____

The adjusted Contract Sum including this Change Order will be. \$ _____

The Contract Time will be (increased) (decreased) (unchanged) by. (_____) Days

The Contractual date of Substantial Completion as of the date of this Change Order therefore is: . . . ____/____/____

ARCHITECT	CONTRACTOR	CONSTRUCTION MANAGER	OWNER
<u>KM</u>		<u>TBD</u>	

By: _____ By: _____ By: _____ PPM:: _____

By: _____ Date: _____ Date: _____ Date: _____

CHABOT-LAS POSITAS COMMUNITY
COLLEGE DISTRICT
7600 Dublin Blvd., 3rd fl
Dublin, CA 94554

VC: _____

Date: _____

By: _____ Date: _____

**ASBESTOS AND OTHER HAZARDOUS MATERIALS CERTIFICATION
(ATTACHMENT B TO SPECIAL CONDITIONS)**

This Asbestos and Other Hazardous Materials Certification form is part of the Contract made by and between the CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT and **BID NO.: B23/24-10 CULTURAL COMMUNITY CENTER AT LAS POSITAS COLLEGE** (hereinafter referred to as the "Project").

To the best of my knowledge, information and belief, in completing the Work of the Project, no materials, equipment or other items furnished, installed or incorporated into the Project contains, or in itself be composed of, any asbestos, polychlorinated biphenyl (PCB), any material listed by the federal or state EPA or federal or state health agencies as a hazardous material, or defined as being hazardous under federal or state laws, rules or regulations.

The undersigned is duly authorized to complete, execute and submit this Asbestos and Other Hazardous Materials Certification on behalf of the Contractor. The undersigned has personal knowledge of the substantive representations set forth hereinabove or has made appropriate diligent inquiry to ascertain that the substantive representations set forth hereinabove are complete, true and accurate and do not omit material facts rendering such representations to be false or misleading.

____ ("Contractor") for the work of improvement commonly referred to as
I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on this _____ day of _____, 2024 at _____.
(City and State)

Name of Contractor (Print or Type)

By: _____
Signature

Print Name

Title

Subscribed and sworn before me
this ____ day of _____, 2024

Notary Public in and for the State of California

My Commission Expires:

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Chabot – Las Positas Community College District

**Construction & Demolition
DEBRIS RECYCLING STATEMENT
(Attachment C to Special Conditions)**

Project Name / Location: _____			
_____ Demolition		_____ Construction	
Contractor Name: _____			
Contact Name: _____		Phone: _____	Fax: _____
Anticipated Start Date: _____		Anticipated Completion Date: _____	
Statement Date: _____			
For the period between: _____/_____/_____ and _____/_____/_____			
Month		Year	
Month		Year	

Please indicate estimated quantities by matter, the proposed processing method and the vendor selected. Weight tag required as verification.

Material	Estimated Amount (Tons or Yards)			Vendor or Facility Selected
	Recycled	Salvaged	Landfilled	
Asphalt				
Concrete				
Brick/Masonry Tile				
Corrugated Cardboard				
Dirt/Clean Fill				
Drywall				
Padding – Carpet Foam				
Building Materials (doors, windows, cabinets, fixtures)				
Scrap Metals				
Mixed Recyclable Debris				
Other				
Un-painted wood/Pallets				
Green Waste/Yard Waste				
Garbage – Painted Wood- Trash				

If no materials are targeted for recycling, reuse or salvage, please state why: _____

The undersigned certifies that she/he is authorized to execute this Debris Recycling Statement on behalf of the above-identified Contractor. The undersigned further certifies that she/he has personal knowledge of the foregoing, or has made reasonable inquiry to ascertain, that the foregoing is true, complete and correct.

Submitted by: _____ Date: _____

IMPORTED MATERIALS CERTIFICATION
(ATTACHMENT D TO SPECIAL CONDITIONS)

PROJECT/CONTRACT NO.: _____ between [Chabot-Las Positas CCD]
("District") and _____
("Contractor") **BID NO.: B23/24-10 CULTURAL COMMUNITY CENTER AT LAS POSITAS COLLEGE**
("Contract" or "Project").

This form shall be executed by all entities that, in any way, provide or deliver and/or supply any soils, aggregate, or related materials ("Fill") to the Project Site. All Fill shall satisfy all requirements of any environmental review of the Project performed pursuant to the statutes and guidelines of the California Environmental Quality Act, section 21000 *et seq.* of the Public Resources Code ("CEQA"), including requirements for a Phase I environmental assessment acceptable to the State of California Department of Education and Department of Toxic Substances Control

Certification of: ☐ Delivery Firm/Transporter ☐ Supplier ☐ Manufacturer
 ☐ Wholesaler ☐ Broker ☐ Retailer
 ☐ Distributor ☐ Other _____

Type of Entity ☐ Corporation ☐ General Partnership
 ☐ Limited Partnership ☐ Limited Liability Company
 ☐ Sole Proprietorship ☐ Other _____

Name of firm ("Firm"): _____

Mailing address: _____

Addresses of branch office used for this Project: _____

If subsidiary, name and address of parent company: _____

By my signature below, I hereby certify that I am aware of section 25260 of the Health and Safety Code and the sections referenced therein regarding the definition of hazardous material. I further certify on behalf of the Firm that all soils, aggregates, or related materials provided, delivered, and/or supplied or that will be provided, delivered, and/or supplied by this Firm to the Project Site are free of any and all hazardous material as defined in section 25260 of the Health and Safety Code.

PUBLIC WORKS CONTRACTOR REGISTRATION CERTIFICATION
(Attachment E to Special Conditions)

I, _____, am the _____ of
(Print Name) (Title)

(Contractor Name)

I declare, state and certify to all of the following:

1. I am aware of the provisions and requirements of California Senate Bill (SB) 854, the Public Works Contractor Registration Program.
2. I am authorized to certify, and do certify, on behalf of Contractor that an annual registration fee has been paid and I am registered as eligible to bid and work on public works projects by doing all of the following:
 - A. Must have workers' compensation coverage for any employees and only use subcontractors who are glistered public works contractors;
 - B. Must have Contractors State License Board license, if applicable to trade;
 - C. Must have no delinquent unpaid wage or penalty assessments owed to any employee or enforcement agency;
 - D. Must not be under federal or state debarment;
 - E. Must not be in prior violation of this registration requirement once it becomes effective on April 1, 2015.
3. Contractor and I understand that if the District determines that Contractor has either: (a) made a false certification herein, or (b) violated this certification by failing to carry out and to implement the requirements of the Department of Industrial Relations (DIR), the Contract awarded herein is subject to termination, suspension of payments, or both. Contractor and I further understand that, should Contractor violate the terms of the Public Works Contractor Registration Certification Law of California Senate Bill 854, Contractor may be subject to debarment in accordance with the provisions of California Labor Code §§1720, et seq.
4. Contractor and I acknowledge that Contractor and I are aware of the provisions of California Senate Bill 854 and hereby certify that Contractor and I will adhere to, fulfill, satisfy and discharge all provisions of and obligations under the Public Works Contractor Registration Program.

I declare under penalty of perjury under the laws of the State of California that all of the foregoing is true and correct.

Executed at _____ this _____ day of
(City and State)

_____, 2024

(Signature)

(Handwritten or Typed Name)

Department of Industrial Relations Registration #

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GUARANTEE

District: CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT
Project: BID NO.: B23/24-10 CULTURAL COMMUNITY CENTER AT LAS POSITAS COLLEGE

Contractor Name: _____

The Contractor hereby warrants and guarantees to the District that all work, materials, equipment and workmanship provided, furnished or installed by or on behalf of Contractor in connection with the above-referenced Project (the "Work") have been provided, furnished and installed in strict conformity with the Contract Documents for the Work, including without limitation, the Drawings and the Specifications. Contractor further warrants and guarantees that all work, materials, equipment and workmanship as provided, furnished and/or installed are fit for use as specified and fulfill all applicable requirements of the Contract Documents including without limitation, the Drawings and the Specifications. Contractor shall, at its sole cost and expense, repair, correct and/or replace any or all of the work, materials, equipment and/or workmanship of the Work, together with any other items which may be affected by any such repairs, corrections or replacement, that may be unfit for use as specified or defective within a period of one (1) year from the date of the District's Final Acceptance of the Work, ordinary wear and tear and unusual abuse or neglect excepted.

In the event of the Contractor's failure and/or refusal to comply with the provisions of this Guarantee, within the period of time set forth in the Contract Documents after the District's issuance of the Notice to the Contractor of any defect(s) in the Work, materials, equipment or workmanship, Contractor authorizes the District, without further notice to Contractor, to repair, correct and/or replace any such defective item at the expense of the Contractor. The Contractor shall reimburse the District for all costs, expenses or fees incurred by the District in providing or performing such repairs, corrections or replacements within ten (10) days of the District's presentation of a demand to the Contractor for the same.

The provisions of this Guarantee and the provisions of the Contract Documents for the Work relating to the Contractor's Guarantee(s) and warranty(ies) relating to the Work shall be binding upon the Contractor's Performance Bond Surety and all successors or assigns of Contractor and/or Contractor's Performance Bond Surety.

The provisions of this Guarantee are in addition to, and not in lieu of, any provisions of the Contract Documents for the Work relating to the Contractor's guarantee(s) and warranty(ies) or any guarantee(s) or warranty(ies) provided by any material supplier or manufacturer of any equipment, materials or other items forming a part of, or incorporated into the Work, or any other guarantee or warranty obligation of the Contractor, prescribed, implied or imposed by law.

The undersigned individual executing this Guarantee on behalf of Contractor warrants and represents that he/she is duly authorized to execute this Guarantee on behalf of Contractor and to bind Contractor to each and every provision hereof.

Dated: _____

By: _____
(Signature)

(Typewritten or handwritten name)

(Title)



Chabot-Las Positas Community College District

Measure A Bond Program

CONTRACT REQUIREMENTS

DIVISION 1 GENERAL REQUIREMENTS

PART 1 – GENERAL**1.01 SUMMARY**

- A. This section includes summary of work including:
 - 1. Work covered by Contract Documents
 - 2. Bid items, Allowances and Alternates
 - 3. Work under other contracts
 - 4. Future work
 - 5. Work sequence
 - 6. Cooperation of contractor and coordination with other work
 - 7. Maintenance
 - 8. Occupancy requirements
 - 9. Reference Standards
 - 10. Products ordered in advance
 - 11. CLPCCD furnished products

1.02 WORK COVERED BY CONTRACT DOCUMENTS

- A. The scope includes selective demolition, installation of new finishes and ceiling systems, and modifications to existing spaces. Key elements include new gypsum board partitions, acoustic ceilings, carpeting, painting, lighting upgrades, and improvements to electrical, data networking, and fire alarm systems. The work aims to modernize and enhance the functionality of the cultural center while addressing code compliance and accessibility requirements including some path of travel work near parking lot “C”. Coordination with existing building systems and careful phasing will be required to minimize disruption to ongoing campus operations during construction.
- B. The work shall include all work shown and specified except for work indicated “N.I.C” or “Not in Contract”.
- C. During construction, all buildings will remain in service and be occupied during normal campus hours as this campus will remain active throughout the entire project.
- D. The Contractor must maintain access to all buildings, sidewalks, and paths of travel at all times during the project. The contractor is to provide secure fencing to keep the general public from entering exterior work areas.
- E. Unless provided otherwise in the Contract Documents, all risk of loss of Work covered by the Contract Documents shall rest with the Contractor until Final Completion and Acceptance of the Work.

1.03 BID ITEMS

- A. Base Bid- Furnish and install all work shown on Drawings and described in Specifications and all other Contract Documents, including connections to existing systems for a complete and operational product.
- B. Allowance- An Owner’s unspecified allowance is as noted in Paragraph 1.1 of the Bid Proposal.

1.04 WORK UNDER OTHER CONTRACTS

Not Applicable

1.05 FUTURE WORK

Not Applicable.

1.06 WORK SEQUENCE

- A. The contractor shall coordinate their work with the Construction Manager. Work will be performed on an active college campus. Campus hours are from 7:00AM to 10:00PM Monday through Friday. Exterior work can occur during normal working hours.

1.07 COOPERATION OF CONTRACTOR AND COORDINATION WITH OTHER WORK.

- A. Should construction work, or work of any other nature, be underway by other forces or by other contractors within or adjacent to the limits of the Work at the time the Work was advertised for bids, the Contractor shall cooperate with all such other contractors or forces to the end that any delay or hindrance to their work will be avoided. The cost of such cooperation will be considered as included in the prices bid and no direct or additional payment will be made therefore. Contractor shall coordinate with such other contractors and forces as required by General Conditions.
- B. CLPCCD reserves the right to perform other or additional work, within or adjacent to the limits of the work specified, at any time by the use of other forces. Contractor shall coordinate with CLPCCD and any CLPCCD forces, or other forces, engaged by CLPCCD, as required by General Conditions. In the event that the performance of such other or additional work materially increases or decreases Contractor's costs, the work and the amount to be paid therefore will be appropriately adjusted as determined by the Construction Manager.
- C. Limit use of the Site for Work and for construction operations to allow for:
 - a. CLPCCD operation
 - b. Work by other contractors and tenants
- D. Coordinate use of the Site and access to site with other contractors, utilities, and CLPCCD forces, as required by General Conditions. Construction Manager has final authority over coordination, use of the Site, and access to site.
- E. Cooperate with CLPCCD and others who may occupy and begin work on site and inside building prior to completion of Work of this Contract.
- F. Cooperate with contractors for other area work, not included in Contract, but which may take place during construction period.

1.08 MAINTENANCE

- A. Cost of maintenance of systems and equipment prior to Final Acceptance will be considered as included in prices bid and no direct or additional payment will be made therefore.

1.09 OCCUPANCY REQUIREMENTS

- A. Whenever, in the opinion of Construction Manager, Work or any part thereof is in a condition suitable for use, and the best interest of CLPCCD requires such use, CLPCCD may take beneficial occupancy of and connect to, open for public use, or use the Work or such part thereof. In such case, CLPCCD will request Architect/Engineer to inspect the Work or part thereof, and issue a Certificate of Substantial Completion for that part of Work.
- B. Prior to date of Final Acceptance of the Work by CLPCCD, all necessary repairs or renewals in Work or part thereof so used, not due to ordinary wear and tear, but due to defective materials or workmanship or to operations of Contractor, shall be made at expense of Contractor, as required in General Conditions.
- C. Use by CLPCCD of Work or part thereof as contemplated by this section shall in no case be construed as constituting acceptance of Work or any part thereof. Such use shall neither relieve

Contractor of any responsibilities under Contract, nor act as waiver by CLPCCD of any of the conditions thereof.

- D. CLPCCD may specify in the Contract Documents that portions of the Work, including electrical and mechanical systems or separate structures, shall be substantially completed on milestone dates prior to substantial completion of all of the Work. Contractor shall notify Architect/Engineer in writing when Contractor considers any such part of the Work ready for its intended use and substantially complete and request Architect/Engineer to issue a Certificate of Substantial Completion for that part of the Work.

PART 2 – PRODUCTS

2.01 REFERENCE STANDARDS

- A. For products specified by association or trade standards, comply with requirements of standard, except where more rigid requirements are specified or are required by applicable codes.

2.02 PRODUCTS ORDERED IN ADVANCE

Not applicable.

2.03 CLPCCD FURNISHED PRODUCTS

For CLPCCD furnished products as specified, if any, shall be indicated on Construction Documents.

PART 3 – EXECUTION

Not applicable.

END OF SECTION

1. ALTERNATES AND UNIT PRICES**a. RELATED DOCUMENTS AND PROVISIONS**

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- (1) General Conditions;
- (2) Special Conditions;
- (3) Bid Proposal; and
- (4) Instruction to Bidders.

2. ALTERNATES**a. DESCRIPTION**

An amount proposed by Contractor and stated in its Bid Proposal for certain work defined in the Instruction to Bidders and Bid Proposal Form that may be added to or deducted from the Base Bid amount. The acceptance or rejection of any of the alternates is strictly at the option of the District and subject to District's acceptance of Contractor's stated prices contained in this Proposal.

b. GENERAL:

- (1) Coordination: Contractor shall modify or adjust adjacent work as necessary to completely integrate work of the alternate into the Project.
- (1) Include as part of each alternate, miscellaneous devices, accessories and similar items incidental to or required for a complete installation whether or not indicated as part of the alternate.
- (2) Include as part of each alternate, the costs of related coordination, modification, or adjustments.
- (2) If District accepts an alternate, Contractor shall perform the work of the alternate under the same conditions as other work required by Contract Documents.

3. UNIT PRICING**a. DESCRIPTION**

An amount proposed by Contractor and stated in its Bid Proposal Form for certain work defined in the Instruction to Bidders and Bid Proposal Form that may be priced by unit. The acceptance or rejection of any of the unit prices is strictly at the option of the District and subject to District's acceptance of Contractor's

stated prices contained in the Bid Proposal Form and may be subsequently negotiated prior to incorporation on Change Order(s).

b. GENERAL

Contractor shall completely state all required figures based on Unit Prices required in the Bid Proposal Form. Where scope of Work is decreased, all Work pertaining to the item, whether specifically stated or not, shall be omitted and where scope of Work is increased, all work pertaining to that item required to render same ready for use on the Project in accordance with intention of Drawings and Specifications shall be included in an agreed upon price amount.

c. UNIT PRICES

Furnish unit prices for each of the named items on a square foot, lineal foot, or per each basis, as requested and applicable, per the designator on the Bid Proposal Form. Unit prices shall include all labor, materials, services, profit, overhead, insurance, bonds, taxes, and all other incidental costs of Contractor, subcontractors, and supplier(s).

END OF SECTION

PART 1 – GENERAL**1.01 SUMMARY**

- A. This section describes general procedural requirements for alterations, modifications, and extras.
- B. Related Sections
 - 1. Section 01 11 00: Summary of Work

1.02 GENERAL

- A. Any change in scope of work or deviation from Drawings or Specifications shall be accomplished only when authorized in writing by Construction Manager. As appropriate, change orders are subject to approval by the Division of the State Architect. Refer to section 4-338, Part 1, Title 24, California Code of Regulations.
- B. Changes in scope of Work or deviation from Drawings or Specifications may be initiated only by the Contractor or the Construction Manager.
 - 1. Contractor may initiate changes by submitting Requests for Information (RFI), Requests for Substitution (RFS), Notice of Concealed or Unknown Conditions, or Notice of Hazardous Waste Conditions.
 - a. RFI's shall be submitted to seek clarification of Contract Documents.
 - b. RFS's shall be submitted in accordance with paragraph 4.8.2 of General Conditions to request substitution of materials or methods of execution.
 - c. Notices of Changes shall be submitted in accordance with paragraph 9.6 of General Conditions.
 - d. Notices of Hazardous Waste Conditions shall be submitted in accordance with paragraph 4.17 of General Conditions.
 - e. Notices of concealed or unknown conditions shall be submitted to make Owner aware of a potential change in scope of the work.
 - 2. Contractor shall be responsible for its costs to implement and administer RFI's and RFS's throughout the Contract duration. Regardless of the number of RFI's submitted, Contractor will not be entitled to additional compensation. Contractor shall be responsible for both CLPCCD's and Architect's administrative costs for answering its RFI's where the answer could reasonably be found by reviewing the Contract Documents, as determined by CLPCCD; such costs will be deducted from progress payments.
 - 3. Architect/Engineer may initiate changes by issuing a Supplemental Instruction (which shall require written approval of the Construction Manager).
 - 4. Construction Manager may initiate changes by issuing a Construction Field Directive (CFD) to Contractor. Such CFD's will provide detail on the proposed changes in the Work and request a quotation of changes in Contract Sum and Contract Times from Contractor. A CFD may require

Contractor to expedite the work and proceed on a time and material (force account) basis.

1.03 PROCEDURE

- A. Contractor shall submit RFI to Construction manager. Contractor shall reference each RFI to an activity on its Progress Schedule and note the time criticality of the RFI, indicating the time in which the response is required. Architect/Engineer shall respond by issuing a Clarification.
 - 1. If Contractor is satisfied with the Clarification and does not request change in Contract Sum or Contract Times, then the Clarification shall be executed without a change.
 - 2. If Contractor believes that the Clarification results in change in Contract Sum or Contract Times, Contractor shall notify Construction Manager who may then deny request for change or issue RFP.
- B. Contractor shall submit RFS to Construction Manager who may then deny request or issue RFP.
- C. Contractor shall submit Notices of Changes to resolve unanticipated conditions incurred in the execution of the Work. Procedures in Paragraph 9.6 of General Conditions shall be followed. If Construction Manager determines that a change in Contract Sum or contract Times is justified, Construction Manager shall issue RFP.
- D. Contractor shall submit Notices of Hazardous Waste Conditions to resolve problems regarding hazardous materials encountered in the execution of the Work. Procedures in Paragraph 4.17 of General Conditions shall be followed. If Construction Manager determines that a change in Contract Sum or contract Times is justified, Construction Manager shall issue RFP.
- E. Architect/Engineer shall issue Supplemental Instruction to the Construction Manager who shall forward onto Contractor. Contractor shall not proceed with Supplemental Instruction until Construction Manager approves it in writing.
 - 1. If Contractor is satisfied with Supplemental Instruction and does not request change in Contract Sum or Contract Times, then Supplemental Instruction shall be executed without a Change Order.
 - 2. If Contractor believes that Supplemental Instruction results in change in Contract Sum or Contract Times, Contractor shall notify Construction Manager. Construction Manager may then deny request for change, cancel Clarification or issue RFP.
- F. Responses by recipients shall be within a reasonable time.
- G. Contractor shall respond to Construction Manager's RFP within fifteen (15) working days by furnishing a complete breakdown of costs of both credits and extras, itemizing materials, labor, taxes, overhead and profit. Subcontract work shall be so indicated.
- H. Upon approval of RFP, Construction Manager will issue a Change Order directing Contractor to proceed with extra work.
- I. Payment shall be made as follows:

1. Change Orders which increase Contract Sum or Contract Times shall be included in next Contract Modification Form, signed by Construction Manager, accepted by Contractor.
2. Payment shall be made for Change Order work along with other work in progress payment following completion of Change Order work. Partial completion of Change Order work shall be paid for that part completed during the period covered by the monthly payment request.

1.04 COST DETERMINATION

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

B. Overhead:

1. Overhead shall be as defined in Article 1.08.

C. Taxes:

1. Alameda County Sales Tax should be included.
2. Federal and Excise Tax shall not be included.

D. Owner Operated Equipment

When owner-operated equipment is used to perform extra work, Contractor will be paid for equipment and operator as follows:

1. Payment for equipment will be made in accordance with Paragraph 1.05.
C.
2. Payment for cost of labor will be made at no more than rates of such labor established by collective bargaining agreements for type of worker and location of work, whether/or not owner-operator is actually covered by such an agreement.

1.05 COST BREAKDOWN

A. Labor - Contractor will be paid cost of labor for workers (including fore persons when authorized by Construction Manager) used in actual and direct performance of extra work. Labor rate, whether employer is Contractor, subcontractor or other forces, will be sum of following:

1. **Actual Wages** - Actual wages paid shall be limited to the applicable prevailing wage rate for the classification of labor actually and reasonably necessary to complete a Change. Prevailing wage rates shall be deemed to include all direct payment of wages to workers completing a Change and all employer burdens thereon, including without limitation all employer

payments to or on behalf of workers for Workers Compensation, health and welfare, pension, vacation and other similar labor burdens.

Contractors and subcontractors are required to provide their corresponding wage rate breakdown for the classification of labor under which they will complete a Change and, on the form, provided by the Owner for review and approval by the Owner and Construction Manager prior to processing and approval of payment for any completed Change.

B. Material - Only materials furnished by Contractor and necessarily used in performance of extra work will be paid for. 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:

1. If cash or trade discount by actual supplier is offered or available to purchaser, it shall be credited to CLPCCD notwithstanding fact that such discount may not have been taken.
2. For materials salvaged upon completion of extra work, salvage value of materials shall be deducted from cost, less discount, of materials.
3. If cost of a material is, in opinion of Construction Manager, 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 subparagraph 1 above.

C. Equipment Rental

For Contractor or subcontractor-owned equipment, payment will be made at the lesser of actual rental rates or the 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. 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. 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. Individual pieces of equipment or tools not listed in said publication and having a replacement value of five hundred dollars (\$500) 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. Rental time will not be allowed while equipment is inoperative due to breakdowns.

1. For equipment on Site, rental time to be paid for equipment shall be the time equipment is in operation on extra work being performed. The following shall be used in computing rental time of equipment:
 - a. When hourly rates are listed, less than thirty (30) minutes of operation shall be considered to be one-half (1/2) hour of operation.
 - b. When daily rates are listed, less than four (4) hours of operation shall be considered to be one-half (1/2) day of operation. Anything over four

(4) hours and not more than eight (8) hours is considered one (1) full day of operation.

2. For equipment, which 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:
 - a. CLPCCD will pay for costs of loading and unloading equipment.
 - b. Cost of transporting equipment in low bed trailers shall not exceed hourly rates charged by established haulers.
 - c. Cost of transporting equipment shall not exceed applicable minimum established rates of California Public Utilities Commission.
 - d. Payment for transporting and loading and unloading equipment as above provided will not be made if equipment is used on Work in any other way than upon extra work.
3. Rental period shall begin at time equipment is unloaded at Site of extra work and terminate at end of day on which Construction Manager directs Contractor to discontinue use of equipment. Excluding Saturdays, Sundays, and legal holidays, unless equipment is used to perform extra work on such days, rental time to be paid per day shall be four (4) hours for zero (0) hours of operation, six (6) hours for four (4) hours of operation and eight (8) hours for eight (8) hours of operation, time being prorated between these parameters. Hours to be paid for equipment, which is operated less than eight (8) hours due to breakdowns, shall not exceed eight (8) less number of hours equipment is inoperative due to breakdowns.

D. Work Performed by Special Forces or Other Special Services

When Construction Manager and Contractor, by agreement, determine that special service or item of extra work cannot be performed by forces of Contractor or those of any subcontractors, service or extra work item may be performed by specialist. 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 special service industry to provide complete itemization. In those instances, wherein 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. Construction Manager must be notified in advance of all offsite work. To specialist invoice price, less credit to CLPCCD for any cash or trade discount offered or available, whether or not such discount may have been taken, will be added 15 percent (15%) in lieu of overhead and profit provided in Paragraph 1.04.B.

1.06 FORCE-ACCOUNT

- A. 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, Change Order may fix a maximum price which shall not under any circumstances be exceeded, and subject to such limitation, such alteration, modification or extra shall be paid for

at actual necessary cost as determined by CLPCCD Authority, which cost shall be determined pursuant to Article 1.04, and shall be known as Force-Account work.

- B. Whenever any Force-Account work is in progress, definite price for which has not been agreed on in advance, Contractor shall report to Construction Manager each day in writing in detail amount and cost of labor and material used, and any other expense incurred in Force-Account work on preceding workday, and no claim for compensation for Force-Account work will be allowed unless report shall have been made. Daily report(s) shall be delivered to Construction Manager within one (1) business day of the day the work was performed. No late reports will be accepted. The intent is to have daily agreement on hours expended for labor and equipment on Force-Account work.
- C. Above-described methods of determining payment for work and materials shall not apply to performance of work or furnishings of material, which, in judgment of Construction Manager, may properly be classified under items for which prices are established in Contract.

1.07 CLPCCD FURNISHED MATERIALS

CLPCCD reserves right to furnish materials, as it deems advisable, and Contractor shall have no claims for costs and overhead and profit on such materials.

1.08 OVERHEAD DEFINED

The following constitutes charges that are included in overhead for all contract modifications, including Force-Account work:

- 1. Drawings: field drawings, shop drawings, etc. including submissions of drawings
- 2. Routine field inspection of work proposed
- 3. General Superintendence
- 4. General administration and preparation of change orders
- 5. Computer services
- 6. Reproduction services
- 7. Salaries of project engineer, Construction Manager, superintendent, timekeeper, storekeeper and secretaries
- 8. Janitorial services
- 9. Temporary on-site facilities
 - a. Offices
 - b. Telephones
 - c. Plumbing
 - d. Electrical: Power, lighting
 - e. Platforms
 - f. Fencing, etc.
- 10. Home office expenses
- 11. Insurance Premium

12. Procurement and use of vehicles and fuel used coincidentally in base bid work
13. Surveying
14. Estimating
15. Protection of work
16. Final cleanup
17. Other incidental work
18. Record Drawings
19. Warranty
20. Transportation expense to site for labor

1.09 RECORDS AND CERTIFICATION

- A. Force-Account (cost reimbursement) charges shall be recorded daily upon Cost Breakdown for Contract Modification Form obtained from Inspector. Contractor or authorized representative shall complete and sign form. Inspector shall sign form for approval. Contract Modification Form shall provide names and classifications of workers and hours worked by each, itemize materials used, and also list size type and identification number of equipment, and hours operated, and shall indicate work done by specialists.
- B. No payment for Force-Account work shall be made until Contractor submits original invoices substantiating materials and specialist charges.
- C. CLPCCD shall have the right to audit all records in possession of Contractor relating to activities covered by Contractor's claims for modification of Contract, including Force-Account work, as set forth in General Conditions.
- D. Further, CLPCCD shall have right to audit, inspect, or copy all records maintained in connection with this Contract, including financial records, in possession of Contractor relating to any transaction or activity occurring or arising out of, or by virtue of, Contract. If Contractor is a joint venture, right of CLPCCD shall apply collaterally to same extent to records of joint venture sponsor, and of each individual joint venture member.

PART 2 – PRODUCTS

Not applicable to this section.

PART 3 – EXECUTION

Not applicable to this section.

**SAMPLE ONLY
COST BREAKDOWN FORM FOR CONTRACT MODIFICATION**

One separate form shall be used by Contractor, each first-tier subcontractor and each lower tier subcontractor. One form for each shall be used for each change order. One form for each, for each day shall be used for Force-Account work.

**COST BREAKDOWN FOR CONTRACTOR PRICE PROPOSAL
SHEET 1 OF 3**

GENERAL CONTRACTOR FORM

PROJECT NUMBER: _____

PROJECT NAME: _____

CONTRACTOR: _____

CHANGE ORDER NUMBER: _____ **DATE:** _____

CHANGE ORDER DESCRIPTION: _____

SUMMARY OF TOTAL COSTS					
1. TOTAL LABOR COSTS		\$ -			
2. Fifteen percent (15%) of Line 1		\$ -			
3. Sum of Lines 1 & 2			\$ -		
4. TOTAL MATERIAL COSTS		\$ -			
5. Fifteen percent (15%) of Line 4		\$ -			
6. Sum of Lines 4 & 5			\$ -		
7. TOTAL EQUIPMENT RENTAL COSTS		\$ -			
8. Fifteen percent (15%) of line 7		\$ -			
9. Sum of lines 7 & 8			\$ -		
10. TOTAL OF SUBCONTRACTED COST		\$ -			
11. Five percent (5%) of line 10 (excluding subcontractor markup)		\$ -			
12. Sum of Lines 10 & 11			\$ -		
SUBTOTAL OF DIRECT COSTS & MARK-UP				\$ -	
COST OF BONDS (does not apply to subcontractors)				\$ -	
TOTAL OF CONTRACT MODIFICATION				\$ -	

COST BREAKDOWN FOR CONTRACTOR PRICE PROPOSAL

SHEET 2 OF 3

CONTRACTOR: _____

CHANGE ORDER NUMBER: _____ DATE: _____

CHANGE ORDER DESCRIPTION: _____

LABOR				
NAME	CLASSIFICATION	HOURS	RATE	TOTAL
				\$ -
				\$ -
				\$ -
				\$ -
TOTAL LABOR COSTS (Transfers to Line 1 of Sheet 1)				\$ -

MATERIALS	
DESCRIPTION	COST
SUBTOTAL MATERIAL COSTS (Without Sales Tax)	\$ -
SALES TAX ON MATERIAL AT 9.00%	\$ -
TOTAL MATERIAL COSTS (Transfers to Line 4 of Sheet 1)	\$ -

EQUIPMENT				
SIZE AND TYPE	I.D. #	HOURS	RATE	TOTAL
				\$ -
				\$ -
				\$ -
				\$ -
TOTAL EQUIPMENT RENTAL COSTS (Transfers to Line 7 of Sheet 1)				\$ -

COST BREAKDOWN FORM FOR CONTRACT MODIFICATION
SHEET 3 OF 3

CHANGE ORDER NUMBER: _____ DATE: _____

CHANGE ORDER DESCRIPTION: _____

SUBCONTRACTED WORK		
SUBCONTRACTOR	DESCRIPTION OF WORK SUBCONTRACTED	COST
TOTAL COST OF SUBCONTRACTED WORK (Transfers to Line 10 of Sheet 1)		\$ -

CONTRACTOR: _____ Date: _____

VERIFIED BY INSPECTOR: _____ Date: _____

PART 1 – GENERAL**1.01 SECTION INCLUDES**

- A. Project coordination.
- B. Field engineering.
- C. Coordination drawings.
- D. Workmanship.
- E. Incidental costs.
- F. Correspondence and Notices.
- G. Miscellaneous provisions.
- H. Damage and restoration.

1.02 RELATED SECTIONS

- A. Section 011100 - Summary of Work.
- B. Section 014500 - Quality Control.
- C. Section 015000 – Temporary Facilities.
- D. Section 017000 - Contract Closeout.

1.03 PROJECT COORDINATION

- A. Coordination scheduling, submittals, and Work of the various Sections of specifications to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Verify that utility requirement characteristics of operating equipment are compatible with building utilities. Coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- C. Coordinate space requirements and installation of mechanical and electrical work, which are indicated diagrammatically on drawings. Follow route shown for pipes, ducts, and conduit, as closely as practicable: place runs parallel with line of building. Utilize space efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finished elements.
- E. Submit a copy of site drawing and certificate signed by the Civil Engineer that the elevations and locations of the Work of separate Sections in preparation for Substantial Completion.
- F. Coordinate completion and cleanup of Work of separate Sections in preparation for Substantial Completion.

- G. After Owner occupancy of the Site, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.04 FIELD ENGINEERING

- A. Contractor shall locate and protect survey control and reference points.
- B. Control datum for survey is that shown on drawings.
- C. Contractor shall verify setbacks and easements; confirm drawing dimensions and elevations.
- D. Provide field engineering services. Contractor shall establish lines, and levels, utilizing recognized engineering practices

1.05 COORDINATION DRAWINGS

- A. Provide information required by Architect for preparation of coordination drawings.
- B. Review drawings prior to submission to Architect.

1.06 WORKMANSHIP

- A. Work shall be performed by craftsmen well experienced and competent in their particular trade.
- B. Workmanship shall be thorough, finished and complete in every detail for finest quality installations as intended under these specifications.

1.07 INCIDENTAL COSTS

- A. In addition to cost associated with GC Article 6: Insurance; Indemnity; Bonds:
 - 1. Utilities: Refer to Section 01 50 00.
 - 2. Contractors and Subcontractors shall furnish at their own cost and expense all tools, consumable supplies, appliances, equipment, etc., necessary for execution of their work; and shall be responsible for care and guarding thereof.
 - 3. Contractors and Subcontractors shall be entirely responsible for professional, trade, business or other licenses required by state statute or local government.

1.08 CORRESPONDENCE AND NOTICES

- A. Clearly identify correspondence, notices and submittals with project name, subject and detailed references to drawings and specifications.
- B. Notify Inspector or the Construction Manager two (2) working days in advance of required inspection.
- C. The District's project management system (ProjectSolve) shall be utilized for document controls for RFI, Submittals, Daily Logs, etc...

1.09 MISCELLANEOUS PROVISIONS

- A. Contractor shall immediately refer to the Construction Manager any requirement shown or specified which Contractor in their experience and background finds or believes:
 - 1. Is not equal to industry standards for achieving a first quality installation as intended;
 - 2. Is excessive in cost or effort to effect the intended results;
 - 3. Is below standard for proper enforcement of the guarantees required;
 - 4. Or, is at variance with governing laws, regulations, codes or standards.
- B. Work operations relative to any matter referred to Architect for consideration shall not proceed until receipt of appropriate instructions from Architect.
- C. Inspection of Work and Materials: Contractor shall immediately make a close and thorough inspection of all materials as delivered and all work in progress; shall promptly reject and return all defective materials and re-do; and shall check and verify adequate performance or satisfactory results of all tests and inspections before allowing sub-work to proceed.
- D. Warranty Period: During warranty periods, supervise investigation and correction of deficiencies found or occurring in the work.
- E. Shop Fabricate and pre-assemble interrelated parts where possible.
- F. Closing up of walls, partitions or furred spaces, backfilling and other covering up operations shall not proceed until all enclosed or covered work and inspections have been completed. Verify before proceeding.
- G. Provide holes, slots, cutouts, blocking, screeds, nailers, chases and similar preparation as the work progresses, as required to receive or pass subsequent work without damage to previously completed work.
- H. Exterior Work shall be made tight against direct or indirect entry of water into the concealed or interior spaces of the building. Seal joints or penetrations below grade or behind exterior trim and other conditions where water might enter the structure, as for exposed exterior work.
- I. Structural Connections and Fasteners: Include as required for complete fabrication and installation of the work; of materials, types and sizes adequate for the purposes.
 - 1. Place in concealed or obscured locations where possible.
 - 2. Include suitable welding or brazing where required.
- J. Powder Activated Fasteners: Limited to uses particularly shown, specified or approved by Architect. Operators shall be certified in accordance with California Industry Safety orders.
- K. Ferrous Work permanently exposed to exterior or below grade shall be galvanized; related accessory members and fastening non-ferrous, galvanized or made rustproof by approved methods.

- L. Galvanizing, prime painting and related touch-up and repair shall comply with requirements for metal fabricating and painting in Section 13125 - Relocatable Buildings.
- M. Isolation: Provide between ferrous and non-ferrous or dissimilar metal components to protect the work against electrolysis, as follows:
 - 1. For architectural work, provide cork fillers, asphaltic coatings, neoprene gaskets or similar separation as necessary; and use stainless steel fastenings only where interconnecting dissimilar parts.
 - 2. For mechanical and electrical work, provide dielectric unions or similar separation. In particular, provide isolation as necessary between exterior underground systems and interior above-grade systems where they meet dissimilar metals.
- N. Prior to starting a particular type or kind of work, examine for relevant information, all contract documents and subsequent data issued to the project.

1.10 DAMAGE AND RESTORATION

- A. Damage to previously existing or newly placed facilities caused by movement of equipment or other operations, whether accidental or made necessary by reason of Contract requirements, shall be restored or replaced as specified or directed by Architect or Construction Manager.
- B. Restoration shall be equal to the structural qualities or performance capacities of the original work, and finishes shall match the appearance of, as nearly as possible, like existing adjacent work. Restorations shall be subject to approval by Architect and shall be made as necessary at no added expense to Owner unless otherwise particularly provided for.
- C. Work not properly restored or where not capable of being restored as intended under these Specifications shall be removed and replaced as directed by Architect at no added expense to Owner.

PART 2 – PRODUCTS

Not applicable to this section.

PART 3 – EXECUTION**3.01 CUTTING AND PATCHING**

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements, which affects:
 - 1. Structural integrity of element.
 - 2. Integrity of weather-exposed or moisture-resistant elements.
 - 3. Efficiency, maintenance, or safety of element.
 - 4. Visual qualities of sight-exposed elements.
- C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
 - 1. Fit the several parts together, to integrate with other Work.

2. Uncover Work to install or correct ill-timed work.
 3. Remove and replace defective and non-conforming Work.
 4. Remove samples of installed Work for testing.
 5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- D. Execute work by methods, which will avoid damage to other Work, and provide proper surfaces to receive patching and finishing.
- E. Cut rigid materials using masonry saw or core drill.
- F. Restore Work with new products in accordance with requirements of Contract Document.
- G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. Maintain integrity of wall, ceiling, or floor construction, completely seal voids.
- I. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.
- J. Identify any hazardous substance or condition exposed during the Work to the Construction Manager for decision or remedy.

END OF SECTION

PART1 – GENERAL**1.01 SUMMARY**

- A. This section describes the required meetings for this work. These meetings include:
 - 1. Pre-construction Conference
 - 2. Scheduling Meetings
 - 3. Progress Meetings
 - 4. Special Meetings
- B. Related Sections
 - 1. Section 01 11 00: Summary of Work
 - 3. Section 01 32 00: Progress Schedules and Reports
 - 4. Section 01 33 00: Submittals

1.02 PRECONSTRUCTION CONFERENCE

- A. Construction Manager will call for and administer Pre-construction Conference at time and place to be announced. Conference will occur as soon after award as can be reasonably scheduled.
- B. Contractor, all subcontractors, and major suppliers shall attend Pre-construction Conference.
- C. Agenda will include, but not be limited to, the following items:
 - 1. Schedules
 - 2. Personnel
 - 3. Use of the Site
 - 4. Temporary Utilities
 - 5. Location of Contractor's on-site facilities
 - 6. Project access
 - 7. Employee parking
 - 8. Security/Safety
 - 9. Housekeeping
 - 10. Submittals
 - 11. Inspection and testing procedures, on-site and off-site
 - 12. Utility shutdown procedures
 - 13. Control and reference point survey procedures
 - 14. Injury and Illness Prevention Program
 - 15. Contractor's Initial CPM Schedule
 - 16. Contractor Invoicing, Schedule of Values, Approval Procedures

- D. Construction Manager will distribute copies of minutes to attendees. Attendees shall have five (5) working days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of the Pre-construction Conference.

1.03 SCHEDULING MEETINGS

- A. Meet with Construction Manager and Architect on Start Date of Contract and conduct initial review of Contractor's draft Shop Drawing and Sample Submittal Schedule, and draft Schedule of Values and Initial Construction Schedule ("Schedule Review Meeting").
- B. Authorized representative in Contractor's organization, designated in writing, who will be responsible for working and coordinating with Construction Manager's representative(s) and Architect relative to preparation and maintenance of Progress Schedule shall attend initial Schedule Review Meeting.
- C. Contractor shall, within thirty (30) days from the Notice to Proceed date, meet with Construction Manager and Architect to review the Original CPM Schedule submittal.
 - 1. Contractor shall have its manager, superintendent, scheduler, and key subcontractor representatives, as required by CLPCCD, in attendance. The meeting will take place over a continuous one-day period.
 - 2. CLPCCD's review of Schedule Submittals will be limited to conformance to Contract requirements, including, but not limited to, coordination requirements. However, review may also include:
 - a. Clarifications of Contract Requirements
 - b. Directions to include activities and information missing from submittal
 - c. Requests to Contractor to clarify its schedule
 - 3. Within five (5) days of the initial Schedule Review Meeting, Contractor shall respond in writing to all questions and comments expressed by CLPCCD at the meeting.
- D. Construction Manager will administer scheduling meetings and shall distribute minutes of scheduling meetings to attendees. Attendees shall have five (5) working days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of the scheduling meetings.

1.04 PROGRESS MEETINGS

- A. Construction Manager and Architect will schedule and administer Progress Meetings throughout duration of Work. Progress meetings will be held weekly unless otherwise directed by Construction Manager.
 - 1. Meetings shall be held at Construction Manager's on-site office unless otherwise directed by Construction Manager.
 - 2. Construction Manager will prepare agenda and distribute to Contractor, Inspector and Architect/Engineer 24 hours in advance of meeting.
 - 3. Construction Manager will preside at meeting.

4. Architect will record and distribute minutes to Contractor, Inspector, Construction Manager, all other participants, and those affected by decisions made at meeting, within three (3) working days after meeting. Attendees shall have five (5) working days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of progress meetings.
- B. Progress Meetings shall be attended by Contractor's job superintendent, major subcontractors and suppliers, when requested by Construction Manager or as appropriate, Construction Manager, Architect/Engineer, Inspector and others as appropriate to agenda topics for each meeting.
- C. Agenda will contain the following items as appropriate:
 1. Review of work progress
 2. Status of Construction Schedule, adjustments
 3. Submittals
 4. Delivery schedules
 5. Utility shutdowns, traffic disruptions, and interferences with public scheduled during the subsequent 2 weeks
 6. Quality control
 7. Pending changes
 8. Substitutions
 9. Review of Contractor's safety program activities and results, including report on all serious injury and/or damage accidents
 10. Safety
 11. Other items affecting progress of work
- D. A separate meeting will be held on approximately the 25th of each month to review the schedule update submittal and progress payment application.
 1. At this meeting, at a minimum, the following items will be reviewed:
 - a. percent complete of each activity
 - b. time impact evaluations for Change Orders and Time Extension Request
 - c. actual and anticipated activity sequence changes
 - d. actual and anticipated duration changes
 - e. actual and anticipated contractor delays
 2. These meetings are considered a critical component of overall monthly schedule update submittal and Contractor shall have appropriate personnel attend. At a minimum, these meetings shall be attended by Contractor's General Superintendent and Scheduler.
 3. Contractor shall plan on progress meetings taking no less than four (4) hours.

1.05 SPECIAL MEETINGS

- A. Special meetings may be called by any party by notifying all desired participants, Construction Manager, Architect, and Inspector four (4) working days in

advance, giving reason for meeting. Special Meetings may be held without advance notice in emergency situations.

- B. At any time during the progress of the Work, CLPCCD shall have authority to require Contractor to attend conference of any or all of the contractors engaged in the Work or in other work, and notice of such conference shall be duly observed and complied with by Contractor.
- C. Contractor shall schedule and conduct coordination meetings as necessary to discharge coordination responsibilities in the General Conditions. Construction Manager shall be given five (5) days written notice of coordination meetings. Contractors shall maintain minutes of coordination meetings. Attendees shall have five (5) working days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of the meetings.
- D. Pre-installation meetings of manufactures' warranty scope of work, i.e., roofing, water-proofing, curtain wall, etc.
- E. LEED kick-off meeting.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

PART 1 – GENERAL**1.01 SUMMARY**

- A. Scheduling of Work under this Contract shall be performed by Contractor in accordance with requirements of this Section.
 - 1. Development of schedule, cost and manpower 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.
 - 2. Submit schedules and reports as specified in General Conditions.
- B. Upon Award of Contract, Contractor shall immediately commence development of Initial and Original CPM Schedules to ensure compliance with CPM schedule submittal requirements.
- C. Related Sections:
 - 1. Section 01 11 00: Summary of Work
 - 2. Section 01 33 00: Submittals

- D. Definitions: The following definitions apply to this section:

ACTIVITY: A task, event or other project element on a schedule that contributes to completing the project. Activities have a description, start date, finish date, duration and one or more logic ties.

BASELINE SCHEDULE: The initial schedule representing the Contractor's work plan on the first day of the project.

CRITICAL PATH: The longest continuous chain of activities for the project that has the least amount of total float of all chains. In general, a delay on the critical path will extend the scheduled completion date.

CRITICAL PATH METHOD (CPM): A network based planning technique using activity durations and the relationships between activities to mathematically calculate a schedule for the entire project.

DATA DATE: The day after the date through which a schedule is current. Everything occurring earlier than the data date is "as-built" and everything on or after the data date is "planned".

EARLY COMPLETION TIME: The difference in time between an early scheduled completion date and the contract completion date.

FLOAT: The difference between the earliest and latest start or finish times for an activity.

MILESTONE: An event activity that has zero duration and is typically used to represent the beginning or end of a certain stage of the project.

NARRATIVE REPORT: A document submitted with each schedule that discusses topics related to project progress and scheduling.

NEAR CRITICAL PATH: A chain of activities with total float exceeding that of the critical path but having no more than 14 calendar days of total float.

SCHEDULED COMPLETION DATE: The planned project finish date shown on the current accepted schedule.

SUBSTANTIAL COMPLETION: The stage in the progress of the work when the work is complete in accordance with the Contract Documents, so that District can occupy or use the work for its intended purpose.

TIME IMPACT ANALYSIS: A schedule and narrative report developed specifically to demonstrate what effect a proposed change or delay has on the current scheduled completion date.

TIME-SCALED NETWORK DIAGRAM: A graphic depiction of a CPM schedule comprised of activity bars with relationships for each activity represented by arrows. The tail of each arrow connects to the activity bar for the predecessor and points to the successor.

TOTAL FLOAT: The amount of time that an activity or chain of activities can be delayed before extending the scheduled completion date.

UPDATED SCHEDULE: A current schedule developed from the baseline or subsequent schedule through regular monthly review to incorporate as-built progress and any planned changes.

1.02 QUALIFICATIONS

- A. Contractor shall employ experienced scheduling personnel qualified to use the latest version of Primavera Project Planner or Microsoft Project scheduling software. Experience level required is set forth below. Contractor may employ such personnel directly or may employ a consultant for this purpose. After bid opening, the apparent successful low bidder shall provide CLPCCD a written verification that Contractor has the required personnel under its employ or that Contractor will employ the required CPM scheduling consultant.
 - 1. The written statement shall identify individual who will perform CPM scheduling.
 - 2. Capability and experience shall be verified by description of construction projects on which individual has successfully applied computerized CPM.
 - 3. Required level of experience shall include at least two projects of similar nature, scope and value not less than three-fourths the Total Bid Price of this Project. The written statement shall provide contact persons for referenced projects with current telephone and address information.
- B. CLPCCD reserves right to approve Contractor's scheduler, or consultant, and right to reject them at any time. CLPCCD also reserves right to refuse replacement of Contractor's scheduler or consultant, if it believes such replacement will negatively affect Contract.

1.03 GENERAL

- A. Progress Schedule shall be based on and incorporate milestones and completion dates specified in Contract Documents. Submit to the Owner baseline, monthly updated, and final updated schedules, each consistent in all respects with the time and order of work requirements of the contract. Work must be executed in the sequence indicated on the current accepted schedule. Schedules must show the order in which you propose to execute the work with logical links between time-scaled work activities and calculations made using the critical path method to determine the controlling activities. You are responsible for assuring that all activity sequences are logical and that each schedule shows a coordinated plan for complete performance of the work.
- B. Overall time of completion and time of completion for each milestone shown on Progress Schedule shall adhere to times as stated in Contract Agreement, unless an earlier (advanced) time of completion is requested by Contractor and agreed to by CLPCCD. Any such agreement shall be formalized by a Change Order.
 - 1. CLPCCD is not required to accept an earlier (advanced) schedule, i.e., one that shows early completion dates for the Contract Times.

2. Contractor shall not be entitled to extra compensation in the event agreement is reached on an earlier (advanced) schedule and Contractor completes its Work, for whatever reason (excepting approved changes with added time components) beyond completion date shown in earlier (advanced) schedule but within the Contract Times.
3. A schedule showing the work completed in less than the Contract Times, which has been accepted by CLPCCD, shall be considered to have Project Float. The Project Float is the time between the scheduled completion of the work and Contract Substantial Completion. Project Float is a resource available to both CLPCCD and the Contractor.
- C. Float Ownership: Neither CLPCCD nor Contractor owns float. The Project owns the float. As such, liability for delay of the Substantial Completion Date rests with the party whose actions, last in time, actually cause delay to the Substantial Completion Date.
 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.
- D. Progress Schedule shall be the basis for evaluating job progress, payment requests, and time extension requests associated with the changes. Responsibility for developing Contract CPM schedule and monitoring actual progress as compared to Progress Schedule rests with Contractor.
- E. The Owner's review and acceptance of schedules does not waive any contract requirements and does not relieve Contractor of any obligation or responsibility for submitting complete and accurate information. Correct rejected schedules and resubmit corrected schedules to the Owner within seven (7) days of notification by the Owner, at which time a new review period of seven (7) days will begin.

Errors or omissions on schedules do not relieve Contractor from finishing all work within the time limit specified for completion of the contract. If, after a schedule has been accepted by the Owner, either the Contractor or the Owner discovers that any aspect of the schedule has an error or omission, it must be corrected on the next updated schedule.
- F. Use Microsoft Project for Windows or Primavera P6. Such software shall be compatible with Windows operating system. Contractor shall transmit contract schedule files to CLPCCD on CD-ROM or flash drive at times requested by CLPCCD.
- G. Transmit each item under form approved by CLPCCD.
 1. Identify Project with CLPCCD Contract number and name of Contractor and file by date, project, and update number.
 2. Provide space for Contractor's approval stamp and CLPCCD's review stamps.
 3. Submittals received from sources other than Contractor will be returned to the Contractor without CLPCCD's review.

1.04 INITIAL CRITICAL PATH METHOD (CPM) SCHEDULE

- A. Initial CPM Schedule submitted for review at the pre-construction conference shall serve as Contractor's schedule for up to ninety (90) calendar days after the Notice to Proceed.
- B. Indicate detailed plan for the Work to be completed in first sixty (60) days of the Contract; details of planned mobilization of plant and equipment; sequence of early operations; and procurement of materials and equipment. Show Work beyond sixty (60) calendar days in summary form.
- C. Initial CPM Schedule shall be time-scaled.

- D. Initial CPM Schedule shall be cost and manpower loaded. Accepted cost and manpower-loaded schedule will be used as basis for monthly progress payments until acceptance of the Original CPM Schedule. Use of Initial CPM Schedule for progress payments shall not exceed sixty (60) calendar days.
- E. CLPCCD and Contractor shall meet to review and discuss the Initial CPM Schedule within seven (7) calendar days after it has been submitted to CLPCCD.
 - 1. CLPCCD's review and comment on the schedule shall be limited to Contract conformance (with sequencing, coordination, and milestone requirements) and accepted CPM principals.
 - 2. Contractor shall make corrections to schedule necessary to comply with Contract requirements and shall adjust schedule to incorporate any missing information requested by CLPCCD. Contractor shall resubmit Initial CPM Schedule if requested by CLPCCD.
- F. If, during the first sixty (60) 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 CLPCCD a written Time Impact Evaluation (TIE) in accordance with Article 1.09 of this Section. The TIE shall be based on the most current update of the Initial CPM Schedule.

1.05 ORIGINAL CRITICAL PATH METHOD (CPM) SCHEDULE

- A. Submit a detailed proposed Original CPM Schedule presenting an orderly and realistic plan for completion of the Work, in conformance with requirements as specified herein.
- B. The baseline schedule must not extend beyond the number of contract days. The baseline schedule must have a data date of the first working day of the contract and not include any completed work to date. The baseline schedule must not attribute negative float or negative lag to any activity.
- C. Progress Schedule shall include or comply with following requirements:
 - 1. Time scaled, cost and manpower loaded CPM schedule.
 - 2. No activity on schedule shall have duration longer than twenty-one (21) calendar days, with exception of submittal, approval, fabrication and procurement activities, unless otherwise approved by CLPCCD.
 - a. Activity durations shall be total number of actual days required to perform that activity.
 - b. Activity coding capabilities to sort by responsibility, location, phase and CSI division.
 - 3. The start and completion dates of all items of Work, their major components, and milestone completion dates, if any.
 - 4. CLPCCD-furnished materials and equipment, if any, identified as separate activities.
 - 5. Completion of the last activity in the schedule shall be constrained by the contract 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 completion date. The Contractor shall include as the last activity in the project schedule an activity called "Final Completion". The "Final Completion" activity shall have an "LF" constraint date equal to the contract completion date for the project, and with a zero day duration or by using the "project must finish by" date in the scheduling software. The schedule shall have no constrained dates other than those specified in the contract. The use of artificial float constraints such as "zero free float" or "zero total float" are typically prohibited. There shall only be two (2) open ended activities: Start Project (or NTP) with no predecessor logic and Final Completion with no successor logic.
 - 6. Processing/approval of submittals and shop drawings for all Contract-required material and equipment. 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 CLPCCD. Coordinate with accepted schedule for submission of shop drawings, samples and other submittals.
 - b. Contractor shall be responsible for all impacts resulting from resubmittal of shop drawings and submittals.
7. Procurement of all contract required material and equipment, identified as separate activity.
 - a. Include time for fabrication and delivery of manufactured products for the Work.
 - b. Show dependencies between procurement and construction.
8. Complete activity description; what Work is to be accomplished and where.
9. The total cost of performing each activity shall be total of labor, material, equipment, excluding overhead and profit of Contractor. Total overhead and profit of the General Contractor shall be shown on a separate activity in the schedule. Sum of cost for all activities shall equal total Contract value.
10. Resources required (labor) to perform each activity.
11. Responsibility code for each activity corresponding to Contractor or Subcontractor responsible for performing the Work.
12. Identify the activities, which constitute the controlling operations or 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 ten (10) days.
13. At least twenty-eight (28) calendar days for 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.
14. Interface with the work of other contractors, CLPCCD, and agencies such as, but not limited to, utility companies.
15. Show detailed Subcontractor Work activities. In addition, furnish copies of Subcontractor schedules upon which CPM was built.
 - a. Also furnish for each Subcontractor, as determined by CLPCCD, submitted on Subcontractor letterhead a statement certifying that Subcontractor concurs with Contractor's Original CPM Schedule and that Subcontractor's related schedules have been incorporated, including activity duration, cost and resource loading.
 - b. Subcontractor schedules shall be independently derived and not a copy of Contractor's schedule.
 - c. In addition to Contractor's schedule and resource loading, obtain from electrical, mechanical and plumbing Subcontractors, and other Subcontractors as required by CLPCCD, productivity calculations common to their trades, such as units per person day, feet of pipe per day per person, feet of wiring per day per person, and similar information.
 - d. Furnish schedule for Contractor/Subcontractor CPM Schedule meetings which shall be held prior to submission of Original CPM Schedule to CLPCCD. CLPCCD shall be permitted to attend scheduled meetings as an observer.
16. Activity durations shall be in calendar days.
17. Submit with the schedule a list of anticipated non-Work days, such as weekends and holidays.
- D. Original CPM Schedule Review Meeting: Contractor shall, within thirty (30) calendar days from the Notice to Proceed date, meet with CLPCCD to review the Original CPM Schedule submittal.

1. Contractor shall have its Construction Manager, Project Superintendent, Project Scheduler, and key Subcontractor representatives, as required by CLPCCD, in attendance. The meeting will take place over a continuous one-day period.
2. CLPCCD's review will be limited to submittal's conformance to Contract requirements, including, but not limited to, coordination requirements. However, review may also include:
 - a. Accepted critical path method principles and tenets.
 - b. Clarifications of Contract Requirements.
 - c. Directions to include activities and information missing from 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 CLPCCD at the Meeting.

1.06 ADJUSTMENTS TO CRITICAL PATH METHOD (CPM) SCHEDULE

- A. Adjustments to Original CPM Schedule: Contractor shall have adjusted the Original CPM Schedule submittal to address all review comments from original CPM Schedule review meeting and resubmit network diagrams and reports for CLPCCD's review.
 1. CLPCCD, within fourteen (14) days from date that Contractor submitted the revised schedule, will either:
 - a. accept schedule and cost and resource loaded activities as submitted, or
 - b. advise Contractor in writing to review any part or parts of schedule which either do not meet Contract requirements or are unsatisfactory for CLPCCD to monitor Project's progress, resources and status or evaluate monthly payment request by Contractor.
 2. CLPCCD may accept schedule with conditions that the first monthly CPM schedule update be revised to correct deficiencies identified.
 3. When schedule is accepted, it shall be considered as the "Original CPM Schedule" which will then be immediately updated to reflect the current status of the work.
 4. CLPCCD reserves the right to require Contractor to adjust, add to, or clarify any portion of schedule which may later be discovered to be insufficient for monitoring of Work or approval of partial payment requests. No additional compensation will be provided for such adjustments, additions, or clarifications.
- B. Acceptance of Contractor's schedule by CLPCCD will be based upon schedule's compliance with Contract requirements and accepted CPM principles.
 1. By way of Contractor assigning activity durations and proposing sequence of Work, Contractor agrees to utilize sufficient and necessary management and other resources to perform work in accordance with the schedule.
 2. Upon submittal of schedule update, updated schedule shall be considered "current" CPM schedule.
 3. Submission of Contractor's schedule to CLPCCD shall not relieve Contractor of total responsibility for scheduling, sequencing, and pursuing Work to comply with requirements of Contract Documents, including adverse effects such as delays resulting from ill-timed work.
- C. Submittal of Original CPM Schedule, and subsequent schedule updates, shall be understood to be Contractor's representation that the Schedule meets requirements of Contract Documents and that Work shall be executed in sequence indicated on the schedule.

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

1.07 MONTHLY CPM SCHEDULE UPDATE SUBMITTALS

- A. Following acceptance of Contractor's Original CPM Schedule, Contractor shall monitor progress of Work and adjust schedule each month to reflect actual progress and any pre-approved changes to planned activities or logic.
 - 1. Each schedule update submitted shall be complete, including all information requested for the Original CPM Schedule submittal.
 - 2. Each update shall continue to show all work activities including those already completed. These completed activities shall accurately reflect "as built" information by indicating when activities were actually started and completed.
- B. A meeting will be held on approximately the twenty-fifth (25th) of each month to review the schedule update submittal and progress payment application.
 - 1. At this meeting, at a minimum, the following items will be reviewed: Percent complete of each activity; time impact evaluations for Change Orders and Time Extension Request; anticipated activity sequence changes; anticipated duration changes; actual and anticipated contractor delays.
 - 2. These meetings are considered a critical component of overall monthly schedule update submittal and Contractor shall have appropriate personnel attend. At a minimum, these meetings shall be attended by Contractor's General Superintendent and Scheduler.
 - 3. Contractor shall plan on the meeting taking no less than four (4) hours.
- C. Within seven (7) calendar days after monthly schedule update meeting, Contractor shall submit the updated CPM Schedule update.
- D. Within seven (7) calendar days of receipt of above noted revised submittals, CLPCCD will either accept or reject monthly 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.
- E. Updating, changing or revising of any report, curve, schedule or narrative submitted to CLPCCD by Contractor under this Contract, nor CLPCCD's review or acceptance of any such report, curve, schedule or narrative shall not have the effect of amending or modifying, in any way, the Contract Substantial Completion date or milestone dates or of modifying or limiting, in any way, Contractor's obligations under this Contract.
- F. Final Updated Schedule. Submit final updated, as-built schedule with actual start and finish dates for the activities, within 30 days after completion of contract work. Provide a written certificate with this submittal signed by your Project Manager or an officer of the company stating, "To my knowledge and belief, the enclosed final update schedule reflects that actual start date and finish dates of the actual activities for the project contained herein". An officer of the company may delegate in writing the authority to sign the certificate to a responsible manager.

1.08 SCHEDULE REVISIONS

- A. Updating the Schedule to reflect actual progress shall not be considered revisions to the Schedule. Since scheduling is a dynamic process, revisions to activity durations and sequences are expected on a monthly basis.

- B. To reflect revisions to the schedule, the Contractor shall provide CLPCCD with a written narrative with a full description and reasons for each Work activity revised. 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 schedule update meeting.
- C. Schedule revisions shall not be incorporated into any schedule update until the revisions have been reviewed by CLPCCD. CLPCCD may request further information and justification for schedule revisions and Contractor shall, within three (3) days, provide CLPCCD with a complete written narrative response to CLPCCD's request.
- D. If the Contractor's revision is still not accepted by CLPCCD, and the Contractor disagrees with CLPCCD's position, the Contractor has seven (7) calendar days from receipt of CLPCCD'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 seven (7) calendar days of CLPCCD's written rejection of a schedule revision shall be contractually interpreted as acceptance of CLPCCD's position, and the Contractor waives its rights to subsequently dispute or file a claim regarding CLPCCD's position.
- E. At CLPCCD's discretion, the Contractor can be required to provide subcontractor certifications of performance regarding proposed schedule revisions affecting said subcontractors.

1.09 RECOVERY SCHEDULE

- A. If the Schedule Update shows a substantial completion date fourteen (14) calendar days beyond the Contract Substantial Completion date, or individual milestone completion dates, the Contractor shall submit to CLPCCD the proposed revisions to recover the lost time within seven (7) calendar days. As part of this submittal, the Contractor shall provide a written narrative for each 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. The revisions shall not be incorporated into any schedule update until the revisions have been reviewed by CLPCCD.
- C. If the Contractor's revisions are not accepted by CLPCCD, CLPCCD and the Contractor shall follow the procedures in paragraph 1.08.C, 1.08.D and 1.08.E above.
- D. At CLPCCD's discretion, the Contractor can be required to provide subcontractor certifications for revisions affecting said subcontractors.

1.10 TIME IMPACTS EVALUATION (TIE) FOR CHANGE ORDERS, AND OTHER DELAYS

- A. Time Impact Analysis (TIA). Submit a written TIA to the Owner with each request for adjustment of contract time, or when the Contractor or the Owner considers that an approved or anticipated change may impact the critical path or contract progress.
The TIA must illustrate the impacts of each change or delay on the current scheduled completion date or internal milestone, as appropriate. The analysis must use the accepted schedule that has a data date closest to and before the event. If the Owner determines that the accepted schedule used does not appropriately represent the conditions before the event, the accepted schedule must be updated to the day before the event being analyzed. The TIA must include an impact schedule developed from incorporating the event into the accepted schedule by adding or deleting activities, or by changing durations or logic of existing activities. If the impact schedule shows that incorporating the event modifies the critical path and scheduled completion date of the accepted schedule, the difference between scheduled completion dates of the two schedules must be equal to the adjustment of contract time. The Owner may construct and use an appropriate project schedule or other recognized method to determine adjustments in contract time until the Contractor provide the TIA.

- B. Contractor shall be required to comply with the requirements of Paragraph 1.09.A 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 CLPCCD with 4 copies of each TIE.
- D. Once agreement has been reached on a TIE, the Contract Times will be adjusted accordingly. If agreement is not reached on a TIE, the Contract Times may be extended in an amount CLPCCD allows, and the Contractor may submit a claim for additional time claimed by Contractor.

1.11 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 schedule update. Notice of time impacts shall be given in accord with Articles 1.12 and 1.15 of Contract Document General Conditions.
- B. Where an event for which CLPCCD is responsible impacts the projected Substantial Completion date, 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 CLPCCD caused time impact. The Contractor shall submit its mitigation plan to CLPCCD within fourteen (14) calendar days from the date of discovery of said impact. The Contractor is responsible for the cost to prepare the mitigation plan.
- C. Failure to request time, provides TIE, or provides the required mitigation plan will result in Contractor waiving its right to a time extension and cost to mitigate the delay.
- D. No time will be granted under this Contract for cumulative effect of changes.
- E. CLPCCD will not be obligated to consider any time extension request unless requirements of Contract Documents are complied with.
- F. Failure of the Contractor to perform in accordance with the current schedule update shall not be excused by submittal of time extension requests.
- G. If the Contractor does not submit a TIE within the required fourteen (14) calendar days for any issue, it is mutually agreed that the Contractor does not require a time extension for said issue.

1.12 SCHEDULE REPORTS

- A. Submit four (4) copies of the following reports with the Initial CPM Schedule, the Original CPM Schedule, and each monthly update.
- B. Required Reports:
 - 1. Two (2) activity-listing reports: one sorted by activity number and one 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.
- C. Furnish CLPCCD with report files in CD ROM and containing all Microsoft Project .mpp or Primavera .xer schedule files along with report files.

1.13 PROJECT STATUS REPORTING

- A. In addition to submittal requirements for CPM scheduling identified in this Section, Contractor shall provide a monthly project status report (i.e., written narrative report) to be submitted in conjunction with each CPM Schedule as specified herein. Status reporting shall be in form specified below.
- B. Contractor shall prepare monthly written narrative reports of status of Project for submission to CLPCCD. Written status reports shall include:
 - 1. Transmittal letter
 - 2. Work completed during the period, percent complete of activities
 - 3. Identification of unusual conditions or restrictions regarding labor, equipment or material: including multiple shifts, 6-day work weeks, specified overtime or work at times other than regular days or hours
 - 4. Description of the current critical path
 - 5. Changes to the critical path and scheduled completion date since the last schedule submittal
 - 6. Description of problem areas
 - 7. Current and anticipated delays:
 - 7.1 Cause of delay
 - 7.2 Impact of delay on other activities, milestones and completion dates
 - 7.3 Corrective action and schedule adjustments to correct the delay
 - 8. Contractor may include any other information pertinent to status of Project. Contractor shall include additional status information requested by CLPCCD at no additional cost.
 - 9. 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.

1.14 WEEKLY SCHEDULE REPORT

At the Weekly Progress Meeting, the Contractor shall provide and present a time scaled four (4) week schedule one (1) week behind and three (3) week look ahead schedule that is based and correlated by activity number to the current schedule (i.e., Initial, Original CPM, or Schedule Update).

1.15 DAILY CONSTRUCTION REPORTS

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

- A. Project name and Project number.
- B. Contractor's name and address.
- C. Weather, temperature and any unusual site conditions.
- D. 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.
- E. Worker quantities for its own Work force and for Subcontractors of any tier.
- F. Equipment, other than hand tools, utilized by Contractor and Subcontractors.

1.16 PERIODIC VERIFIED REPORTS

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 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 applicable to this section.

PART 3 – EXECUTION

Not applicable to this section.

END OF SECTION

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. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals including:
 - 1. Procedures
 - 2. Schedule of Shop Drawing and Sample Submittals
 - 3. Safety Plan
 - 4. Progress Schedule
 - 5. Product Data
 - 6. Shop Drawings
 - 7. Samples
 - 8. Quality Control Submittals
 - 9. Design Data
 - 10. Test Reports
 - 11. Certificates
 - 12. Manufacturers' Instructions
 - 13. Machine Inventory Sheets Operations and Maintenance Manuals Computer Programs
 - 14. Project Record Documents
 - 15. LEED Submittals

1.3 RELATED SECTIONS

- A. Section 01 11 00: Summary of Work.
- B. Section 01 26 00: Contract Modification Procedures.
- C. Section 01 32 00: "Progress Schedules and Reports" for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals Schedule.
- D. Section 01 70 00: Contract Closeout
- E. Section 01 78 00: Project Record Documents.

1.4 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Architect's responsive action.
- B. Informational Submittals: Written information that does not require Architect's responsive action. Submittals may be rejected for not complying with requirements.

1.5 SUBMITTAL PROCEDURES

- A. General: Electronic copies of CAD Drawings of the Contract Drawings are always through Architect for Contractor's use in preparing submittals. Files are used as background use only.

- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Submittals Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.
- D. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Construction Manager's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 - 1. Initial Review: Allow 15 work days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Construction Manager will advise Contractor when a submittal being processed must be delayed for coordination.
 - 2. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.
- E. Submit at own expense, a minimum of two (2) printed sets or copies and one (1) electronic PDF set- Schedule of Shop Drawing and Sample Submittals, Safety Plans, Progress Schedule, Product Data, Shop Drawings, Samples, Quality Control Data, Machine Inventory Sheets, Operations and Maintenance Manuals, Computer Programs, and Project Record Documents required by the Contract Documents.
- F. Transmit each item with a standard letter of transmittal in form approved by Construction Manager.
- G. Identify project, Contractor, subcontractor, major supplier, pertinent drawing sheet and detail number, and specification section number as appropriate. Provide space for Contractor, Construction Manager and Architect/Engineer review stamps.
- H. Where manufacturer's standard drawings or data sheets are used, they shall be marked clearly to show those portions of the data, which are applicable to this project.
- I. Submit Shop Drawings, Samples and other submittals to Construction Manager for review and approval by Architect/Engineer in accordance with accepted schedule of Shop Drawings and Samples submittals. If no such schedule is agreed upon, then all Shop Drawing, Samples and product data submittals shall be completed within ninety (90) days after receipt of Notice to Proceed from CLPCCD.
- J. The data shown on the Shop Drawings shall be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to show Architect/Engineer the materials and equipment Contractor proposes to provide and to enable Architect/Engineer to review the information for the limited purposes specified below. Samples shall be identified clearly as to material, supplier, pertinent data such as catalog numbers and the use for which it is intended and otherwise as Architect/Engineer may require enabling Architect/Engineer to review the submittal. The number of each Sample to be submitted will be as specified in the Specifications.
- K. At the time of each submission, Contractor shall give Construction Manager, Architect/Engineer, and Inspector specific written notice of all variations, if any; that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, and the reasons therefore. This written notice shall be in a written communication separate from the submittal. In addition, Contractor shall cause a specific notation to be made on each Shop Drawing and Sample submitted

to Construction Manager for review and approval of each such variation by Architect/Engineer. The Architect/Engineer may make adjustments to submittals that may result in changes to the contract. The appropriate change order request should be prepared by the Contractor within ten (10) days of receipt of submittals.

- L. If CLPCCD accepts deviation, CLPCCD shall issue appropriate Contract Modification.
- M. Submittal coordination and verification is responsibility of Contractor; this responsibility shall not be delegated in whole or in part to subcontractors or suppliers. Before submitting each Shop Drawing or Sample, Contractor shall have determined and verified:
 - 1. All field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar information with respect thereto;
 - 2. All materials with respect to intended use, fabrication, shipping, handling, storage, assembly and installation pertaining to the performance of the Work; and
 - 3. All information relative to Contractor's sole responsibilities and of means, methods, techniques, sequences and procedures of construction and safety precautions and programs incident thereto.
- N. Contractor shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.
- O. Contractor's submission to Construction Manager of a Shop Drawing or Sample submittal will constitute Contractor's representation that it has satisfied its obligations under the Contract Documents, and as set forth immediately above, with respect to Contractor's review and approval of that submittal.
- P. Designation of work "by others", if shown in submittals, shall mean that work will be responsibility of Contractor rather than subcontractor or supplier who has prepared submittals.
- Q. After review by Architect/Engineer of each of Contractor's submittals, one electronic set will be returned to Contractor with actions defined as follows:
 - 1. NO ACTION TAKEN – Submittal is unreviewed.
 - 2. NO EXCEPTIONS TAKEN - Accepted subject to its compatibility with future submittals and additional partial submittals for portions of the work not covered in this submittal. Does not constitute approval or deletion of specified or required items not shown on the submittal.
 - 3. MAKE CORRECTIONS NOTED (NO RESUBMISSIONS REQUIRED) - Same as 2. above, except that minor corrections as noted shall be made by Contractor.
 - 4. REVISE AND RESUBMIT - Rejected because of major inconsistencies or errors which shall be resolved or corrected by Contractor prior to subsequent review by Architect/Engineer.
 - 5. REJECTED (RESUBMIT) - Submitted material does not conform to Plans and Specifications in major respect, i.e.: wrong size, model, capacity, or material.
- R. It is considered reasonable that Contractor shall make a complete and acceptable submittal at least by second submission.
 - 1. CLPCCD reserves the right to deduct monies from payments due Contractor to cover additional costs of Architect's/Engineer's review beyond the second submission. Illegible submittals will be rejected and returned to Contractor for resubmission.
- S. Favorable review will not constitute acceptance by CLPCCD or Architect/Engineer of any responsibility for the accuracy, coordination and completeness of the submittals. Accuracy, coordination, and completeness of Submittals shall be sole responsibility of Contractor, including responsibility to back check comments, corrections, and modifications from CLPCCD's or Architect's/Engineer's review before fabrications. Submittals may be prepared by Contractor, subcontractors, or suppliers, but Contractor shall ascertain that submittals meet requirements of Contract Documents, while conforming to structural space and access conditions at point of installation. Architect/Engineer's review will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the

Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Favorable review of submittal, method of work, or information regarding materials and equipment Contractor proposes to furnish shall not relieve Contractor of responsibility for errors therein and shall not be regarded as assumption of risks or liability by Architect/Engineer or CLPCCD, or any officer or employee thereof, and Contractor shall have no claim under Contract on account of failure or partial failure or inefficiency or insufficiency of any plan or method of work or material and equipment so accepted. Favorable review shall be considered to mean merely that Architect/Engineer or CLPCCD has no objection to Contractor using, upon his own full responsibility, plan or method of work proposed, or furnishing materials and equipment proposed.

- T. Architect's/Engineer's review will not extend the means, methods, techniques, sequences or procedures of construction or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
- U. Submit complete initial submittal for those items where required by individual specification Sections. Complete submittal shall contain sufficient data to demonstrate that items comply with Specifications, shall meet minimum requirements for submissions cited in technical specifications, shall include motor data and seismic anchorage certifications, where required, and shall include necessary revisions required for equipment other than first named. If Contractor submits incomplete initial submittal, when complete submittal is required, submittal may be returned to Contractor without review.
- V. It shall be Contractor's responsibility to copy, conform and distribute reviewed submittals in sufficient numbers for Contractor's files, subcontractors and vendors.
- W. After Architect/Engineer review of submittal, revise and resubmit as required. Identify changes made since previous submittal.
 - 1. Begin no fabrication or work, which require submittals until return of submittals not requiring resubmittal.
 - 2. Normally, submittals will be processed and returned to Construction Manager within fifteen (15) working days of receipt by Architect. The processing time spent to review submittals by Construction Manager shall be in addition to the fifteen (15) days.
 - 3. Distribute copies of reviewed submittals to concerned persons. Instruct recipients to promptly report any inability to comply with provisions.

1.6 SCHEDULE OF SHOP DRAWING, DSA DEFERRED APPROVAL SUBMITTALS AND SAMPLE SUBMITTALS

- A. Submit preliminary Schedule of Shop Drawing and Sample Submittals as required by General Conditions. Submit two (2) copies and one (1) electronic PDF of final and accepted schedule of submittals of shop drawings and samples as required by General Conditions, and in no event later than thirty (30) days following Notice of Award.
- B. Schedule of Shop Drawing and Sample Submittals will be used by Architect/Engineer to schedule their activities relating to review of submittals. Schedule of submittals shall indicate a spreading out of submittals and early submittals of long lead-time items and of items, which require extensive review.
- C. Schedule of Shop Drawing and Sample Submittals shall be reviewed by Construction Manager and shall be revised and resubmitted until accepted by Construction Manager.
- D. DSA Deferred Approval Submittals shall be prepared for review by the Architect/Engineer within 30 days of receipt of Notice to Proceed. Contractor shall promptly make corrections to documents for Architect to submit to DSA for approval. Contractor shall have the sole responsibility for obtaining DSA approval via the Architect's office for all deferred approval submittals in a timely manner. There will be no time extensions granted for delay in obtaining such approval.

1.7 SAFETY PLAN

- A. Submit one (1) copies and one (1) electronic PDF of Safety Plan specific to this Contract to Construction Manager within fifteen (15) calendar days after Start Date of the Contract Time.
- B. No on-site work shall be started until Safety Plan has been reviewed and accepted by CLPCCD. Acceptance of Safety Plan shall not affect Contractor's responsibility for maintaining a safe working place and instituting safety programs in connection with project in full compliance with local, state and federal regulations.

1.8 PROGRESS SCHEDULE

- A. Schedule all items requiring Architect action for submission during first 25 percent of construction period.
- B. See Section 01 32 00 "Progress Schedules and Reports" for schedule and report requirements.
- C. Submit (3) print copies, one (1) electronic report file in PDF format, and either Microsoft Project .mpp or Primavera .xer schedule program files:
 - 1. Initial CPM Schedule at the Pre-construction Conference.
 - 2. Original CPM Schedule within thirty (30) days of Notice to Proceed (NTP).
 - 3. Adjustments to the CPM Schedule as required.
 - 4. CPM Schedule updates monthly, five (5) days prior to monthly progress meeting.
- D. Submit three (3) copies and one (1) electronic PDF copy of the reports listed in Section 01 32 00 "Progress Schedules and Reports" with:
 - 1. Initial CPM Schedule
 - 2. Original CPM Schedule
 - 3. Each monthly Schedule update
 - 4. Each weekly three (3) week look ahead Schedule
- E. Progress Schedules and Reports shall be submitted electronically, in addition to hard copies as specified above.

1.9 QUALITY CONTROL SUBMITTALS

- A. Design Data: Not applicable.
- B. Test Reports: Three (3) copies minimum. One (1) copy will be marked with Architect's/Engineer's review comments and returned to Contractor.
 - 1. Indicate that material or product conforms to or exceeds specified requirements.
 - 2. Reports may be from recent or previous tests on material or product, but must be acceptable to Construction Manager. Comply with requirements of each individual specification Section.
- C. Certificates: Three (3) copies minimum. One (1) copy will be marked with Architect's/Engineer's review comments and returned to Contractor.
 - 1. Indicate that material or product conforms to or exceeds specified requirements.
 - 2. Submit supporting reference data, affidavits, and certifications as appropriate.
 - 3. Certificates may be recent or from previous test results on material or product, but must be acceptable to Construction Manager.
- D. Manufacturers' Instructions: Three (3) copies minimum. One (1) copy will be marked with Architect's/Engineer's review comments and returned to Contractor.

1. Include manufacturer's printed instructions for delivery, storage, assembly, installation, startup, adjusting, and finishing.
2. Identify conflicts between manufacturer's instructions and Contract Documents.

1.10 COMPUTER PROGRAMS

- A. When any equipment requires operation by computer programs, submit copy of program on CD(s) plus all user manuals and guides for operating the programs and making changes in the programs for upgrading and expanding the databases. Provide required licenses to CLPCCD at no additional cost.
 1. Include at least three (3) years prepaid software license renewals, which includes software upgrades and updates.

1.11 PROJECT RECORD DOCUMENTS

- A. Submit one copy of each of the Project Record Documents listed in Section 01 70 00 Contract Closeout.

1.12 DELAY OF SUBMITTALS

- A. Delay of submittals by Contractor is considered avoidable delay. Liquidated damages incurred because of late submittals will be assessed to the Contractor.

PART 2 - PRODUCTS**2.1 SUBMITTALS**

- A. Within fifteen (15) calendar days after Start Date of the Contract Time submit two (2) copies and one (1) electronic PDF of complete list of substitutions of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. Contractor shall be responsible for and make all submissions.
 1. Submit items specified herein to Architect and Construction Manager.
 2. Submit all submittals through the Construction Manager's Electronic Submittal Program.
 3. Identify each transmittal using the 6-digit specification number, i.e., metal handrails might be numbered 05 5000, along with an individual submittal number for each section number. Submittal numbers shall be sequential. If returning submittal "12" for re-submission, second submission would be identified as "12A". Should submittal be rejected multiple times (12b, 12c, etc), the Contractor may be required to reimburse the Owner/Architect for labor to review subsequent submissions.
 4. Develop, for maintenance by the Construction Manager, a schedule of all submittals and their status. Refer to Paragraph 1.3 below. The schedule will be reviewed each week at the project meeting.
- C. Transmittals, shop drawings, or samples submitted to Architect shall have the Contractor's stamp on it with his signature and be marked "approved." Contractor's stamp on these items indicates that Contractor has performed the following:
 1. Verified field dimensions and quantities.
 2. Verified field construction criteria, materials, catalog numbers and similar data.
 3. Reviewed and coordinated submittal data with requirements of the Work and the Contract Documents.
 4. ITEMS NOT STAMPED BY THE CONTRACTOR WILL BE RETURNED UNREVIEWED.

- D. Indicate any item, component, material or portion of Work, which deviates from Contract Documents. Unless such departures are accepted as indicated in paragraph "Review" below, such departures will not be permitted.
- E. Make submittals sufficiently in advance of data required to allow Architect reasonable time for review and additional resubmission and review cycles if necessary.
 - 1. Items submitted without Contractor's review stamp will be returned, without action, for resubmission.
 - 2. Items not submitted in accordance with provisions of this Section will be returned, without action, for resubmission.
 - 3. Submissions on items not approved for use by specifications or addenda will be rejected.
 - 4. Drawings transmitted by other than the Prime Contractor will be returned to the Prime Contractor without action of any kind. Drawings will not be returned to subcontractors.

2.2 SUBMITTALS – PRODUCT DATA

- A. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.
- B. Tabulate products by specification section number.
- C. Supplemental Data:
 - 1. Submit number of copies, which Contractor requires, plus three (3) copies, which will be retained by Construction Manager.
 - 2. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturer's standard data to provide information unique to Project.
- D. Provide copies for Project Record Documents described in Section 01 70 00 Contract Closeout.

2.3 SUBMITTALS - SHOP DRAWINGS

- A. Identify drawings with manufacturer, item, use, type, project designation, specification section or drawing detail reference.
- B. Minimum Sheet Size: 8-1/2 inches by 11 inches. All others: Multiples of 8-1/2 inches by 11 inches, 34 inches by 44 inches maximum.
- C. For 8-1/2 inch by 11 inch and 11 inch by 17-inch sheets, submit number of copies, which contractor requires plus three (3) copies, which will be retained by Construction Manager.
- D. For 17 inch by 22 inch through 34 inch by 44-inch sheets, submit one [1] electronic and a minimum of three [3] prints. After review, reproduce and distribute.
- E. Original sheet or reproducible transparency will be marked with Architect's/Engineer's review comments and returned to Contractor.
- F. Each sheet/copy must include project name and project number and bid number on all sheets.
- G. Mark each copy to identify applicable Products, models, options, and other data; supplement manufacturers' standard data to provide information unique to Work.
- H. Include manufacturers' installation instructions when required by specification section.
- I. Submit a copy of the Shop Drawing Transmittal Form with each submittal and resubmittal.

2.4 SUBMITTALS - SAMPLES

- A. Identify samples with manufacturer's name, item, use, type, project designation, specification section or drawing detail reference, color, range, texture, finish and other pertinent data.
 - 1. Submit samples to illustrate functional and aesthetic characteristics of Product, with integral parts and attachment devices. Coordinate submittal of different categories for interfacing work.
- B. Submit full range of manufacturers' standard colors, textures, and patterns for Construction Manager's selection.
- C. Submit a minimum of three (3) samples unless otherwise specified in the construction documents.
- D. Sizes: Unless otherwise specified, provide the following:
 - 1. Paint Chips: Manufacturers' standard
 - 2. Flat or Sheet Products: Minimum 6 inches square, maximum 12 inches square
 - 3. Linear Products: Minimum 6 inches, maximum 12 inches long
 - 4. Bulk Products: Minimum 1 pint, maximum 1 gallon
- E. Full size samples may be used in Work upon approval.
- F. Mock-ups:
 - 1. Erect field samples and mock-ups at Project site in accordance with requirements of Specification sections.
 - 2. Modify or make additional field samples and mock-ups as required to provide appearance and finishes approved by Construction Manager.
 - 3. Approved field samples and mock-ups may be used in Work upon approval.
- G. Architect may, at his option, retain samples for comparison purposes until completion of Work.
 - 1. Samples will be returned or may be used in the Work unless the technical section specifically indicates otherwise.
 - 2. Remove samples when directed.
 - 3. Pay all costs of furnishing or constructing, and removing samples.
- H. Resubmit samples of rejected items.
- I. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- J. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit three copies of a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 - 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION**3.1 CONTRACTOR'S REVIEW**

- A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect and Construction Manager.
- B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT REVIEW

- A. General: Architect and Construction Manager will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect and Construction Manager will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect and Construction Manager will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken.
- C. Reproduce and distribute submittals that the Architect reviews and stamps as follows, to indicate the action taken:
 - 1. Reviewed: Where submittal is marked "Reviewed," that part of the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents; final acceptance will depend upon that compliance.
 - 2. Reviewed -- Additional Information Required: Where submittal is marked "Reviewed -- Additional Information Required," the information submitted has been reviewed and approved as noted. However, additional information as noted and/or required by Contract Documents needs to be submitted.
 - 3. Make Corrections As Noted: When submittal is marked "Furnish As Corrected," that part of the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents; final acceptance will depend on that compliance.
 - 4. Submit Specified Item: When submittal is marked "Revise and Resubmit," do not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations; resubmit without delay. Repeat if necessary to obtain a different action mark.
 - a. Do not permit submittals marked "Revise and Resubmit" to be used at the Project site, or elsewhere where Work is in progress.
 - 5. Rejected: When submittal is marked "Rejected," information submitted is not in compliance with Contract Documents. Resubmit submittal as required by Contract Documents.
- D. Contractor shall retain 1 copy of each "Reviewed," "Reviewed -- Additional Information Required" or "Furnish as Corrected" submittal on file at the job site.
- E. Architect shall retain 1 copy of each "Reviewed," "Reviewed -- Additional Information Required" or "Furnish as Corrected" submittal in the project file.
- F. Contractor shall resubmit items stamped "Revise and Resubmit" or "Rejected" by Architect.
 - 1. Provide a print of previous drawing with resubmission for comparison.
 - 2. Add letter suffix to previous transmittal number, to indicate resubmission.
 - 3. It shall be the Contractor's responsibility to assure that previously approved documents are destroyed when they are superseded by a resubmittal.

- G. Architect review is general and does not:
 - 1. Permit departure from Contract Documents.
 - 2. Relieve Contractor from responsibility for errors in detail, in dimensions or related items.
 - 3. Approve departure from previous instructions or details.
 - 4. Relieve Contractor of the responsibility to provide all components, wiring, etc., required to make item operable or usable.
 - 5. Imply acceptance of items for which no data is submitted.
- H. For items constituting a departure from Contract Documents see Section 01 2500.
- I. Reviewed samples submitted or constructed and approved by Architect constitute criterion for judging completed work. Finish work or items not equal to samples will be rejected.
- J. Start of work which requires submittals, prior to return of submittals with Architect or Owner's stamp indicating review and approval is at Contractor's risk.

3.3 DISTRIBUTION

- A. Contractor shall copy and distribute all "Reviewed," "Reviewed -- Additional Information Required" or "Furnish as Corrected" submittals, including one copy to the Owner.

END OF SECTION

PART 1 – GENERAL**1.01 SUMMARY**

This section includes regulatory requirements applicable to Contract.

1.02 REFERENCES TO REGULATORY REQUIREMENTS

- A. Codes, laws, ordinances, rules and regulations referred to shall have full force and effect as though printed in full in these specifications.
- B. Conform to referenced codes, laws, ordinances, rules and regulations, which are in effect on date of receipt of bids.

1.03 CODES

Codes, which apply to Contract, include, but are not limited to, the following:

- A. 2007 California Building Code (Part 2, Title 24, C.C.R.)
- B. 2007 California Electrical Code (Part 3, Title 24, C.C.R.)
- C. 2007 California Mechanical Code (Part 4, Title 24, C.C.R.)
- D. 2007 California Plumbing Code (Part 5, Title 24, C.C.R.),
- E. 2007 State Elevator Safety Regulations (Part 7, Title 24, C.C.R.)
- F. 2007 California Fire Code (Part 9, Title 24, C.C.R.)
- G. 2007 California Energy Code (Part 6, Title 24, C.C.R.)

1.04 LAWS, ORDINANCES, RULES AND REGULATIONS

- A. During prosecution of Work to be done under Contract, comply with applicable laws, ordinances, rules and regulations, including, but not limited to, the following:
- B. Federal
 - 1. Americans With Disabilities Act
 - 2. 29 CFR, Section 1910.1001, Asbestos
 - 3. 40 CFR, Subpart M, National Emission Standards for Asbestos
 - 4. Executive Order 11246
- C. State of California
 - 1. California Code of Regulations, Titles 5, 8, 19, 21, 24
 - 2. California Education Code
 - 3. California Public Contract Code
 - 4. California Health and Safety Code
 - 5. California Government Code
 - 6. California Labor Code
 - 7. California Civil Code
 - 8. California Code of Civil Procedure
 - 9. CPUC General Order 95, Rules for Overhead Electric Line Construction
 - 10. CPUC General Order 128, Rules for Construction of Underground Electric Supply and Communications Systems

D. State of California Agencies

Bay Area Air Quality Management District (BAAQMD / www.baaqmd.gov)

State and Consumer Services Agency

Department of General Services

Division of the State Architect Office of the State Fire Marshall Office of Public School
Construction

E. Local Agencies:

City of Hayward, California (www.ci.hayward.ca.us)

1.06 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 the disabled public. Contractor shall provide the services specified in this Agreement 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 disabled persons in the provision of services, benefits or activities provided under this Agreement 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 this Agreement.

PART 2 – PRODUCTS

Not applicable.

PART 3 – EXECUTION

Not applicable.

END OF SECTION

PART 1 – GENERAL**1.01 SUMMARY**

- A. This section includes regulatory requirements applicable to Contract work in connection with hazardous waste abatement and disposal, including, but not limited to, asbestos and asbestos containing materials, lead based paint, polychlorinated biphenyls, petroleum contaminated soils and materials, construction and demolition debris and any other hazardous substance or hazardous waste.
- B. This section supplements Section 01 41 00 and the work specific listings of applicable regulatory requirements elsewhere in the specifications.
- C. Related Sections.
 - 1. Section 01 41 00: Regulatory Requirements.

1.02 REFERENCES TO REGULATORY REQUIREMENTS

- A. Codes, laws, ordinances, rules and regulations applicable to the Work shall have full force and effect as though printed in full in these specifications. Codes, laws, ordinances, rules and regulations are not furnished to Contractor, since Contractor is assumed to be familiar with their requirements. The listing herein of applicable codes, laws and regulations for hazardous waste abatement work 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 exists, the most stringent requirements shall be used.
- B. Contractor's work shall conform to all applicable codes, laws, ordinances, rules and regulations that are in effect on date of receipt of bids.

1.03 LAWS, ORDINANCES, RULES AND REGULATIONS

- A. During prosecution of Work under Contract, Contractor shall comply with applicable laws, ordinances, rules and regulations, including, but not limited to, those listed below.
- B. Federal:
 - 1. Statutory Requirements:
 - a. Resource Conservation and Recovery Act, 42 U.S.C.. 6901 et seq.
 - b. Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986, 42 U.S. C" 9601 et seq.
 - c. Toxic Substances Control Act of 1976, 15 U.S.C.. 2601 et seq.
 - d. Hazardous Materials Transportation Act of 1975, 49 U.S. C" 1801 et seq.
 - e. Clean Water Act, 33 U.S.C.. 1251 et seq.
 - f. Safe Drinking Water Act, 42 U.S. C.. 3001 et seq.
 - g. Clean Air Act, section 112, 42 U.S. C.. 7412
 - h. Occupational Safety and Health Act of 1970, 29 U.S.C.. 651 et seq.
 - i. Underground Storage Tank Law, 42 U.S. C.. 6991 et seq.

- j. The Emergency Planning and Community Right to Know Act of 1986, 42 U.S.C. 11001 et seq.
- 2. Environmental Protection Agency (EPA):
 - a. 40 C.F.R. Parts. 260, 264, 265, 268, 270
 - b. 40 C.F.R. Parts 258 et seq.
 - c. 40 C.F.R. Part 761
 - d. 40 C.F.R. Parts 122-124
- 3. Occupational Safety and Health Administration (OSHA):
 - a. OSHA Worker Protection Standards, Title 29 CFR Part 1926.58, Construction Standards and 29 CFR 1910.1001 General Industry Standard
 - b. OSHA, 29 C. F. R. Part 1926.1101, Construction Standards for Asbestos
 - c. OSHA, Lead Exposure in Construction: Interim Final Rule, 29 C.F.R. 1926.62
 - d. National Emission Standard for Hazardous Air Pollutants, Title 40 CFR Part 61
 - e. Asbestos Hazardous Emergency Response Act, Title 40 C.F.R. 763
- 4. Department of Transportation:
 - a. Title 49 C.F.R. 173.1090
 - b. Title 49 C.F.R. 172
 - c. Title 49 C.F.R. 173
 - d. DOT, HM 181 and MH126f
- C. State of California Requirements:
 - 1. Statutory Law:
 - a. The Carpenter-Presley-Tanner Hazardous Substance Account Act, Cal. Health & Saf. Cod~ 25300 et seq.
 - b. Health and Safety Cod~ 25359.4
 - c. Hazardous Waste Control Law, Health & Safety Code. 25100 § seq.
 - d. Porter Cologne Water Quality Control Act, Cal. Water Cod~ 13000 et seq.
 - e. Health and Safety Cod~ 25915-25924
 - f. Cal. Labor Code Chapter 6, including, without limitation, . 6382, 6501.5-6501.9, 6503.5, 9021.5, 9080
 - g. Cal. Bus. and Prof. Code, including without limitation, . 7058.5, 7065.01, 7118.5. Underground Storage of Hazardous Substance Act,
 - h. Cal. Health & Saf. Cod~ 25280 § seq.
 - i. Petroleum Underground Storage Tank Cleanup, Health and Safety Cod~ 25299.10 et seq.
 - j. Safe Drinking Water and Toxic Enforcement Act of 1986, Health & Saf. Cod~ 25249.5 et seq. (Proposition 65)

- k. Above Ground Petroleum Storage Act, Health and Safety Code. 25270 et seq.
- 2. Hazardous Materials Release Response Plans and Inventory, California Health and Safety Code Chapter 6.95.
- 3. Administrative Code and Regulations:
 - a. 22 C.C.R.. 6600 et seq.
 - b. Title 22 C.C.R.. Standards for Management of Hazardous and Extremely Hazardous Waste
 - c. DTSC Treatment Standard for PCB Wastes, Title 22 C.C.R., 66268.110
 - d. Cal OSHA Worker Protection Standards, Title 8 C.C.R.. 1529, 5208
 - e. Title 8 C. C. R.. 1532.1, Lead in Construction
 - f. 22 C.C.R.. 66999(b)
 - g. Title 23 C.C.R.. 2610 et seq.
- 4. Local Agency Requirements:
 - a. Bay Area Air Quality Management District, Fugitive Dust Rules
 - b. Bay Area Air Quality Management District Regulation 11-2-303
 - c. State Water Resource Control Board, General Construction Activity Stormwater Permit Requirements (Order 92-0S DWQ)
- 5. City Requirements:
 - a. Hayward Fire Department (www.haywardcal.us/fire_dept/fd.htm)
 - b. Ordinances

1.04 PERMITS

- A. Contractor shall comply with, implement or acknowledge effectiveness of all CLPCCD held permits, and initiate and cooperate in securing all required notifications or approvals therefore, including but not limited to permits affecting environmental work and the following:
 - 1. BAAQMD, Permit to Excavate or Treat Contaminated Soil;
 - 2. State Water Resources Control Board, General Construction Activity Stormwater Permit

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

PART 1 – GENERAL**1.01 SUMMARY**

- A. This section includes reference standards, abbreviations, symbols and definitions used in Contract Documents.
- B. Full titles and edition dates are given in this section for standards cited in other sections of Specifications.
- C. Material and workmanship specified by reference to number, symbol, or title of specific standard such as state standard, commercial standard, federal specifications, technical society, or trade association standard, or other similar standard shall comply with requirements of standards except when more rigid requirements are specified or required by applicable codes.
- D. Standards referred to, except as modified herein, shall have full force and effect as though printed in the Contract Documents. Standards are not furnished to Contractor, since manufacturers and trades involved are assumed to be familiar with their requirements.

1.02 REFERENCE TO STANDARDS AND SPECIFICATIONS OF TECHNICAL SOCIETIES; REPORTING AND RESOLVING DISCREPANCIES:

- A. Reference to standards, specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard, specification, manual, code or laws or regulations in effect at the time of opening of Bids, except as may be otherwise specifically stated in the Contract Documents.
- B. If during the performance of the Work, Contractor discovers any conflict, error, ambiguity or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such law or regulation applicable to the performance of the Work or of any such standard, specification, manual or code or of any instruction of any supplier, Contractor shall report it in writing at once to Inspector, with copies to Construction Manager and Architect, and Contractor shall not proceed with the Work affected thereby until consent to do so is given by the Construction Manager.
- C. Except as otherwise specifically stated in the Contract Documents or as may be provided by Change Order, or supplemental instruction, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity or discrepancy between the Contract Documents and:
 - 1. The provisions of any such standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or
 - 2. The provisions of any such laws or regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such law or regulation).

No provision of any such standard, specification, manual, code or instruction shall be effective to change the duties and responsibilities of CLPCCD, Contractor, Construction Manager, or Architect/Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents, nor shall it be effective to assign to CLPCCD, Architect/Engineer, Construction Manager, or any of their consultants, agents or employees any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

1.03 STANDARDS

- A. ACI (American Concrete Institute)
Standard 318, Building Code Requirements for Reinforced Concrete

- B. AISC (American Institute of Steel Construction)
Specifications and Code of Standard Practice for Steel Buildings and Bridges
- C. ANSI (American National Standards Institute, formerly American Standards Association)
Standard C2, NESC (National Electrical Safety Code)
- D. ASTM (American Society for Testing and Materials)
 - 1. C31, Making and Curing Concrete Test Specimens in the Field
 - 2. C42, Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
 - 3. C143, Test Method for Slump of Portland Cement Concrete
- E. IAPMO (International Association of Plumbing and Mechanical Officials)
- F. ICC (International Code Council)
 - 1. Refer to Section 01 41 00 – Regulatory Requirements
- G. NEMA (National Electric Manufacturer's Association)
- H. NFPA (National Fire Protection Association)
 - 1. Pamphlet 1, Fire Prevention Code
 - 2. Pamphlet 13, Sprinkler Systems, Installation
 - 3. Pamphlet 24, Private Fire Service Mains
 - 4. Pamphlet 70, NEC (National Electric Code)
 - 5. Pamphlet 71, Signaling Systems, Central Station
 - 6. Pamphlet 80, Fire Doors and Windows
 - 7. Pamphlet 101, Life Safety Code
- I. UL (Underwriters' Laboratories, Inc.)

1.04 ABBREVIATIONS

- A. Following abbreviations may be used in Contract Documents:

AAP	Affirmative Action Program
ACI	American Concrete Institute
ADA	American Disabled Act
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute (formerly American Standards Association)
ASI	Architect's Supplemental Instructions
ASTM	American Society for Testing and Materials
BIL	Basic Insulation Level
Cal/OSHA	California Occupational Safety and Health Administration
CCD	Construction Change Directive
CCR	California Code of Regulations
CFR	Code of Federal Regulations
CO	Change Order
CPUC	California Public Utilities Commission
CPM	Critical Path Method
DSA	Division of State Architect
HVAC	Heating, Ventilating and Air Conditioning

IAPMO	International Association of Plumbing and Mechanical Officials
ICBO	International Conference of Building Officials
I.D.	Identification
JATC	Joint Apprenticeship Training Committee
JV	Joint Venture
Kw	Kilowatt
LBE	Local Business Enterprise
MBE	Minority Business Enterprise
M/WBE	Minority and Woman-Owned Business Enterprise
ml	milliliter
mm	millimeter
NEC	National Electric Code
NEMA	National Electric Manufacturer's Association National Electrical Safety Code
NFPA	National Fire Protection Association
PM	Preventive Maintenance
PR	Proposal Request
RFI	Request for Information
RFS	Request for Substitution
SFM	State of California, Office of State Fire Marshal
CBC	California Building Code
CFC	California Fire Code
UL	Underwriters' Laboratories, Inc.
CMC	California Mechanical Code
CPC	California Plumbing Code
WOBE	Woman-Owned Business Enterprise
WMBE	Woman/Minority Business Enterprise

B. Additional abbreviations, used only on drawings, are listed thereon.

1.05 SYMBOLS

Symbols, used only on Drawings, are shown thereon.

1.06 DEFINITIONS

A. Wherever any of the words or phrases defined below, or a pronoun used in place thereof, is used in any part of the Contract Documents, it shall have the meaning here set forth:

ADDENDA: Written or graphic instruments issued prior to the opening of Bids, which clarify, correct or change the bidding requirements or the Contract Documents. Addenda shall not include the minutes of the Pre-bid Conference and Site Visit.

ADDITIVE BID: The sum to be added to the Base Bid if the change in scope of work as described in Additive Bid is accepted by CLPCCD.

AGREEMENT: Agreement is the basic contract document that binds the parties to construction Work. Agreement defines relationships and obligations between CLPCCD and Contractor and by reference incorporates Conditions of Contract, Drawings, and Specifications and contains Addenda and all Modifications subsequent to execution of Contract.

ALTERNATE: Work added to or deducted from the Base Bid, if accepted by CLPCCD.

APPROVED EQUAL: Approved in writing by CLPCCD as being of equivalent quality, utility and appearance.

ARCHITECT or ARCHITECT/ENGINEER: The person holding a valid California State Architect's license, whose firm has been designated within the Contract Documents as the

Architect to provide architectural services on the project. Refer to Section 341, Part 1, Title 24, C. C. R.

When the Architect is referred to within the Contract Documents and no Architect has in fact been designated, then the matter shall be referred to CLPCCD. The term Architect shall be construed to include all its consultants retained for the project, as well as employees of the Architect. When the designated Architect is an employee of CLPCCD, his authorized representations on the project within the district will be included under the term Architect.

BID: The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

BIDDER: One who submits a Bid.

CLPCCD: Chabot-Las Positas Community College District. Unless otherwise expressly indicated or required by the context of usage, the terms "District" and "Owner" as used in the Contract Documents shall be deemed references to CLPCCD.

CLPCCD-FURNISHED, CONTRACTOR-INSTALLED: Items furnished by CLPCCD at its cost for installation by Contractor at its cost under this Contract.

CLPCCD REPRESENTATIVE(S): The person or persons assigned by CLPCCD to be CLPCCD's representatives or, if so designated, agent(s) at the site.

BY CLPCCD: Work that will be performed by CLPCCD or its agents at the CLPCCD's expense.

BY OTHERS: Work that is outside scope of Work to be performed by Contractor under this Contract, which will be performed by CLPCCD, other contractors, or other means.

CHANGE ORDER: A written instrument prepared by CLPCCD and signed by CLPCCD and Contractor, stating their agreement upon all of the following:

- a. a change in the Work,
- b. the amount of the adjustment in the Contract Sum, if any, and
- c. the amount of the adjustment in the Contract Time, if any.

As appropriate, change orders are subject to approval by the Division of the State Architect. Refer to section 4-338, Part 1, Title 24, California Code of Regulations.

CONCEALED: Work not exposed to view in the finished Work, including within or behind various construction elements.

CONTRACT CONDITIONS: Conditions of Contract define basic rights, responsibilities and relationships of Contractor and CLPCCD and consists of two parts: General Conditions and Supplementary Conditions.

- a. General Conditions are general clauses, which are common to the CLPCCD Contracts.
- b. Supplementary conditions modify or supplement General Conditions to meet specific requirements for this Contract.

CONSTRUCTION MANAGER: CLPCCD's authorized representative, who shall represent CLPCCD in all matters relative to this Contract. Construction Manager may authorize agents and representatives to act in carrying out Construction Manager's duties, including a "Project Manager", to act under the authority of the Construction Manager. As CLPCCD's agent, the Construction Manager is the beneficiary of all contract obligations of Contractor to CLPCCD,

including without limitation, all releases and indemnities. Construction Manager shall not have any personal liability arising from this Contract or any activity there under and Contractor releases Construction Manager fully from all loss, cost, damage, expense or liability arising out of or connected with this Project, whether arising from contract, negligence or tort claims of all kinds.

CONTRACT DOCUMENTS: Contract Documents shall consist of the documents identified as the Contract Documents in Contract Agreement, plus all changes, addenda and modifications thereto.

CONTRACT MODIFICATION: Either:

- a. a written amendment to Contract signed by Contractor and CLPCCD; or
- b. a Change Order; or
- c. a written directive for a minor change in the Work issued by CLPCCD.

CONTRACT SUM: The sum stated in the Agreement and, including authorized adjustments, the total amount payable by CLPCCD to Contractor for performance of the Work and the Contract Documents. (Also referred to as the CONTRACT PRICE.)

CONTRACT TIMES: The number or numbers of days or the dates stated in the Agreement (i) to achieve substantial completion of the Work or designated milestones and/or (ii) to complete the Work so that it is ready for final payment and is accepted.

CONTRACTOR: The person or entity identified as such in the Agreement and referred to throughout the Contract Documents as if singular in number and neuter in gender. The term "Contractor" means the Contractor or its authorized representative.

CONTRACTOR'S EMPLOYEES: Persons engaged in execution of Work under Contract as direct employees of Contractor, as subcontractors, or as employees of subcontractors.

DATE OF SUBSTANTIAL COMPLETION: Date of Substantial Completion of Work or designated portion thereof is date certified by Construction Manager when construction is sufficiently complete in accordance with Contract Documents for CLPCCD to occupy Work or designated portion thereof for its use for which it is intended.

DAY: One calendar day, unless the word "day" is specifically modified to the contrary.

DEDUCTIVE BID: The sum to be subtracting to the Base Bid if the change in scope of work as described in Deductive Bid is accepted by CLPCCD.

DEFECTIVE: An adjective which, when modifying the word "Work", refers to Work that is unsatisfactory or unsuited for the use intended, faulty, or deficient, that it does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents (including but not limited to approval of samples and "or equal" items), or has been damaged prior to final payment (unless responsibility for the protection thereof has been assumed by CLPCCD). Construction Manager is the judge of whether Work is defective.

DRAWINGS: The graphic and pictorial portions of Contract Documents, wherever located and whenever issued, showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

ENGINEER: Where referenced in the Contract Documents, the person holding a valid California State Engineer's license, whose firm has been designated (if any designated) within the Contract Documents as the Engineer to provide engineering services on the project. Refer to section 4-341, Part 1, Title 24, C.C.R.

EQUAL: Equal in opinion of Architect. Burden of proof of equality is responsibility of Contractor.

EXPOSED: Work exposed to view in the finished Work, including behind louvers, grilles, registers and various other construction elements.

FINAL ACCEPTANCE or FINAL COMPLETION: All Work satisfactorily completed in accordance with Contract Documents. It includes, but is not limited to:

- a. All Systems having been tested and accepted as having met requirements of Contract Documents.
- b. All required instructions and training sessions having been given by Contractor.
- c. All as-built drawings and operations and maintenance manuals and Machine Inventory Sheets having been submitted by Contractor, reviewed by Architect/Engineer and accepted by CLPCCD.
- d. All punch list work, as directed by CLPCCD, having been completed by Contractor.
- e. Generally all work, except Contractor maintenance after Final Acceptance, having been completed to satisfaction of CLPCCD.

FORCE-ACCOUNT: Work directed to be performed without prior agreement as to lump sum or unit price cost thereof, and which is to be billed at cost for labor, materials, equipment, taxes, and other costs, plus a specified percentage for overhead and profit.

FURNISH: Supply only, do not install.

INDICATED: Shown or noted on the Drawings.

INSPECTOR: The person engaged by CLPCCD to inspect the workmanship, materials, or manner of construction of buildings or portions of buildings, to determine if such construction complies with the Contract Documents and applicable codes. The inspector is subject to approval by the Architect, CLPCCD and, as appropriate, Division of the State Architect, and he will report to CLPCCD. Refer to section 4-333 and section 4-342, Part 1, Title 24, California Code of Regulations. The terms "Inspector" and "Project Inspector" are used interchangeably in the Contract Documents.

INSTALL: Install or apply only, do not furnish.

LATENT: Not apparent by reasonable inspection, including but not limited to, the inspections and research required as a condition to bidding under the General Conditions.

MATERIAL OR MATERIALS: These words shall be construed to embrace machinery, manufactured articles, materials of construction (fabricated or otherwise), and any other classes of material to be furnished in connection with Contract, except where a more limited meaning is indicated by context.

MILESTONE: A principal event specified in Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all Work.

MODIFICATION: Same as Contract Modification.

NOT IN CONTRACT: Work that is outside the scope of work to be performed by Contractor under this Contract.

NOTICE OF AWARD: A written notice given by CLPCCD to lowest responsive, responsible bidder advising that Bidder's bid and other qualifying information is acceptable to CLPCCD, requiring Bidder to fulfill the requirements of Article 1.03 of Document 00600 General Conditions.

NOTICE TO PROCEED: A written notice given by CLPCCD to Contractor fixing the date on which the Contract Time will commence to run and on which contractor shall start to perform Contractor's obligations under the Contract Documents.

OFF SITE: Outside geographical location of the Project.

OWNER: Chabot Las Positas Community College District (CLPCCD).

PROGRESS REPORT: a periodic report submitted by Contractor to CLPCCD with progress payment invoices accompanying actual work accomplished to the Project Schedule. See Section 01310 Progress Schedules and Reports, Document 00600 General Conditions.

PROJECT: Total construction of which Work performed under this Contract may be whole or part.

PROJECT MANUAL: Project Manual consists of Bidding Requirements, Agreement, Bonds, Certificates, Contract Conditions, and Specifications. The Project Manual is deemed to include and incorporate all matters noted in any Addenda issued by or on behalf of the District during the bidding for the Work.

PROJECT STABILIZATION AGREEMENT: The Contractor or Subcontractor (CONTRACTOR) on this project accepts and agrees to be bound by the terms and conditions of the "Chabot-Las Positas Project Stabilization Agreement", together with any and all amendments and supplements now existing or which are later made by executing the Letter of Assent.

PROVIDE: Furnish and install.

REQUEST FOR INFORMATION (RFI): A document prepared by Contractor, CLPCCD or Architect/Engineer requesting information from one of the parties regarding the Project or Contract Documents. The RFI system is also a means for CLPCCD and Architect to submit Contract Document clarifications or supplements to Contractor.

RFI-REPLY: A document consisting of supplementary details, instructions or information issued by the Architect/Engineer, which clarifies or supplements Contract Documents and with which Contractor shall comply. RFI-Replies do not constitute changes in Contract Sum or Contract Times except as otherwise agreed in writing by CLPCCD. RFI-Replies will be issued through the RFI administrative system.

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

SHOP DRAWINGS: All drawings, diagrams, illustrations, schedules and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the work.

SHOWN: As indicated on Drawings.

SITE: The particular geographical location of Work performed pursuant to Contract, including staging areas, work areas, storage and lay down areas, access and parking.

SPECIFICATIONS: The written portion of the Contract Documents consisting of requirements for materials, equipment, construction systems, standards and workmanship for the Work, and performance of related services; and are contained in Divisions 1 through 32.

SPECIFIED: As written in Specifications.

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

SUBSTANTIAL COMPLETION: The Work (or a specified part thereof) has progressed to the point where, in the opinion of the Construction Manager and the Architect/Engineer as evidenced by a Certificate of Substantial Completion, it is sufficiently complete, in accordance with Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended; or if no such certificate is issued, when the Work is complete and ready for final payment is evidenced by written recommendation of the Construction Manager and the Architect/Engineer for final payment. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

SUPPLEMENTAL INSTRUCTION: A written work change directive to Contractor from Architect/Engineer, approved by Construction Manager, ordering alterations or modifications which do not result in change in Contract Sum or Contract Times, and do not substantially change Drawings or Specifications.

UNDERGROUND FACILITIES: All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: Electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

VERIFIED REPORT: A periodic verified report submitted to DSA. Refer to sections 4-336, 4-337 and 4-343, Part 1, Title 24, California Code of Regulations.

WORK: The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work includes and is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all is required by the Contract Documents. Wherever the word "work" is used, rather than the word "Work", it shall be understood to have its ordinary and customary meaning.

- A. Wherever words "as directed", "as required", "as permitted", or words of like effect are used, it shall be understood that direction, requirements, or permission of CLPCCD or Construction Manager is intended. Words "sufficient", "necessary", "proper", and the like shall mean sufficient, necessary or proper in judgment of CLPCCD or Construction Manager. Words "approved", "acceptable", "satisfactory", "favorably reviewed" or words of like import, shall mean approved by, or acceptable to, or satisfactory to, or favorably reviewed by CLPCCD or Construction Manager.
- B. Wherever the word "may" is used, the action to which it refers is discretionary. Wherever the word "shall" is used, the action to which it refers is mandatory.

PART 2 – PRODUCTS

Not applicable.

PART 3 – EXECUTION

Not applicable.

END OF SECTION

PART 1 – GENERAL**1.01 SECTION INCLUDES**

- A. Quality assurance and control of installation.
- B. References.
- C. Mock-Up.
- D. Inspection and testing laboratory services.
- E. Manufacturer's field services.

1.02 RELATED SECTIONS

- A. Submission of manufacturers' instructions and
- B. Sections requiring Laboratory Testing:
 - 1. Section 01 33 00 - Submittals: certificates
 - 2. Section 31 00 00 - Earthwork
 - 3. Section 32 12 16 - Asphalt Concrete Paving
 - 4. Section 32 13 13 - Portland Cement Concrete Paving Section xx xx - Concrete Reinforcement
 - 5. Section 03 30 00 - Cast-in-Place Concrete
 - 6. Section 04 22 00 - Concrete Unit Masonry
 - 7. Section 05 12 00 - Structural Steel
 - 8. Section 05 50 10 - Metal Fabrications

1.03 QUALITY ASSURANCE AND CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply fully with manufacturers' instructions, including each step in sequence.
- C. If manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons qualified to produce workmanship of specified quality.
- F. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.04 REFERENCES

- A. Conform to reference standard by date of issue current on date specified in product sections.
- B. Should specified reference standards conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.

- C. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.05 MOCK-UP

- A. Mock-up and sample panels will be performed under various sections and identified as sample panels or mock-ups.
- B. Assemble and erect specified items with specified attachments, anchorage, flashing, seals and finishes.
- C. Where mock-up has been accepted by Architect/Engineer and is specified in product specification section to be removed, remove mock-up and clear area as directed.
- D. Whereas, mock-up submittals will be submitted until the acceptance by Architect/Engineer and Construction Manager.

1.06 INSPECTION AND TESTING LABORATORY SERVICES

- A. CLPCCD will appoint, employ and pay for services of an independent firm to perform inspection and testing.
- B. The independent firm will perform inspections, tests, and other services specified in individual specification sections and as required by the Architect/Engineer. Promptly notify Construction Manager, Architect/Engineer, DSA, Project Inspector, and Contractor of observed irregularities or deficiencies of work or products.
- C. Reports will be submitted by the independent firm, one copy each, to the Construction Manager, Architect, Engineer, Division of the State Architect, Contractor and Project Inspector. Indicate observations and results of tests and indicate compliance or non-compliance with Contract Documents and Title 24, C.C.R. specifically, each report will include the following:
 - 1. Date issued; date and time of sampling or inspection; date of test.
 - 2. Project title and number; testing laboratory name, address and telephone number; name and signature of laboratory inspector.
 - 3. Location of sampling or test; temperature and weather condition.
 - 4. Type of inspection or test; identification of product and specification section; results of test and compliance with Contract Documents and Title 24, C.C.R.
 - 5. Perform additional tests as required by Architect/Engineer and/or Project Inspector; interpret test results, when requested by Architect/Engineer.
 - 6. Special Inspections: as shown on attached Tests & Inspections (T&I) list for each section.
- D. Contractor shall cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.
 - 1. Notify Architect/Engineer 72 hours in advance and/or independent firm 24 hours prior to expected time for operations requiring services.
 - 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
 - 3. Employment of the laboratory shall in no way relieve Contractor's obligations to perform the work of the contract.

- E. Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the Architect/Engineer and/or Project Inspector. Payment for retesting will be paid by the Contractor by deducting inspection or testing charges from the Contract Sum on the next scheduled payment.

1.07 MANUFACTURER'S FIELD SERVICES

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, startup of equipment as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to Construction Manager thirty (30) calendar days in advance of required observations. Observer shall be subject to approval of Construction Manager and Architect/Engineer.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- D. Refer to Section 01 33 00 - Submittals: Manufacturers' Instructions.

PART 2 – PRODUCTS

Not applicable to this section.

PART 3 – EXECUTION

Not applicable to this section.

END OF SECTION

PART 1 GENERAL**1.01 SUMMARY**

This section describes the temporary facilities required for the Project site. The Project site shall be maintained by Contractor as set forth in this section.

1.02 TEMPORARY FACILITIES

- A. Contractor shall obtain permits for, install and maintain in safe condition, whatever scaffolds, hoisting equipment, barricades, walkways, or other temporary structures, which may be required to accomplish the work on the Project. Contractor shall enclose and secure Project Site, including lay down area with a temporary chain link fence. Such structures shall be adequate for the intended use and capable of safely accepting all loads that may be imposed upon them. They shall be installed and maintained in accordance with all applicable State and local codes and regulations.
- B. Contractor shall provide and maintain temporary heat from an approved source whenever in the course of the Work it may become necessary for curing and drying of materials or to warm spaces as may be required for the installation of materials or finishes.
- C. Contractor shall provide and maintain any and all facilities that may be required for dewatering in order that work may proceed on the Project. If it is necessary for dewatering to occur continually, Contractor shall have on hand whatever spare parts or equipment that may be required to prevent interruption of dewatering.
- D. Contractor shall provide and maintain all utility services necessary to perform the work under this Contract. These may include, but are not limited to, temporary electricity, water, gas, sewer and telephone, including charges and installation fees. Contractor shall furnish and maintain all means of distribution of utility services required within the site to properly complete the Project.
- E. Materials, tools, accessories, etc., shall be stored only where directed by CLPCCD. Storage area shall be kept neat and clean. Security of stored items shall be Contractor's responsibility.
- F. When flammable materials are stored on site, extra precautions, including clear identification, shall be the responsibility of Contractor.
- G. Contractor shall provide and maintain temporary toilets in quantities and locations as required by CAL/OSHA and other local codes and regulations. They shall be maintained and supplied in a usable and sanitary condition at all times.
- H. If water at construction site is determined to be non-potable by Inspector, Contractor shall provide and maintain adequate potable water stations at site until final completion of the Project.
- I. Contractor shall maintain an office at the Project site, which will be his headquarters for the Project. Any communications delivered to this office shall be considered as delivered to Contractor. Location and size of office shall be such that it will adequately serve the needs of Contractor's superintendent and assistants in the performance of their duties.
- J. Contractor shall also provide and maintain the following temporary facilities for the duration of the project. Contractor shall obtain approval of the plans and specifications for all the following temporary facilities from Construction Manager prior to delivery to job site. Construction Manager shall have the option to reject said facilities if they do not meet Construction Manager's needs.
- K. Contractor shall promptly remove all such Temporary Facilities when they are no longer needed for the work or for completion of the Project, mutually agreed upon by Contractor and CLPCCD.
- L. Contractor shall provide and maintain in the Temporary Facilities a copy of the California Code of Regulations Title 24 (latest edition) Parts I & II.

1.03 SIGNS

No signs may be displayed on or about CLPCCD's property (except those required by law) without CLPCCD's specific approval; the size, content, and location to be as specified by CLPCCD.

1.04 USE OF ROADWAYS AND WALKWAYS

Contractor shall never block or interfere with use of any existing roadway, walkway or other facility for vehicular or pedestrian traffic, from any party entitled to use it. Wherever and whenever such interference becomes necessary for the proper and convenient performance of the Work, and no satisfactory detour route exists, Contractor shall, before beginning the interference, provide a satisfactory detour, including temporary bridge if necessary, or other proper facility for traffic to pass around or over the interference. Contractor shall maintain the detour in a safe and satisfactory condition as long as the interference continues, all without extra payment unless otherwise expressly stipulated in the Specifications.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

PART 1 – GENERAL**1.01 SECTION INCLUDES**

- A. Products
- B. Transportation and handling.
- C. Storage and protection.

1.02 RELATED SECTIONS

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 45 00 - Quality Control: Product Quality Monitoring.

1.03 PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work.
- B. Provide interchangeable components of the same manufacturer, for similar components.

1.04 TRANSPORTATION AND HANDLING

- A. Transport and handle products in accordance with manufacturer's instructions and construction schedules. Coordinate to avoid conflict with work and conditions at the site.
- 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, or damage.

1.05 STORAGE AND PROTECTION

- A. 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.
- B. For exterior storage of fabricated products, place on sloped supports, above ground, to prevent soiling and staining.
- C. Provide off-site storage and protection when site does not permit on-site storage or protection.
- 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. Prevent mixing with foreign matter.
- 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. Provide substantial covering and protection after installation of products from damage due to traffic and subsequent construction operations. Remove when no longer needed.

PART 2—PRODUCTS

Not applicable to this section.

PART 3—EXECUTION

Not applicable to this section.

END OF SECTION

PART 1 – GENERAL**1.01 SUMMARY**

- A. Procedures are described for selecting products and requesting substitutions of unlisted materials in lieu of materials named in the specifications or approved for use in addenda.
- B. Related Sections
 - 1. Section 01 26 00: Contract Modification Procedures
 - 2. Section 01 33 00: Submittals

1.02 CONTRACTOR'S OPTIONS

- A. For products specified only by reference standard: Select any product meeting that standard.
- B. For products specified by naming one or more products or manufacturers:
 - 1. Select products of any named manufacturer meeting specifications.
 - 2. For any product or manufacturer, which is not specifically named, submit Request for Substitution (RFS).
- C. For products indicated or specified by naming only one product and manufacturer, followed by the words "no substitution allowed", there is no option.

1.03 SUBSTITUTIONS

- A. No substitutions shall be allowed for District standard systems, products, and/or materials unless approved in writing from the Architect's office five (5) days prior to bid. The entire District Standard systems, products, and/or materials can be found on the District's website at:

<http://www.clpccd.org/facilities/DistrictStandardsandGuidelines-ChabotCollege.php>

- B. Within a period of thirty-five (35) days after Award of Contract, Construction Manager and Architect/Engineer will consider RFS from Contractor. After that period, requests will be considered only when product becomes unavailable due to no fault of Contractor. Requests for review of proposed substitute items will not be accepted from anyone other than Contractor. The RFS will state the extent, if any, to which the evaluation and acceptance of the proposed substitute will prejudice Contractor's achievement of substantial completion on time, 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 CLPCCD for work on the Project).
- C. Submit separate RFS for each product and support each request with:
 - 1. Product identification
 - 2. Manufacturer's literature
 - 3. Samples, as applicable

4. Name and address of similar projects on which product has been used, and date of installation
 5. Name, address and telephone number of manufacturer's representative or sales engineer
 6. Where DSA approval is required, product shall be reviewed and approved by DSA
- D. Itemize a comparison of the proposed substitution with product specified and list significant variations. If variation from product specified is not pointed out in submittal, variation will be rejected even though submittal was favorably reviewed.
- E. State whether the substitute will require a change in any of the Contract documents (or provisions of any other direct contract with CLPCCD for work on the Project) to adapt the design of 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. Submit data relating to changes in construction schedule.
- F. All variations of the proposed substitute from that specified will be identified in the RFS and available maintenance, repair and replacement service will be indicated.
- G. Include accurate cost data comparing proposed substitution with product and amount of net change in Contract price, including but not limited to, an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors effected by the resulting change, all of which will be considered by Construction Manager and Architect/Engineer in evaluating the proposed substitute. Construction Manager and Architect/Engineer may require Contractor to furnish additional data about the proposed substitute.
- H. Substitutions will not be considered for acceptance when:
1. They will result in delay meeting construction milestones or completion dates.
 2. They are indicated or implied on submittals without formal request from Contractor.
 3. They are requested directly by subcontractor or supplier.
 4. Acceptance will require substantial revision of Contract Documents.
 5. They disrupt Contractor's job rhythm or ability to perform efficiently.
- I. Substitute products shall not be ordered without written acceptance of Construction Manager and Architect/Engineer.
- J. Construction Manager and Architect/Engineer will determine acceptability of proposed substitutions and reserve right to reject proposals due to insufficient information.
- K. Accepted substitutions will be evidenced by a change order or Supplemental Instruction. All Contract requirements apply to Work involving substitutions.

1.04 CONTRACTOR'S REPRESENTATION AND WARRANTY

- A. Requests constitute a representation and warranty that Contractor:
1. Has investigated proposed product and determined that it meets or exceeds, in all respects, specified product
 2. Will provide the same warranty for substitution as for specified product
 3. Will coordinate installation and make other changes, which may be required for Work to be complete in all respects
 4. Waives claims for additional costs, which may subsequently become apparent
 5. Will compensate CLPCCD for additional redesign costs associated with substitution, if required
 6. Will be responsible for Construction Schedule slippage due to substitution
 7. Will be responsible for Construction Schedule delay due to late ordering of available specified products caused by requests for substitution, which is subsequently rejected by Construction Manager
 8. Will compensate CLPCCD for all costs; including extra costs of Contract, extra cost to other contractors, and any claims brought against CLPCCD, caused by late requests for substitutions or late ordering of products.

1.05 CONSTRUCTION MANAGER'S AND ARCHITECT/ENGINEER'S DUTIES

- A. Review Contractor's RFS within seven (7) working days.
- B. Notify Contractor in writing of decision to accept or reject requested substitution within seven (7) working days.

1.06 COST OF REVIEW

- A. Construction Manager and Engineer will record time required in evaluating substitutes proposed or submitted by Contractor. Whether or not Construction Manager or Architect/Engineer accepts the substitute item so proposed or submitted by Contractor, Contractor shall reimburse CLPCCD for the charges of Architect/Engineer and Construction Manager for evaluating each such proposed substitute item.
- B. The CLPCCD reserves the right to waive the requirement of paragraph A above.

PART 2—PRODUCTS

Not used.

PART 3—EXECUTION

Not used.

END OF SECTION

PART 1 – GENERAL**1.01 SUMMARY**

This section describes contract closeout procedures including:

1. Removal of temporary construction facilities
2. Substantial completion
3. Final completion
4. Final cleaning
5. Project record documents
6. Material, equipment and finish data
7. Project guarantee
8. Warranties
9. Turn-in
10. Release of claims
11. Guaranty and Maintenance Bonds

1.02 REMOVAL OF TEMPORARY CONSTRUCTION FACILITIES

- A. Remove temporary materials, equipment, services, and construction prior to Substantial Completion Inspection.
- B. Clean and repair damage caused by installation or use of temporary facilities.
- C. Restore permanent facilities used during construction to specified condition.

1.03 SUBSTANTIAL COMPLETION

- A. When Contractor considers Work or designated portion thereof as substantially complete, submit written notice, with list of items to be completed or corrected to Construction Manager.
- B. Within reasonable time, Construction Manager and Architect/Engineer will inspect to determine status of completion.
- C. Should Construction Manager or Architect/Engineer determine that Work is not substantially complete; Construction Manager will promptly notify Contractor in writing, listing all defects and omissions.
- D. Remedy deficiencies and send a second written notice of substantial completion. Architect/Engineer will reinspect the Work. If deficiencies previously noted are not corrected on reinspection, then Contractor shall pay the cost of the reinspection.
- E. When Architect/Engineer determines that Work is substantially complete, Construction Manager will issue a Certificate of Substantial Completion.
- F. Manufactured units, equipment and systems, which require startup, must have been started up and run for periods prescribed by Construction Manager, Architect/Engineer, or Owner before a Certificate of Substantial Completion will be issued.

1.04 FINAL COMPLETION

- A. When Contractor considers Work is complete, submit written certification that:
 1. Contractor has inspected Work for compliance with Contract Documents.

2. Work, except for Contractor maintenance after Final Acceptance, has been completed in accordance with Contract Documents and deficiencies listed with Certificate of Substantial Completion have been corrected.
 3. Work is complete and ready for final inspection.
 4. Contractor has achieved all requirements for Final Acceptance as that term is defined in Section 01 41 00 – Regulatory Requirements.
- B. In addition to submittals required by conditions of Contract, provide submittals required by governing authorities and submit final statement of accounting giving total adjusted Contract Sum, previous payments, and sum remaining due.
- C. When Architect/Engineer finds Work is acceptable and final submittal is complete, Construction Manager will issue final change order reflecting approved adjustments to Contract Sum not previously made by Change Order.

1.05 FINAL CLEANING

- A. Execute final cleaning prior to final inspection.
- B. Clean interior and exterior surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
1. Clean equipment and fixtures to a sanitary condition, clean or replace filters of mechanical equipment operated during construction, clean ducts, blowers and coils of units operated without filters during construction.
 2. Employ skilled workers for final cleaning.
- C. Clean Site; mechanically sweep-paved areas.
- D. Remove waste and surplus materials, rubbish, and construction facilities from Site.

1.06 PROJECT RECORD DOCUMENTS

- A. General
1. Project Record Documents required include:
 - a. Marked-up copies of Contract Drawings
 - b. Marked-up copies of Shop Drawings
 - c. Newly prepared Drawings
 - d. Marked-up copies of Specifications, Addenda and Change Orders
 - e. Marked-up Project Data submittals
 - f. Record Samples
 - g. Field records for variable and concealed conditions
 - h. Record information on Work that is recorded only schematically
 - i. Comments to all required DSA documentation
 - j. All approved change orders
 2. Specific Project Record Documents requirements that expand requirements of this Section are included in the individual Sections of Divisions 2 through 33.
 3. Maintenance of Documents and Samples:
 - a. Store Project Record Documents and samples in the 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 at all times for inspection by Architect/Engineer.
4. CLPCCD will provide one set of sepias and one blueline set of the construction drawings and one-project manuals for the Contractor's use and copying during construction.

B. Project Record Drawings

- 1. Mark-up Procedure: During the construction period, maintain a set of blueline or blackline prints of Contract Drawings and Shop Drawings for Project Record Document purposes.
- 2. Mark these Drawings to indicate the actual installation where the installation varies appreciably from the installation shown originally. Give particular attention to information on concealed elements, which 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 building
 - b. Drawings Revisions to details shown on the Contract Drawings
 - c. Drawings Depths of foundations below the first floor
 - d. Locations and depths of underground utilities
 - e. Revisions to routing of piping and conduits
 - f. Revisions to electrical circuitry
 - g. Actual equipment locations
 - h. Duct size and routing
 - i. Locations of concealed internal utilities
 - j. Changes made by Change Order
 - k. Details not on original Contract Drawings
- 3. Mark completely and accurately Project 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.
- 4. Mark Project Record Drawing sets with red erasable colored pencil; use other colors to distinguish between changes for different categories of the Work at the same location.
- 5. Mark important additional information, which was either shown schematically or omitted from original Drawings.
- 6. Note construction change directive numbers; alternate numbers; Change Order numbers and similar identification.
- 7. Responsibility 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 Project 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.
- 8. At time of Substantial Completion, submit Project Record Drawings to Construction Manager for CLPCCD's records. Organize into sets, bind and label sets for CLPCCD's continued use.
- 9. All record documents shall be submitted in an electronic format and hard copy.

- C. Preparation of Documents: Immediately prior to inspection for Certification of Substantial Completion, review completed marked-up Project Record Drawings with the Architect/Engineer. When authorized, prepare a full set of correct Contract Drawings and Shop Drawings.
1. Incorporate changes and additional information previously marked on print sets. Erase, redraw, and add details and notations where applicable. Identify and date each Drawing; include the printed designation "PROJECT RECORD DRAWINGS" in a prominent location on each Drawing.
 2. Refer instances of uncertainty to the Architect/Engineer for resolution.
 3. Review of Documents: Before copying and distributing, submit corrected drawings and the original marked-up prints to the Architect/Engineer for review. When acceptable, the Architect/Engineer will initial and date each document, indicating acceptance of general scope of changes and additional information recorded, and of the quality of drafting.
 - a. Documents and the original marked-up prints will be returned to the Contractor for organizing into sets, printing, binding, and final submittal.
- D. Copies and Distribution: After completing the preparation of Project Record Drawings, print three (3) blue-line or black-line prints of each Drawing, whether or not changes and additional information were recorded. Organize the copies into manageable sets. Bind each set with durable paper cover sheets, with appropriate identification, including titles, dates and other information on cover sheets.
1. Organize and bind original marked-up set of prints that were maintained during the construction period in the same manner.
 2. Organize Project Record Drawings into sets matching the print sets. Place these sets in durable tube-type drawing containers with end caps. Mark the end cap of each container with suitable identification.
 3. Submit the marked-up Project Record Drawings set and three (3) copy sets to the Construction Manager for CLPCCD's records; the Architect/Engineer will retain one copy set.

E. PROJECT RECORD SPECIFICATIONS

During the construction period, maintain one copy of the Project Specifications, including addenda and modifications issued, for Project Record Document purposes.

1. Mark the Project Record Specifications to indicate the actual installation where the installation varies substantially from that indicated in Specifications and Modifications issued. Note related Project Record Drawing information, where applicable. Give particular attention to substitutions, selection of product options, and information on concealed installation that would be difficult to identify or measure and record later.
 - a. In each Specification Section where products, materials or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.
 - b. Record the name of the manufacturer, supplier and installer, and other information necessary to provide a record of selections made and to document coordination with Project Record Product Data submittals and maintenance manuals.
 - c. Note related Project Record Product Data, where applicable, for each principal product specified, indicate whether Project Record Product Data has been submitted in maintenance manual instead of submitted as Project Record Product Data.
2. Upon completion of mark-up, submit Project Record Specifications to the Construction Manager for CLPCCD's records.

F. PROJECT RECORD PRODUCT DATA. 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 significant

changes in the product delivered to the site, and changes in manufacturer's instructions and 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 the Construction Manager for CLPCCD'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. Each prime Contractor is responsible for mark-up and submittal of record Project Record Product Data for its own Work.

G. MATERIAL, EQUIPMENT AND FINISH DATA.

1. Provide data for primary materials, equipment and finishes as required under each specification section.
2. Submit two (2) sets prior to final inspection, bound in 8-1/2 inches by 11 inches three-ring binders with durable plastic covers; provide typewritten table of contents for each volume.
3. Arrange by Specification division and give names, addresses, and telephone numbers of subcontractors and suppliers. List:
 - a. Trade names
 - b. Model or type numbers
 - c. Assembly diagrams
 - d. Operating instructions
 - e. Cleaning instructions
 - f. Maintenance instructions
 - g. Recommended spare parts
 - h. Product data

H. FINAL AS-BUILT DRAWINGS, SPECIFICATIONS.

1. As-Built Drawings and Specifications are the official record drawing that documents what was constructed
2. These drawings shall be available to the Architect and shall be provided to the District upon completion of the of the work.
3. Requirements:
 - a. One hard copy set of full size (24x36) or (36x48) As-Built Plans, with DSA App #, and "AS BUILT" stamped on each sheet in red.
 - b. One hard copy set of half size As-Built Plans, with DSA App #, and "AS BUILT" stamped on each sheet in red.
 - c. One hard copy set of specifications with "AS BUILT" stamped on the cover page in red.
 - d. A CD/DVD in PDF and CAD formats (CAD format to be compatible with AutoCAD 2016) with the following naming convention for the CD/DVD cover:
 - i. College Name

- ii. Project Name
- iii. DSA Application #
- iv. Do not check the "read only" option
- v. Do not password protect any files

1.08 MISCELLANEOUS PROJECT RECORD SUBMITTALS

Refer to other Specification Sections for miscellaneous record keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for use and reference. Submit to the Construction Manager for CLPCCD's records.

Categories of requirements resulting in miscellaneous records include, but are not limited to the following:

- a. Field records on excavations and foundations
- b. Field records on underground construction and similar work
- c. Survey showing locations and elevations of underground lines
- d. Invert elevations of drainage piping
- e. Surveys establishing building lines and levels
- f. Authorized measurements utilizing unit prices or allowances
- g. Records of plant treatment
- h. Ambient and substrate condition tests
- i. Certifications received in lieu of labels on bulk products
- j. Batch mixing and bulk delivery records
- k. Testing and qualification of tradespersons
- l. Documented qualification of installation firms
- m. load and performance testing
- n. Inspections and certifications by governing authorities leakage and water-penetration tests
- o. Fire resistance and flame spread test results
- p. Final inspection and correction procedures

1.09 PROJECT GUARANTEE

- A. Neither recordation of final acceptance nor final certificate for neither payment nor provision of the Contract nor partial or entire use or occupancy of the Site by CLPCCD shall constitute acceptance of Work not done in accordance with Contract Documents nor relieve Contractor of liability in respect to express warranties or responsibility for faulty materials or workmanship.
- B. Requirements for Contractor's guarantee of completed Work are included in General Conditions, Article 1.09. Contractor shall guarantee Work done under Contract against failures, leaks or breaks or other unsatisfactory conditions due to defective equipment, materials or workmanship, and perform repair work or replacement required, at Contractor's sole expense, for period of 2 years from date of Final Acceptance, as required by paragraph 13.2 of General Conditions.
- C. CLPCCD may make repairs to defective Work as set forth in paragraph 12.6 of General Conditions, if, within 5 working days after mailing of written notice of defective work to Contractor or authorized agent, Contractor shall neglect to make or undertake with due diligence repairs; provided, however, that in case of leak or

emergency where, in opinion of CLPCCD, delay would cause hazard to health or serious loss or damage, repairs may be made without notice being sent to Contractor, and Contractor shall pay cost thereof.

- D. If, after installation, operation or use of materials or equipment to be furnished under Contract proves to be unsatisfactory to Construction Manager, CLPCCD shall have right to operate and use materials or equipment until it can, without damage to CLPCCD, 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 CLPCCD 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 CLPCCD 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.

1.10 WARRANTIES AND BONDS

- A. Execute Contractor's submittals and assemble documents executed by subcontractors, suppliers, and manufacturers.
 - 1. Provide table of contents and assemble in 8-1/2 inches by 11 inches three-ring binder with durable plastic cover.
 - 2. Assemble in Specification Section order.
 - 3. Provide an electronic copy of all warranties on thumb drive in PDF format
- B. Submit material prior to final application for payment.
 - 1. For equipment put into use with CLPCCD's permission during construction, submit within ten (10) working days after first operation.
 - 2. For items of Work delayed materially beyond Date of Substantial Completion, provide updated submittal within ten (10) working days after acceptance, listing date of acceptance as start of warranty period.
- C. Warranties are intended to protect CLPCCD against failure of work and against deficient, defective and faulty materials and workmanship, regardless of sources.
- D. Limitations: Warranties are not intended to cover failures, which result from the following:
 - 1. Unusual or abnormal phenomena of the elements
 - 2. Vandalism after substantial completion
 - 3. Insurrection or acts of aggression including war
- E. Related Damages and Losses: Remove and replace Work which is damaged as result of defective Work, or which must be removed and replaced to provide access for correction of warranted Work.
- F. Warranty Reinstatement: After correction of warranted Work, reinstate warranty for corrected Work to date of original warranty expiration or to a date not less than 365 days after corrected Work was done, whichever is later.
- G. Replacement Cost: Replace or restore failing warranted items without regard to anticipated useful service lives.
- H. Warranty Forms: Submit drafts to Construction Manager for approval prior to execution. Forms shall not detract from or confuse requirements or interpretations of Contract Documents.
 - 1. Warranty shall be countersigned by manufacturers.
 - 2. Where specified, warranty shall be countersigned by subcontractors and installers.

- I. Rejection of Warranties: CLPCCD reserves right to reject unsolicited and coincidental product warranties, which detract from or confuse requirements or interpretations of Contract Documents.
- J. Term of Warranties: For materials, equipment, systems and workmanship warranty period shall be two (2) years minimum from date of substantial completion of entire Work except where:
 - 1. Detailed specifications for certain materials, equipment or systems require longer warranty periods.
 - 2. Materials, equipment or systems are put into beneficial use of CLPCCD prior to Substantial Completion as agreed to in writing by Construction Manager.
- K. Warranty of Title: No material, supplies, or equipment for Work under Contract shall be purchased subject to any chattel mortgage, security agreement, or under a conditional sale or other agreement by which an interest therein or any part thereof is retained by seller or supplier. Contractor warrants good title to all material, supplies, and equipment installed or incorporated in Work and agrees upon completion of all work to deliver the Site, together with improvements and appurtenances constructed or placed thereon by Contractor, to CLPCCD free from any claim, liens, security interest, or charges, and further agrees that neither Contractor nor any person, firm, or corporation furnishing any materials or labor for any Work covered by Contract shall have right to lien upon the Site or improvement or appurtenances thereon. Nothing contained in this Paragraph, however, shall defeat or impair right of persons furnishing materials or labor under bond given by Contractor for their protection or any rights under law permitting persons to look to funds due Contractor in hands of CLPCCD.

1.11 TURN-IN

Contract 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 turned in to CLPCCD.

1.12 RELEASE OF CLAIMS

Contract will not be closed out and final payment will not be made until Contract Agreement and Release of Any and All Claims, is completed and executed by Contractor and CLPCCD.

1.13 FIRE INSPECTION COORDINATION

Contractor shall coordinate fire inspection and secure sufficient notice to CLPCCD to permit convenient scheduling.

PART 2 – PRODUCTS

Not applicable to this section.

PART 3 – EXECUTION

Not applicable to this section.

END OF SECTION

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 DESCRIPTION

- A. Work Included: This Section establishes general requirements pertaining to cutting, fitting, and patching of the work required to:
 - 1. Make the several parts fit properly.
 - 2. Uncover work to provide for installation, inspection, or both of ill-timed work.
 - 3. Remove and replace work not conforming to requirements of the Contract Documents.
 - 4. Remove and replace defective work.

1.3 QUALITY ASSURANCE

- A. Perform all cutting and patching in accordance with pertinent requirements of the specifications and in the event no such requirements are determined, in conformance with the Architect's written direction. In the absence of either of the previous, the work shall be completed as a minimum to industry standards for the given scope and project.
- B. In all cases, exercise extreme care in cutting operations and perform such operations under adequate supervision by competent mechanics skilled in the applicable trade. Openings shall be neatly cut and shall be kept as small as possible to avoid unnecessary damage. Careless and/or avoidable cutting damage, etc., will not be tolerated, and the Contractor will be held responsible for such avoidable or willful damage.
- C. All replacing, patching, and repairing of materials and surfaces cut or damaged in the execution of the work shall be performed by experienced mechanics of the several trades involved. Such replacing, repairing, and/or patching shall be done with the applicable materials, in such a manner that all surfaces so replaced, etc., will upon completion of the work, match the surrounding similar surfaces.

1.4 SUBMITTALS

- A. Request for the Architect's Consent:
 - 1. Prior to cutting which affects structural safety, submit a written request to the Architect for permission to proceed with cutting.
 - 2. Should conditions of the work, or schedule, indicate a required change of materials or methods for cutting and patching, notify the Architect and secure his written permission prior to proceeding.
- B. Notices to the Architect:
 - 1. Submit written notice to the Architect and Construction Manager designating the time the work will be uncovered, therefore providing a time for the Architect's observation.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. For replacement of work removed, use materials which comply with the pertinent Section of these specifications. If materials are not covered within these documents, products and methods shall be provided and installed to match existing conditions.

2.2 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements, which affects:
 - 1. Structural integrity of element.
 - 2. Integrity of weather-exposed or moisture-resistant elements.
 - 3. Efficiency, maintenance, or safety of element.
 - 4. Visual qualities of sight-exposed elements.
- C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
 - 1. Fit the several parts together, to integrate with other Work.
 - 2. Uncover Work to install or correct ill-timed work.
 - 3. Remove and replace defective and non-conforming Work.
 - 4. Remove samples of installed Work for testing.
 - 5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- D. Execute work by methods, which will avoid damage to other Work, and provide proper surfaces to receive patching and finishing.
- E. Cut rigid materials using masonry saw or core drill.
- F. Restore Work with new products in accordance with requirements of Contract Document.
- G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- I. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.
- J. Identify any hazardous substance or condition exposed during the Work to the Architect for decision or remedy.

PART 3 – EXECUTION**3.1 CONDITIONS**

- A. Inspect existing conditions, including elements subject to movement or damage during cutting and patching.
- B. After uncovering the work, inspect conditions affecting installation of new work.

3.2 DISCREPANCIES

- A. If uncovered conditions are not as anticipated, immediately notify the Architect through the Construction Manager and secure needed directions.
- B. Do not proceed in areas of discrepancy until all such discrepancies have been fully resolved.

3.3 PREPARATION PRIOR TO CUTTING

- A. Provide all required protection including, but not necessarily limited to, shoring, bracing, and support to maintain structural integrity of the work.

3.4 PERFORMANCE

- A. Perform cutting and demolition by methods which will prevent damage to other portions of the work and will provide a proper surface to receive new installation or repair and new work. Perform fitting and adjustment of products to provide finished installation complying with the specified tolerance and finishes.

- END OF SECTION -

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Administrative and procedural requirements for Project Record Documents.
- B. Project Record Documents required include:
 - 1. Marked-up copies of Drawings
 - 2. Marked-up copies of Shop Drawings
 - 3. Newly prepared Drawings
 - 4. Marked-up copies of Specifications, Addenda, Change Orders and CCDs
 - 5. Marked-up Product Data submittals
 - 6. Record Samples
 - 7. Field records for variable and concealed conditions
 - 8. Record information on Work that is recorded only schematically
 - 9. Maintenance forms for major equipment
- C. Specific Project Record Documents requirements that expand requirements of this Section are included in the individual Sections of Divisions 2 through 33.
- D. General Project closeout requirements are included in Section 01 70 00 (Contract Closeout).
- E. Maintenance of Documents and Samples:
 - 1. Store Project Record Documents and Samples in the field office apart from Contract Documents used for construction.
 - 2. Do not permit Project Record Documents to be used for construction purposes.
 - 3. Maintain Project Record Documents in good order and in a clean, dry, legible condition.
 - 4. Make Documents and Samples available at all times for inspection by District.
- F. District will provide one full size blueline set of the Drawings and one Project Manual for Contractor's use for recording as-built conditions.

1.02 PROJECT RECORD DRAWINGS

- A. Mark-up Procedure: During the construction period, maintain a set of blueline or blackline prints of Contract Drawings and Shop Drawings for Project Record Documents purposes. Label each document (on first sheet or format page) "PROJECT RECORD" in 2-inch high printed letters. Keep record documents current. Note: 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 permanently conceal any Work until required information has been recorded.
 - 1. Mark these 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 Drawings
 - b. Revisions to details shown on the Drawings
 - c. Depths of various elements of foundation 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. Actual numbering of each electrical circuit
 - h. Field changes of dimension and detail
 - i. Revisions to routing of piping and conduits
 - j. Revisions to electrical circuitry
 - k. Actual equipment locations
 - l. Duct size and routing
 - m. Changes made by Change Order or CCD

- n. Details not on original Contract Drawings
- 2. Mark completely and accurately Project 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. Mark Project Record Drawing sets with red, erasable colored pencil; use other colors to distinguish between changes for different categories of the Work at the same location.
- 4. Mark important additional information that was either shown schematically or omitted from original Drawings.
- 5. Note CCD numbers; alternate numbers, Change Order numbers, and similar identification.
- 6. Responsibility 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 Project 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.
- B. Preparation of Record Drawings: Immediately prior to inspection for Certification of Substantial Completion, review completed marked-up Project Record Drawings with District. When authorized, prepare a full set of correct transparencies of Contract Drawings and Shop Drawings.
 - 1. Incorporate changes and additional information previously marked on print sets. Erase, redraw, and add details and notations where applicable. Identify and date each Drawing; include the printed designation "PROJECT RECORD DRAWING" in a prominent location on each Drawing.
 - 2. Refer instances of uncertainty to District for resolution.
 - 3. Distribution: Whether or not changes and additional information were recorded, organize and bind original marked-up set of prints that were maintained during the construction period into manageable sets. Bind the set with durable paper cover sheets, with appropriate identification, including titles, dates, and other information on cover sheets.
- C. Distribution of Marked-Up Drawings: Submit three full, bound sets and one digital set in AutoCAD 2000 format, the marked-up Project Record Drawings set to District for District's records.
- D. Shop Drawings and Samples: Maintain as record documents; legibly annotate Shop Drawings and Samples to record changes made after review.
- E. In addition to requirements of this Section, comply with supplemental requirements of Divisions 15 and 16.
 - 1. Divisions 15 and 16 of the Specifications require the preparation of large scale, detailed layout drawings of the Work of those Divisions. These layout drawings are not Shop Drawings as defined by General Conditions, 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. Include these layout drawings as part of the Project Record Documents.

1.03 PROJECT RECORD SPECIFICATIONS

- A. During the construction period, maintain one copy of the Project Specifications, including addenda and modifications issued, for Project Record Documents purposes.
- B. Mark the Project Record Specifications to indicate the actual installation where the installation varies substantially from that indicated in Specifications and 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 or measure and record later.
 - 1. In each Specification Section where products, materials or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.
 - 2. Record the name of the manufacturer, catalog number, supplier and installer, and other information necessary to provide a record of selections made and to document coordination with Project Record Product Data submittals and maintenance manuals.
 - 3. Note related Project Record Product Data, where applicable, for each principal product specified, indicate whether Project Record Product Data has been submitted in maintenance manual instead of submitted as Project Record Product Data.
 - 4. Upon completion of mark-up, submit Project Record Specifications to District for District's records.

1.04 ADDITIONAL REQUIREMENTS FOR FINAL PROJECT RECORD DOCUMENTS

- A. Prior to Substantial Completion of the Work, District will make available to Contractor originals of the Drawings and Specifications, as Microsoft® Word 2000 for Windows, and AutoCAD 2000 Land Development Desktop for Windows in drawing format (.DWG) files. Note all changes thereon for the final Project Record Documents and provide one set of mylar reproductions, one set of revised Specifications and one set of disks or CDs to be submitted to District.
- B. After Substantial Completion and before Final Completion, carefully transfer all data shown on the job set of Record Drawings to the corresponding computer files, coordinating the information as required.
- C. Clearly indicate at each affected detail and other drawings a full description of changes made during construction, and the actual location of items as previously specified.
- D. "Cloud" all affected areas.
- E. Stamp each Record Drawing with the following information:
 - 1. Project Record Document.
 - 2. Prepared by: Contractor's name, permanent address.
 - 3. Date prepared.
 - 4. Contractor's signature.
 - 5. District Contract Number.

1.05 PROJECT RECORD PRODUCT DATA

- A. 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 significant changes in the product delivered to the Site, and changes in manufacturer's instructions and 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. Provide data for primary materials, equipment and finishes as required under each Specification Section.
 - 2. Submit three (3) hard copy sets and one (1) digital copy, on compact disc (CD) prior to final inspection, bound in 8-1/2 inches by 11 inches three-ring binders with durable plastic covers; provide typewritten table of contents for each volume.
 - 3. Arrange by Specification Section number and give names, addresses, and telephone numbers of Subcontractors and suppliers. List:
 - a. Trade names.
 - b. Model or type numbers.
 - c. Assembly diagrams.
 - d. Operating instructions.
 - e. Cleaning instructions.
 - f. Maintenance instructions.
 - g. Recommended spare parts.
 - h. Product data.

1.06 MISCELLANEOUS PROJECT RECORD SUBMITTALS

- A. Refer to other Specification Sections for miscellaneous record keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready

for use and reference. Submit to the District for District's records. Categories of requirements resulting in 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

PART 2 PRODUCTS

NOT APPLICABLE TO THIS SECTION.

PART 3 EXECUTION

3.01 RECORDING

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.

3.02 SUBMITTAL

- A. At completion of Project, deliver Project Record Documents to District.
- 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

PROJECT MANUAL FOR
CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT
LAS POSITAS COLLEGE

BUILDING 2400 CULTURAL CENTER RENOVATION

DSA Application # 01-121492

LIONAKIS NO. 023197

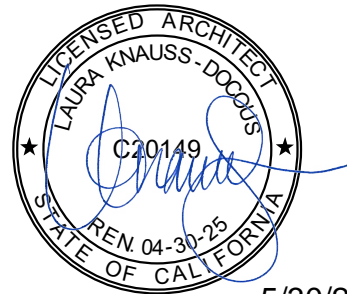
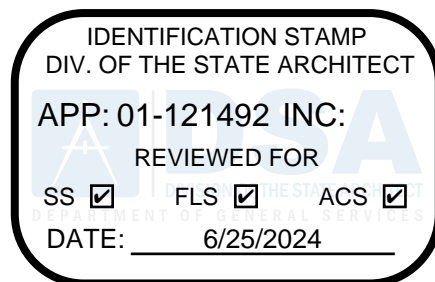
DSA Backcheck Specifications
May 20, 2024

PROJECT MANUAL
FOR
CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT
LAS POSITAS COLLEGE
BUILDING 2400 CULTURAL CENTER RENOVATION

LIONAKIS JOB NO. 023197
DSA APPLICATION # 01-121492

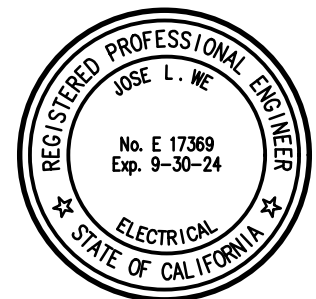
OWNER:
CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT
7600 Dublin Blvd. 3rd Floor
Dublin, CA 94568
925-485-5208

ARCHITECT:
LIONAKIS
2025 19th Street
Sacramento, CA 95818
916-558-1900



5/30/2024
Laura Knauss-Docus License # C20149

ELECTRICAL ENGINEER:
WKM ELECTRICAL CONSULTANTS, INC.
3397 Mt. Diablo Blvd., Suite C
Lafayette, CA 94549
925-385-0649



Jose We License # E17369

Agency Approval:

PROJECT MANUAL
FOR
CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT
LAS POSITAS COLLEGE
BUILDING 2400 CULTURAL CENTER RENOVATION

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SECTION 01 31 14

ADDITIONAL REQUIREMENTS FOR DSA REVIEWED PROJECTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Additional requirements for projects reviewed by the Division of the State Architect (DSA).

1.2 RELATED SECTIONS

- A. Section 01 45 23 – Testing and Inspection Services.
- B. Section 01 70 00 – Contract Closeout.

1.3 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 01 42 00 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. California Code of Regulations (CCR).
 - 1. Title 8, Division 1, Chapter 3.2 – California Occupational Safety and Health Regulations (Cal/OSHA).
 - 2. Title 8, Division 1, Chapter 4, Sub-Chapter 4 – Construction Safety Orders.
 - 3. Title 8, Division 1, Chapter 4, Sub-Chapter 7 – General Industry Safety Orders.
 - 4. Title 19, Division 1 – State Fire Marshal (SFM).
 - 5. California Code of Regulations, Title 24, Part 1 - California Administrative Code.
 - a. All Code Section numbers in this Section refer to Chapter 4 “Administrative Regulations for the Division of the State Architect – Structural Safety”, Group 1 “Safety of Construction of Public Schools”.
- D. Division of the State Architect Interpretation of Regulations Manual (DSA IR)
 - 1. DSA IR A-6 – Construction Change Document Submittal and Approval Process.
 - 2. DSA IR A-7 – Project Inspector Certification and Approval.
 - 3. DSA IR A-8 – Project Inspector and Assistant Inspector Duties and Performance.
 - 4. DSA IR A-12 – Assistant Inspector Approval.
- E. Division of the State Architect Website: www.dsa.dgs.ca.gov.

1.4 GENERAL REQUIREMENTS

- A. Contractor’s Duties:
 - 1. Comply with California Administrative Code, Chapter 4, Article 6, Paragraph 4-343, “Duties of the Contractor” in addition to the duties described in the Contract Documents.

2. Comply with CCR Title 8, Division 1, Chapter 3.2, California Occupational Safety and Health Regulations (Cal/OSHA).
 3. Comply with CCR Title 8, Division 1, Chapter 4, Sub-Chapter 4, Construction Safety Orders.
 4. Comply with requirements of CCR Title 19, Division 1, State Fire Marshal (SFM).
- B. Architect's and Architect's Consultants' Duties: Comply with requirements of California Administrative Code, Chapter 4, Article 6, Paragraph 4-341, "Duties of the Architect, Structural Engineer or Professional Engineer" and Paragraph 4-344, "Duties of Mechanical and Electrical Engineers", in addition to the duties described in the Contract Documents.
- C. Arbitration: DSA is not subject to arbitration proceedings.
- D. Should any existing conditions such as deterioration or non-complying construction be discovered which is not covered by the DSA approved documents wherein the finished work will not comply with Title 24, California Code of Regulations (CCR), a Construction Change Document (CCD), or a separate set of Drawings and Specifications, detailing and specifying the required repair work shall be submitted to and approved by DSA before proceeding with the repair work.

1.5 REGULATORY REQUIREMENTS

- A. Perform all work in accordance with applicable laws, codes, ordinances, rules, and regulations including, without limitation, 2022 California Building Code (CBC) Parts 1 through 6, Part 9, Part 11, and Part 12 in accordance with Title 24, Part 1, 4-305. Maintain a copy of these documents at the project site at all times.
- B. Codes adopted by the City, County, State, and Federal agencies govern minimum project requirements. Comply with the latest edition of applicable regulatory requirements and standards unless otherwise indicated or specified.
- C. Work as described in Drawings and Specifications shall not be construed as to permit work not in accordance with applicable laws, codes, ordinances, rules, and regulations.

1.6 INSPECTION AND SUPERVISION

- A. Supervision by DSA shall be in accordance with California Administrative Code, Chapter 4, Article 5, Paragraph 4-334.
- B. Owner shall select and pay for the services of a Project Inspector, certified and approved by the Architect, the Structural Engineer (when applicable), and DSA in accordance with Title 24, Part 1, 4-333(b).
1. When required, Owner will select and pay for the services of additional full-time Assistant Project Inspector(s) certified and approved by DSA in accordance with DSA IR A-12.
- C. Project Inspector shall have and maintain on the job at all times, the edition of CCR Title 24, Part 1 through Part 6 referred to in the Drawings and Project Manual per Title 24, Part 1, 4-342(b)3.

- D. Project Inspector shall inspect construction in accordance with California Administrative Code, Chapter 4, Article 5, Paragraph 4-333(b), "Inspection by a Project Inspector", and Article 6, Paragraph 4-342, "Duties of the Project Inspector", and DSA IR A-8.
 - 1. Project Inspector performance rating by DSA shall be in accordance with DSA IR A-8, Section 3.1, "Project Inspector Performance Review".
- E. Reports: Project Inspector shall submit the following:
 - 1. Semi-Monthly Reports: Comply with California Administrative Code, Chapter 4, Article 5, Paragraph 4-337.
 - 2. Verified Reports: Comply with California Administrative Code, Chapter 4, Article 5, Paragraph 4-336.
- F. Special Inspection Requirements:
 - 1. Comply with California Administrative Code, Chapter 4, Article 5, Paragraph 4-333(c), "Special Inspection".
 - 2. Special inspection costs to be paid by Owner.
 - 3. Conduct special inspection in accordance with DSA-103, Statement of Structural Tests and Inspections.

1.7 TESTING AGENCY REQUIREMENTS

- A. Comply with California Administrative Code, Chapter 4, Article 5, Paragraph 4-335, "Structural Tests and Special Inspections".
- B. Owner will select and pay for the services of a Testing Lab, certified and approved by the Architect, the Structural Engineer (when applicable), and DSA in accordance with Title 24, Part 1, 4-333(b).
- C. Sampling and testing shall be performed by properly qualified persons in accordance with applicable American Society for Testing and Materials (ASTM) standards.
- D. Conduct tests in accordance with DSA-103, Statement of Structural Tests and Inspections.
- E. Submit one copy of test reports to DSA.

1.8 SUBSTITUTIONS AND REQUESTS FOR INFORMATION

- A. Substitutions and Requests for Information (RFIs) that affect structural safety, fire and life safety, access compliance, or energy (as applicable) are Construction Change Documents and shall be submitted to DSA for review and approval prior to fabrication and installation on the project.

1.9 ADDENDA AND CONSTRUCTION CHANGES

- A. Comply with California Administrative Code, Chapter 4, Article 5, Paragraph 4-338, "Addenda and Construction Changes".
 - 1. Addenda and Construction Changes, including supplementary drawings when applicable, shall be signed and stamped by the Architect and approved by DSA in accordance with Title 24, Part 1, 4-338(b).
- B. Comply with DSA IR A-6.

- C. Obtain DSA approval for changes to DSA approved Drawings and Specifications which affect Code-regulated construction and inspection/testing functions prior to start of that Work. Code-regulated construction refers to Work that is regulated by Code provisions applicable to public school construction, including those adopted by Division of the State Architect-Structural Safety Section (DSA/SS), Division of the State Architect-Access Compliance Section (DSA/AC), and Division of the State Architect-Fire and Life Safety Section (DSA/FLS).
 - 1. All changes, substitutions, and Requests for Information (RFIs) that affect Structural Safety, Fire and Life Safety, Access Compliance, or Energy, as applicable, shall be submitted to DSA for review and approval as a Construction Change Document (CCD) prior to fabrication and installation of the Work in accordance with DSA IR A-6 and Title 24, Part 1, 4-338(c). Substitutions shall be for any material, system, or product that would otherwise be regulated by DSA.
- D. Changes can be approved by DSA through the CCD Category A or the CCD Category B review process, as applicable. Comply with DSA IR A-6, Article 3, Section 3.1, "CCD Category A" and DSA IR A-6, Article 3, Section 3.2, "CCD Category B".
 - 1. CCD Category A is defined as changes to or affecting the Structural, Access, or Fire-Life safety portions of the Project.
 - 2. CCD Category B is defined as changes not affecting the Structural, Access, or Fire-Life safety portions of the Project.
 - 3. Construction Change Documents (Section 4-338(c)) must be signed by all of the following: A/E of Record, Structural Engineer (when applicable), Delegated Professional Engineer (when applicable), and DSA.
- E. Do not begin any work under addendum or construction changes until required DSA written approval is obtained.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01 35 16
ALTERATION PROJECT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Products and installation procedures for patching and extending Work.
- B. Transitions and adjustments.
- C. Repair of damaged surfaces and finishes.
- D. Cleaning.

1.2 RELATED SECTIONS

- A. Section 01 73 29 – Cutting and Patching.
- B. Section 02 41 00 – Demolition.

1.3 ALTERATIONS, CUTTING AND PROTECTION

- A. Perform work of this Section under provisions of CBC Chapter 33, CFC Chapters 33 and 35, and NFPA 241.
- B. Assign the work of relocating, removal, cutting and patching of products, materials, equipment and systems to trades qualified to perform the work, in a manner to cause the least damage to existing surfaces and provide a means of returning surfaces to the level of quality of new work.
- C. Perform cutting and removal work to remove the minimum amount of materials necessary to accommodate new work and in a manner to avoid damage to adjacent work.
 - 1. Cut finish surfaces such as concrete, masonry, drywall, plaster, or metals in a straight line at a natural point of division or where required to perform the specified work.
- D. Protect existing finishes, equipment and adjacent work that are scheduled to remain from damage.
 - 1. Close openings in exterior surfaces to protect existing and new work from extremes of temperature.
 - a. Maintain existing interior work above 60 degrees F and below 85 degrees F.
 - b. Provide heat and humidity control as needed to prevent damage to existing work and to new work.
- E. Provide temporary enclosures to separate work areas within the building and from areas occupied by Owner. Temporary construction barriers shall match the fire rating of the separation barrier being breached. Fire retardant plastic dust barrier shall only be used where there is no fire rating required between the work area and adjacent spaces.

- F. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction. When exit routes need to be altered due to construction operations, provide proposed alternate exit route for Owner review and approval. Proposal shall include, but not be limited to, alternate exit route, temporary directional signage, and personnel to redirect building occupants during entire duration of exit route blockage.
- G. Coordinate and obtain Owner's approval of construction activity path of travel from outside of building to the areas of work inside the facility.
- H. Hazardous Materials:
 - 1. Existing conditions and Work to be accomplished under this Contract do not deal with the possible or actual existence of hazardous materials (Hazmat), such as asbestos-containing materials, lead-based paint, PCBs, etc.
 - 2. If there is a possibility of disturbing or contacting surfaces or materials containing hazardous materials (Hazmat) during execution of Work under this Contract, Contractor shall suspend Work in that area, immediately inform Owner and Architect, and follow directions and Hazmat-related procedures provided by Owner.
- I. Provide not less than five days' notice to Owner of activities that will affect Owner's operations.
 - 1. Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated.

PART 2 PRODUCTS

2.1 PRODUCTS FOR PATCHING AND EXTENDING WORK

- A. New Materials: As specified in product Sections; match existing products, materials, equipment and systems for patching and extending work.
 - 1. Provide same products, materials or types of construction as that in existing structure as required to patch, extend or match existing work.
 - 2. A product, finish or type of construction that requires patching, extending or matching shall be installed as necessary to complete the Work and match the consistency of adjacent standards of quality.
- B. Type and Quality of Existing Products: Determine by inspection and testing of products where necessary, referring to existing Work as a standard.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that demolition is complete and areas are ready for installation of new Work.
- B. Beginning of restoration Work means acceptance of existing conditions.

3.2 PREPARATION

- A. Cut, move or remove items as necessary for access to alteration and renovation Work at no additional cost to Owner. Replace and restore assemblies at completion to "like new" condition.
- B. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as required to receive finished Work.
- C. Remove all debris and abandoned items from area and from concealed spaces.
- D. Remove surface finishes and prepare surfaces for proper installation of new work and finishes.

3.3 INSTALLATION

- A. Coordinate alteration and renovation work to expedite completion and to accommodate Owner occupancy. Patch and extend existing work using skilled mechanics that are capable of matching existing quality of workmanship. Quality of patched or extended work shall be not less than that specified for new work.
- B. Room Finishes: Complete in all respects including operational mechanical and electrical work.
- C. Remove, cut and patch items as necessary for access to alterations and renovation Work in a manner to minimize damage and to provide a means of restoring products and finishes to specified condition.
- D. Refinish visible existing surfaces to remain in renovated rooms and spaces to specified condition for each material with a neat and flush transition to adjacent finishes.
- E. Restore existing plumbing, heating, ventilation, air conditioning and electrical systems to full operational condition.
- F. Install products using procedures specified in individual product Sections to match existing products and finishes.
- G. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.

3.4 TRANSITIONS

- A. Where new Work abuts or aligns with existing, provide a smooth and even transition.
- B. Patch Work to match existing adjacent Work in texture and appearance, without breaks, steps or bulkheads.
- C. When finished surfaces are cut and a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division. Make transition recommendation to Architect prior to proceeding with the Work.

3.5 ADJUSTMENTS

- A. Where change of plane of 1/4 inch or more occurs, submit recommendation for providing a smooth transition to Architect.
 - 1. Where extreme change of plane of 2 inches or more occurs, request from Architect direction for making transition.
- B. Trim existing doors as necessary to clear new floor finish. Refinish trimmed area as required to match door finish.
- C. All openings for surface penetrations shall be cut uniformly around and sealed and closed tight to penetrating elements.

3.6 REPAIR OF DAMAGED SURFACES

- A. Patch or replace portions of existing surfaces that are damaged, lifted, discolored or showing other imperfections at no additional cost to Owner.
- B. Repair substrate prior to patching finish.

3.7 FINISHES

- A. Finish surfaces as specified in individual product Sections.
- B. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

3.8 CLEANING

- A. Clean adjacent Owner-occupied areas of work soiled by work of this Contract.

END OF SECTION

SECTION 01 73 29
CUTTING AND PATCHING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Procedural requirements and limitations for cutting and patching work.
- B. Patching of existing materials and construction disturbed by Work under this Contract, including repair of damage to existing materials and construction caused by:
 - 1. Installation of new products, materials, and equipment or systems.
 - 2. Relocation or reinstallation of existing products, materials, and equipment or systems.

1.2 RELATED SECTIONS

- A. Section 01 33 00 – Submittal Procedure.
- B. Section 01 35 16 – Alteration Project Procedures: Cutting and patching for alterations work.
- C. Section 01 25 00 – Product Options and Substitutions.
- D. Divisions 02 through 49 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work, including the following:
 - 1. Cutting and patching incidental to work of the individual Section.
 - 2. Advance notification to other Sections of openings required in work of those Sections.
 - 3. Limitations on cutting structural members.

1.3 SUBMITTALS

- A. Submit written request in advance of cutting or patching which affects:
 - 1. Integrity of moisture-resistant and water-resistant elements.
 - 2. Utility services and mechanical/electrical systems.
 - 3. Operational elements.
 - 4. Visual qualities of sight exposed elements.
 - 5. Existing structural elements.
 - 6. Efficiency, maintenance, or safety of element.
 - 7. Work of Owner or separate contractor.
- B. Include in request:
 - 1. Identification of Project.
 - 2. Location and description of affected Work.
 - 3. Necessity for cutting or patching.
 - 4. Description of proposed Work and products to be used.
 - 5. Alternatives to cutting and patching.
 - 6. List of services and systems that will be temporarily out of service and length of disruption.

7. List of services and systems that will be relocated.
8. Reinforcement to structural elements, with details and engineering calculations showing integration of reinforcement with original structure.
9. Effect on work of Owner or separate contractor.
10. Written permission of affected separate contractor.
11. Date and time the work will be executed.

C. Architect's, Owner's, and DSA's Approval: Obtain approval of cutting and patching submittals before commencing cutting and patching work. Approval does not waive the right to require removal and replacement of unsatisfactory work.

1.4 DEFINITIONS

- A. Cutting: Removal of in-place construction for installation or performance of other Work.
- B. Patching: Repair work required for restoration of damaged surfaces to original condition after installation of other Work.

1.5 QUALITY ASSURANCE

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or results in increased maintenance or decreased operational life or safety.
- C. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching work, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.6 WARRANTY

- A. Existing Applicable Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by appropriate methods and with suitable materials so that existing applicable warranties are not voided.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Primary Products: Those required for original installation.
- B. Product Substitution: For any proposed change in materials, submit request for substitution as specified in Section 01 25 00.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine existing conditions prior to commencing Work, including elements subject to damage or movement during cutting and patching.

- B. After uncovering existing work, assess conditions affecting performance of Work.
- C. Beginning of cutting or patching means acceptance of existing conditions.
- D. Identify hazardous substances or conditions exposed during the Work to Architect for decision or remedy.

3.2 PREPARATION

- A. Provide temporary supports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of Project from damage.
- B. Provide protection from elements for areas which may be exposed by uncovering Work.

3.3 CUTTING

- A. Execute cutting and fitting to complete the Work.
- B. Uncover in-place Work to reinstall improperly sequenced Work.
- C. Remove and replace defective or non-conforming Work.
- D. Obtain material samples of installed Work for testing, when requested.
- E. Provide openings in the Work for penetration of mechanical and electrical work.
- F. Employ experienced installer to perform cutting of moisture-resistant and water-resistant elements, and surfaces exposed to view.
- G. Cut rigid materials in straight, true and parallel or perpendicular lines.
- H. 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.
- I. Cut masonry and concrete materials using masonry saw or core drill.
- J. Pneumatic tools are not allowed without prior approval from Architect and Owner.
- K. 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.

3.4 PATCHING

- A. Execute patching to complement adjacent Work.
- B. Fit products together to integrate with other Work.
- C. Execute Work by appropriate methods to avoid damage to other Work and to provide surfaces suitable for patching and finishing.
- D. Employ experienced installer to perform patching of moisture-resistant and water-resistant elements, and surfaces exposed to view.
- E. Restore Work with new materials and products in accordance with requirements of the Contract Documents.

- F. Fit Work tight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.
- G. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- H. At penetrations of fire rated walls, partitions, ceiling or floor construction, completely seal voids with fire rated material to full thickness of the penetrated element. Firestopping shall meet or exceed the fire rating of the assembly in which it is installed.
- I. Refinish surfaces to match adjacent finish in all respects (type, texture, thickness, color, etc.). For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

3.5 CLEANING

- A. Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION

SECTION 02 41 00
DEMOLITION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Removal of designated construction.
- B. Identification of utilities.
- C. Demolition requirements.

1.2 RELATED SECTIONS

- A. Division 01 Sections, as applicable.

1.3 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Division 01.
- B. Accurately record actual locations of capped utilities and subsurface obstructions.

1.4 REGULATORY REQUIREMENTS

- A. Perform work of this Section under provisions of CBC Chapter 33, CFC Chapter 33, and NFPA 241 for demolition work, safety of structure, dust control and safety of occupants.
- B. Obtain required permits from authorities.
- C. Do not close or obstruct egress width to exits.
- D. Do not disable or disrupt building fire or life safety systems without three-day prior written notice to Owner.
- E. Conform to procedures applicable when discovering hazardous or contaminated materials.

1.5 SCHEDULING

- A. Schedule work under the provisions of Division 01.
- B. Describe demolition removal procedures and schedule.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 PREPARATION

- A. Provide, erect and maintain temporary barriers as required.

- B. Erect and maintain temporary partitions to prevent spread of dust, odors and noise to adjoining facilities.
- C. Protect existing materials and finishes that are not scheduled or otherwise required to be demolished.
- D. Mark location of utilities.

3.2 DEMOLITION REQUIREMENTS

- A. Conduct demolition to minimize interference with adjacent and occupied buildings.
- B. Maintain protected egress and access to the Work.

3.3 DEMOLITION

- A. Refer to Drawings for specific items to be demolished.
- B. Disconnect, remove, cap, and identify designated utilities within demolition areas.
- C. Demolish in an orderly and careful manner. Protect existing supporting structural members and materials.
- D. Except where noted otherwise, remove demolished materials from site. Do not bury or burn materials on site.
- E. Remove demolished materials from site as Work progresses. Upon completion of Work, leave areas in clean condition.
- F. Remove temporary Work.

END OF SECTION

SECTION 06 41 00
ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Custom fabricated casework.
- B. Countertops.
- C. Cabinet hardware.

1.2 RELATED SECTIONS

- A. Section 07 92 00 – Joint Sealants.
- B. Section 09 22 16 – Non-Structural Metal Framing.
- C. Section 09 29 00 – Gypsum Board.

1.3 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 Division 01 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. ANSI 135.4 – Basic Hardboard.
 - 2. ANSI A118.4 – Modified Dry Set Cement Mortar.
 - 3. ANSI A208.1 – Particleboard.
 - 4. ANSI A208.2 – Medium Density Fiberboard (MDF) for Interior Applications.
 - 5. ANSI/BHMA 156.9 – Cabinet Hardware.
 - 6. ANSI/HPVA HP-1 – Hardwood and Decorative Plywood.
 - 7. ASTM E84 – Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 8. NEMA LD3 – High-Pressure Decorative Laminates.
 - 9. NFPA 255 – Standard Method of Test of Surface Burning Characteristics of Building Materials.
 - 10. PS 1 – Construction and Industrial Plywood.
 - 11. PS 20 – American Softwood Lumber Standard.
 - 12. UL 723 – Test for Surface Burning Characteristics of Building Materials.
 - 13. WI/AWMAC – North American Architectural Woodwork Standards, including WI Supplemental Text.

1.4 SUBMITTALS

- A. General: Submit in accordance with Division 01. Begin fabrication only after required approvals have been obtained.
- B. Shop Drawings: Comply with Section 1 of WI/AWMAC North American Architectural Woodwork Standards – Basic Requirements for Architectural Millwork Shop Drawings. Submit as follows:
 - 1. Submit two copies of shop drawings, 11 inch by 17 inch minimum size.
 - 2. Architect furnished Drawings indicate form and profile concept only. Submit shop drawings to illustrate Fabricator's understanding of Architect's Drawings and to show intended fabrication details. Photocopies, traced copies, or other reproduction of Architectural Drawings will not be acceptable.
 - 3. Prepare shop drawings using field verified dimensions. Report any major discrepancies between Architect's Drawings and field dimensions before work fabrication.
 - 4. Indicate casework conditions, identified with location, grade, type of finish, and wood species.
 - 5. Show casework in relation to adjacent construction with sectional drawings at full size or at 3 inch to 1 foot scale.
 - 6. Coordinate dimensions of built-in equipment and fixtures. Show casework hardware indicating brand name and model used.
 - 7. Show special accessory components not included in manufacturer's product data.
 - 8. Show anchoring and attachment method. Show seismic restraint in accordance with CBC. Show method of scribing.
 - 9. Furnish a WI Certified Compliance Label on shop drawings as specified in this Section.
- C. Product Data: Submit product data for each product specified in this Section with the product and selected attributes clearly identified.
- D. Samples: The following physical sample requirements shall be waived if the products specified by model number in this Section or indicated on the Finish Legend in the Drawings are submitted.
 - 1. Two individual samples of each high-pressure plastic laminate type and color specified.
 - a. Chain sets of plastic laminate samples shall not be submitted.
 - 2. One sample of each type of cabinet hardware.
- E. Quality Assurance/Control Submittals: Submit the following in accordance with appropriate provisions of this Section:
 - 1. Manufacturer qualifications.
 - 2. Installer qualifications.
 - 3. WI Compliance Certification.

1.5 SYSTEM DESCRIPTION

- A. Casework design and construction shall be in accordance with WI/AWMAC North American Architectural Woodwork Standards as follows:
 - 1. Grade: Custom.

2. Construction Style: A – Frameless.
3. Construction Type: Type I – Multiple Self-Supporting Units.
4. Door Front Style: Flush overlay.
5. Shelves: Conform to WI requirements subject to a fifty pounds per square foot uniformly spaced load not to exceed 200 pounds per shelf.
6. Provide seismic anchorage in accordance with CBC.
7. Non-housing casework will not be permitted.
8. Casework numbers on Drawings reference the Cabinet Design Series Appendix D Elevations, Supplement 2 to WI/AWMAC North American Architectural Woodwork Standards, 2nd Edition.

1.6 QUALITY ASSURANCE

A. Qualifications:

1. Fabricator/Installer Qualifications: Firm specializing in fabricating and installing products specified in this Section with a minimum five years' experience. Fabricator/Installer shall be a WI Accredited Millwork Company.

B. Certification Requirements:

1. WI Compliance Certification: Submit a certification stating that millwork products furnished and installed meet all the requirements of the WI Grade or Grades specified.
2. WI Certified Compliance Label: Show WI Certified Compliance Label on the first page of each set of shop drawings.

C. Pre-Installation Meetings:

1. Conduct pre-installation meeting in accordance with Division 01.
2. Convene pre-installation meeting prior to commencing work of this Section.
3. Coordinate work in this Section with work in related Sections. Coordinate work with plumbing and electrical rough-in. Ensure orderly and efficient sequencing of installation of interdependent trades, construction elements, and include provisions for future work.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of Division 01.

B. Deliver materials and manufactured products only when the area is ready for installation, broom clean, totally enclosed, and the relative humidity is fifty percent or less at 70 degrees F. Allow casework to acclimate to above conditions for 72 hours minimum prior to installation.

C. Storage and Protection: Store materials in a dry secure place. Protect from weather, surface contaminants, construction traffic, and other potential damage.

1.8 MAINTENANCE DATA

A. Submit in accordance with Division 01.

B. Provide cleaning and maintenance information. Include hardware adjustment information.

PART 2 PRODUCTS

2.1 SPECIAL ENVIRONMENTAL REQUIREMENTS

- A. Provide composite wood products whose bonding agents contain no urea-formaldehyde.

2.2 LUMBER

- A. Lumber: Conform to PS 20; Premium Grade in accordance with WI/AWMAC North American Architectural Woodwork Standards, Section 3. Dimensions as shown on Drawings. Properties as follows:

1. Moisture Content: Kiln dried; moisture content six percent to twelve percent.
2. Wood Species:

Use	Species
Framing, internal construction.	Douglas Fir

2.3 WOOD BASED PANELS

- A. Formaldehyde emissions of wood-based panels shall not exceed limits established by the Department of Housing and Urban Development (HUD) and 24 CFR, Section 3208.308. Products containing urea-formaldehyde resins shall not be allowed.
- B. Softwood Plywood: Veneer-core plywood; conforming to PS 1, Exposure 1, Grade A-A, Group 1. Nominal thickness shall be as indicated in this Section and as shown on Drawings.
- C. Particleboard: Meets or exceeds ANSI A208.1, Class M2, NAF resin, minimum 45 pounds per cubic foot density.
1. Products:
 - a. Encore as manufactured by SierraPine or accepted equal.
 - b. FreeForm as manufactured by Collins Pine or accepted equal.
- D. Medium Density Fiberboard (MDF): Meets or exceeds ANSI A208.2, Class SDF, NAF resin, minimum 45 pounds per cubic foot density.
1. Products:
 - a. Standard MDF: Medite II as manufactured by SierraPine or accepted equal.
- E. Hardboard: ANSI 135.4, Class 1 – Tempered; smooth-one-side (S1S), minimum sixty pounds per cubic foot density.
- F. Thermally Fused Melamine: Low-pressure decorative laminate (LPDL) thermoset overlays pre-laminated to substrate (hardboard, particleboard, or MDF as specified in this Section) by thermal fusion; performance characteristics equal to a general purpose grade or liner grade high pressure laminate as per NEMA LD3 Grade CLS. Color as selected by Architect.

2.4 PLASTIC LAMINATE

- A. Manufacturers:
1. Acceptable Manufacturers:
 - a. Wilsonart International, Temple, TX; 800-433-3222; www.wilsonart.com.

- b. Nevamar Decorative Surfaces, a division of Panolam Industries International, Inc., Shelton, CT; 877-726-6526; www.nevamar.com.
 - c. Formica Corporation, Cincinnati, OH; 800-367-6422; www.formica.com.
 - d. Pionite Decorative Surfaces, a division of Panolam Industries International, Inc., Shelton, CT; 877-726-6526; www.pionite.com.
 - e. Lamin-Art, Inc., Schaumburg, IL; 800-323-7624, www.laminart.com.
 - f. Abet Laminati, Richmond, CA; 800-228-2238; www.abetlaminati.com.
2. Substitutions: Under provisions of Division 01.

B. High-Pressure Decorative Laminates (HPDL): NEMA LD3; grades and thickness as follows:

Use/Application	NEMA LD3 Grade	Min. Thickness
Horizontal surface where postforming is not required.	HGS or HGL	0.048 inch \pm 0.005 inch
Exposed vertical surfaces of casework components where postforming is not required.	VGS	0.028 inch \pm 0.004 inch
Cabinet liner.	CLS	0.020 inch
Backing sheet. Provide at backside of plastic laminated panel substrates to enhance dimensional stability where laminate finish is applied to only one surface.	BK	0.020 inch

C. Colors: As indicated on Drawings.

2.5 ACCESSORIES

- A. Edge Banding: PVC vinyl; 0.125 inch (3 mm) thick by 15/16 inch wide. Color and pattern shall closely match exposed door front laminate color and pattern as accepted by Architect.
- B. Fasteners: Nails, screws, and other fasteners of size and type best suitable for the purpose. Staples, screws, or T-nails not permitted at exposed surfaces. Staples and nails not permitted in casework joinery.
- C. Adhesives, Caulks, and Sealants:
 1. Comply with provisions of Division 01. Adhesives, caulks, sealants, and fillers shall meet VOC requirements of South Coast Air Quality Management District (SCAQMD) Rule No. 1168.
 2. Adhesives shall be selected for their ability to provide a durable, permanent bond and shall take into consideration such factors as materials to be bonded, expansion and contraction, bond strength, fire rating, and moisture resistance.
 3. Wood Joinery: CS 35-61 Type II (water-resistant). Shall withstand cold-soak tests specified in ANSI/HPVA HP-1.
 4. Laminate Adhesive: Water-based contact adhesive, type recommended by plastic laminate manufacturer.
 5. Caulk: Clear, 100 percent silicone. Use to fill voids and joints between laminated components and adjacent surfaces.

6. Sealant: Mold and mildew resistant; type and composition recommended by substrate manufacturer to provide a moisture barrier at sink cutouts and other locations where unfinished substrate edges may be subjected to moisture.

2.6 CABINET HARDWARE

- A. Hardware shall be furnished and installed as required to provide for a complete and operable casework installation. All hardware shall conform to ANSI/BHMA 156.9 Grade 2, except where a higher grade is specified.
- B. Manufacturers:
 1. Acceptable Manufacturers:
 - a. EPCO – The Engineered Products Co., Flint, MI; 888-414-3726 www.epcohardware.com.
 - b. Häfele America Co., Archdale, NC; 800-423-3531, www.hafele.com.
 - c. Hettich America L.P., Buford, GA; 800-777-1772, www.hettichamerica.com.
 - d. National Cabinet Lock / CompX International Inc., Mauldin, SC; 864-297-6655, www.compnet.com/national.html.
 - e. RPC – Rockford Process Control, Rockford, IL; 815-966-2000, www.rpcingesandhardware.com.
 2. Substitutions: Under provisions of Division 01.
- C. Overlay Institutional Hinges: ANSI/BHMA 156.9 Grade 1.
 1. Five-knuckle type; US26D satin chrome finish. Products: RPC Part No. 456, Häfele Cat. No. 354.65.400, or accepted equal.
- D. Wire Pulls: 4-1/8 inch x 1-3/8 inch x 1/2 inch diameter steel handle; nickel matt finish. Product: Häfele Cat. No. 116.09.617, Epcos Cat. No. MC401-4-DC, or accepted equal.
- E. Adjustable Shelf Supports: ANSI/BHMA 156.9 Grade 1; nickel plated zinc die-cast shelf supports, 5 mm pin diameter with additional pin for shelf. Product: Hettich Sekura 6 Cat. No. 079707, Häfele Cat. No. 282.24.720, or accepted equal.
- F. Elbow Catch: Heavy duty solid brass. Product: Epcos Part No. 1018-N, or accepted equal.
- G. Cabinet Locks:
 1. General: All locks shall be BHMA certified.
 2. Single: Deadbolt locks with 90 degree turn; key removable in both locked and unlocked positions. Provide two keys per lock. Provide strike bars at doors. Cylinder lengths: 7/8 inch at doors. Finish: US26D, satin chrome. Products:
 - a. Doors: CompX National C8173 or accepted equal.
 3. All casework locks and keying shall match facility's casework needs and keying system. Locks shall be keyed in groups per functional operations.

2.7 FABRICATION

- A. Fabricate and assemble casework components at the shop site to the maximum extent possible. Construction and fabrication of cabinets and their components shall meet or exceed WI grade requirements as indicated in this Section.

- B. Closely fit casework at site. Provide filler inserts and trim where necessary, scribe for a tight fit.
- C. Provide cutouts for inserts and fittings. Seal surfaces of cut edges.
- D. Operable parts for all accessible casework shall comply with CBC Section 11B-309.
- E. Plastic Laminates:
 - 1. Apply plastic laminate in full uninterrupted sheets, consistent with manufactured sizes.
 - 2. Fit corners and joints hairline. Slightly bevel arises.
 - 3. Secure plastic laminated panels with concealed fasteners.
 - 4. Apply laminate backing sheets to reverse side of panels with high-pressure decorative laminates on one face.

F. Sheet Materials Application:

Use/Application	Thickness	Wood-Based Panel
Casework carcass.	Min. 3/4 inch	Plywood, Particleboard, or MDF
Doors.	3/4 inch	Particleboard or MDF
Cabinet backs.	Min. 1/4 inch	Hardboard or MDF
Shelves: Up to 32 inch span with LPDL finish.	Min. 3/4 inch	Plywood, Particleboard, or MDF
Shelves: Up to 35 inch span with HPDL finish.	Min. 3/4 inch	Plywood, Particleboard, or MDF
Shelves: Up to 36 inch span with LPDL finish.	Min. 1 inch	Plywood, Particleboard, or MDF
Shelves: Up to 42 inch span with HPDL finish.	Min. 1 inch	Plywood, Particleboard, or MDF

G. Casework Carcass:

- 1. Glue frame components together. Brace top corners, bottom corners and cabinet bottoms with hardwood blocks, or metal or plastic braces.
- 2. Joinery Method: Acceptable joinery methods shall be as follows:
 - a. Tops, exposed ends, and bottoms:
 - 1) Steel European assembly fasteners 1-1/2 inch from end, 5 inches on center. Fasteners shall not be visible on exposed parts.
 - 2) Doweled and glued under pressure – approximately four dowels per 12 inches of joint.
 - 3) Stop dado, glued under pressure, and either nailed or screwed. Fasteners shall not be visible on exposed parts.
 - 4) Spline or biscuit and glued under pressure.

b. Cabinet backs (wall hung cabinets):

- 1) Wall hung cabinet backs must not be relied upon to support the full weight of the cabinet and its anticipated load for hanging/mounting purposes. Method of back joinery and hanging/mounting mechanism should transfer the load to case body members.
- 2) Fabrication method: Full bound, capture in grooves on cabinet sides, top, and bottom. Cabinet backs for floor standing cabinets shall be side bound, captured in grooves, glued, and fastened to top and bottom.

H. Shelving:

1. Fixed shelves: Dadoed or doweled into cabinet sides.
2. Adjustable shelves: 0.197 inch bore holes at 1-1/4 inch on center.

2.8 FINISH

A. Finish – Laminated Casework:

1. Semi-exposed surfaces, as defined in WI/AWMAC North American Architectural Woodwork Standards Section 10:
 - a. Cabinet with doors: Thermally fused melamine.
 - b. Cabinets with open shelves: High-pressure decorative laminate.
2. Exposed surfaces, as defined in WI/AWMAC North American Architectural Woodwork Standards Section 10: High-pressure decorative laminate with PVC edge banding.
3. Doors: High-pressure decorative laminate with PVC edge banding.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify field measurements, dimensions, location and layout.
- B. Verify location and sizes of utility rough-in associated with work of this Section.
- C. Verify adequacy of backing and support framing.
- D. Report unacceptable conditions to Architect. Begin installation only when unacceptable conditions have been corrected.

3.2 INSTALLATION

- A. Install in accordance with accepted shop drawings and with applicable WI grade requirements as indicated in this Section.
- B. Install fabricated assemblies, level, plumb, square, and true to line, in locations as shown on Drawings.
- C. Anchorage:
 1. Attach and anchor casework securely to floors and walls with mechanical fasteners appropriate for the substrate.
 2. Use concealed fasteners to attach and secure casework components.

- D. Carefully scribe casework abutting other components with a maximum gap of 1/32 inch. Do not use additional overlay trim for this purpose.

3.3 ADJUSTING

- A. Adjust moving or operating parts for smooth, uniform operation.

3.4 CLEANING

- A. Clean as recommended by manufacturer. Do not use materials or methods which may damage finish surface or surrounding construction.

END OF SECTION

SECTION 07 92 00

JOINT SEALANTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Sealants.
- B. Sealant accessories.

1.2 RELATED SECTIONS

- A. Section 08 81 00 – Glass Glazing.
- B. Section 09 29 00 – Gypsum Board.

1.3 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 Division 01 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 C510 – Standard Test Method for Staining and Color Change of Single or Multicomponent Joint Sealants.
 - 2. ASTM C719 – Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement (Hockman Cycle).
 - 3. ASTM C794 – Standard Test Method for Adhesion in Peel of Elastomeric Joint Sealants.
 - 4. ASTM C834 – Standard Specification for Latex Sealants.
 - 5. ASTM C881 – Standard Specification for Epoxy Resin Base Bonding Systems for Concrete.
 - 6. ASTM C919 – Standard Practice for Use of Sealants in Acoustical Applications.
 - 7. ASTM C920 – Standard Specification for Elastomeric Joint Sealants.
 - 8. ASTM C1087 – Standard Test Method for Determining Compatibility of Liquid Applied Sealants with Accessories Used in Structural Glazing Systems.
 - 9. ASTM C1193 – Standard Guide for Use of Joint Sealants.
 - 10. ASTM C1248 – Standard Test Method for Staining of Porous Substrate by Joint Sealants.
 - 11. ASTM C1311 – Standard Specification for Solvent Release Sealants.
 - 12. ASTM C1521 – Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints.
 - 13. ASTM D2203 – Standard Test Method for Staining from Sealants.

1.4 SUBMITTALS

- A. General: Submit in accordance with Division 01.
- B. Product Data: Submit manufacturer's descriptive literature and product specification for each product, including primers and sealing compounds.
 - 1. Provide manufacturer's literature with selected colors clearly indicated.
- C. Quality Assurance/Control Submittals:
 - 1. Product validation/assurance submittals.
 - 2. Manufacturer's laboratory adhesion and stain testing results.
 - 3. Joint sealants field adhesion to joint substrates test results.
 - 4. Installer qualifications.
 - 5. Written certification from the subcontractor that joints are of the proper size and design, that the materials supplied are compatible with adjacent materials and backing, that the materials will properly perform to provide permanent watertight, airtight or vapor tight seals (as applicable), and that materials supplied meet specified performance requirements.
- D. Sample Manufacturer's Warranty.
- E. Closeout Submittals: Cleaning and maintenance data.

1.5 DEFINITIONS

- A. Sealant Types:
 - 1. S: Single component sealant, cures by moisture reaction.
 - 2. M: Multiple component sealant; cures by chemical reaction.
- B. Sealant Grades:
 - 1. NS: Non-sag or gunnable sealant that permits application in joints on vertical surfaces without sagging or slumping.
 - 2. P: Pourable sealant that has sufficient flow to form a smooth, level surface when applied in a horizontal joint.
 - 3. SL: Self-leveling sealant that has sufficient flow to form a smooth, level surface when applied in a horizontal joint.
- C. Sealant Classes:
 - 1. 12.5: A sealant that when tested for adhesion and cohesion under cyclic movement shall withstand an increase and decrease of at least 12.5 percent of the joint width as measured at the time of application.
 - 2. 25: A sealant that when tested for adhesion and cohesion under cyclic movement shall withstand an increase and decrease of at least 25 percent of the joint width as measured at the time of application.
 - 3. 35: A sealant that when tested for adhesion and cohesion under cyclic movement shall withstand an increase and decrease of at least 35 percent of the joint width as measured at the time of application.

4. 50: A sealant that when tested for adhesion and cohesion under cyclic movement shall withstand an increase and decrease of at least 50 percent of the joint width as measured at the time of application.
5. 100/50: A sealant that when tested for adhesion and cohesion under cyclic movement shall withstand an increase of at least 100 percent and a decrease of at least 50 percent of the joint width as measured at the time of application.

D. Sealant Uses:

1. A: Sealant acceptable for use on an aluminum substrate.
2. G: Sealant acceptable for use on a glass substrate.
3. I: Sealant designed for use in joints which are submerged continuously in a liquid.
 - a. Immersion rated sealant applications require primer.
4. M: Sealant acceptable for use on a mortar substrate.
5. NT: Sealant designed for use in joints in non-traffic areas.
6. T: Sealant designed for use in joints in pedestrian and vehicular traffic areas such as walkways, plazas, decks, and parking garages.
7. O: Sealant acceptable for use on substrates other than those listed above including, but not limited to, color anodized aluminum, metals other than aluminum, painted surfaces, brick, stone, tile, and wood.

E. Miscellaneous:

1. FC: Fast cure sealants; provides lesser cure times than corresponding standard cure sealants.

1.6 SUSTAINABLE DESIGN REQUIREMENTS

- A. Meet VOC requirements of South Coast Air Quality Management District (SCAQMD) Rule 1168. Information is available at www.aqmd.gov. VOC limit expressed in grams per liter as follows:

Sealant	VOC Limit
Architectural	250
Other	420

Sealant Primer	VOC Limit
Architectural – Nonporous	250
Architectural – Porous	775
Other	750

- B. Provide sealants with no carcinogen or reproductive toxicant components at more than one percent of total mass of product as defined in the following lists:
1. California OEHHA, Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Information is available at www.oehha.ca.gov/prop65.html.
 2. California Air Resources Board (CARB), list of Toxic Air Contaminants (California Air Toxics). Information is available at www.arb.ca.gov/toxics.

1.7 QUALITY ASSURANCE

A. Qualifications:

1. Manufacturer Qualifications: Firm specializing in manufacturing products specified in this Section.
2. Applicator Qualifications: Firm specializing in installing work specified in this Section with experience on at least five projects of similar nature in past three years.

B. Product Validation/Assurance: Provide products with current SWRI Validation or provide independent third-party laboratory test results showing product meets performance requirements in accordance with ASTM C920 and as specified in this Section.

C. Compatibility: Materials forming joints and adjacent materials shall not adversely affect sealant materials or sealant color per ASTM C1087.

D. Staining: Sealants shall not stain joint substrates per ASTM C510, ASTM C1248, and ASTM D2203.

E. Manufacturer Adhesion, Cohesion, and Stain Testing: Provide manufacturer's laboratory adhesion and cohesion testing per ASTM C719 and ASTM C794, and stain testing per ASTM C510, using specimens of actual substrates to ensure sealant compatibility with substrate before product acceptance.

F. Joint Sealants Field Test for Adhesion and Cohesion to Joint Substrates: Perform field tests for each elastomeric joint sealant in accordance with ASTM C1521, with the manufacturer's representative present prior to installation as follows:

1. Install joint sealants in five foot joint lengths. Allow sealant to fully cure before testing.
2. Make a knife cut of the sealant across the joint and along each side of the joint approximately 3 inches long.
3. Place a mark on the sealant tab, 1 inch from the adhered joint to the tab's free end.
4. Grasp a 2 inch piece of sealant firmly just beyond the 1 inch mark and pull at a 90 degree angle.
5. Record whether or not sealant in joint maintained adhesion to substrate.
6. Record percentage length of sealant elongation.
7. Sealant product acceptance shall be based on pass/fail adhesion performance.

G. Coordination: Coordinate work in this Section with work in related Sections.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of Division 01.

B. Deliver materials in the unopened, original containers or unopened packages with manufacturer's name, labels, product identification, color, expiration period, curing time and mixing instructions for multi-component materials.

C. Storage and Protection: Store materials in a dry secure location with ambient temperature range of 60 degrees F to 80 degrees F.

D. Carefully handle and store to prevent inclusion of foreign materials.

1.9 PROJECT/SITE CONDITIONS

A. Environmental Limitations:

1. Do not proceed with installation of primers and joint sealants under the following conditions:
 - a. When ambient and substrate temperature conditions are less than 40 degrees F, or as otherwise recommended by manufacturer.
 - b. When joint substrates are wet.

B. Joint-Width Conditions:

1. Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

1.10 SEQUENCING

- A. Apply waterproofing, water repellents, and preservative finishes after sealants have fully cured.

1.11 WARRANTY

- A. Comply with provisions of Division 01.

- B. Provide manufacturer's warranty against material defects, air and water tightness, loss of adhesion, cohesion, and staining as follows:

1. Silicone sealants – Twenty years.
2. Urethane sealants – Five years.
3. Other sealants – Two years.

- C. Provide installer's two year workmanship warranty.

1.12 MAINTENANCE DATA

- A. Submit in accordance with Division 01.

- B. Provide cleaning and maintenance information, recommended inspection intervals, and instructions for repairing and replacing failed sealant joints.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:

1. BASF Corporation – Building Systems, Shakopee, MN; 800-433-9517 www.buildingsystems.basf.com.
2. Pecora Corporation, Harleysville, PA; 800-523-6688, www.pecora.com.
3. Sika Corporation, Lyndhurst, NJ; 800-933-7452, www.usa.sika.com.
4. Specified Technologies Inc. (STI), Somerville, NJ; 800-992-1180, www.stifirestop.com.
5. The Dow Chemical Company, Midland, MI; 800-331-6451, www.consumer.dow.com.

6. The Euclid Chemical Company, Cleveland, OH; 800-321-7628, www.euclidchemical.com.
7. Tremco Sealant Weatherproofing Division of RPM International, Inc., Beachwood, OH; 800-321-7906, www.tremcosealants.com.
8. USG – United States Gypsum Co., Chicago, IL; 800-874-4968, www.usg.com.

B. Substitutions: Under provisions of Division 01.

2.2 SEALANTS

A. General:

1. Provide sealants that have been tested and found suitable for the substrates to which they will be applied.
2. Color: As selected by Architect from manufacturer's full range of colors.

B. Interior Sealants:

1. Interior Sealant: Nonoxidizing, skinnable, paintable, gunnable, non-staining, non-bleeding acrylic latex sealant; ASTM C834; Type S; Grade NS; Class 12.5; use: O.
 - a. Products:
 - 1) Tremco Tremflex 834.
 - 2) Pecora Corp. AC-20 + Silicone.
 - 3) or accepted equal.
 - b. Use at interior trim and finish joints expecting minimal movement.
2. Interior Sealant: Low modulus, moisture curing, non-staining, non-bleeding polyurethane sealant; ASTM C920; Type S; Grade NS; Class 35; uses: A, M, NT, O.
 - a. Products:
 - 1) Tremco Dymonic FC.
 - 2) Euclid Chemical Company Eucolastic 1NS.
 - 3) Sika Sikaflex 1a.
 - 4) or accepted equal.
 - b. Use at interior vertical expansion, control, and air seal joints.
3. Acoustical Sealant: Non-skinning, non-hardening synthetic rubber sealant; ASTM C919; Type S; Grade NS; use: O.
 - a. Products:
 - 1) Tremco Acoustical Sealant.
 - 2) Pecora BA-98.
 - 3) or accepted equal.
 - b. Use at concealed joints and penetrations in interior acoustical walls.
4. Acoustical Sealant: Nonoxidizing, skinnable, paintable, gunnable, non-staining, non-bleeding acrylic latex sealant; ASTM C834 and C919; Type S; Grade NS; Class 12.5; use: O.
 - a. Products:
 - 1) Tremco Tremflex 834.

- 2) Pecora Corp. AC-20 FTR.
 - 3) STI LC or SpecSeal Smoke "N" Sound Sealant.
 - 4) Hilti CS-S SA Light.
 - 5) or accepted equal.
- b. Use at exposed joints and penetrations in interior acoustical walls.
5. Glazing Sealant: Medium modulus, neutral curing, non-staining, non-bleeding silicone sealant; ASTM C920; Type S; Grade NS; Class 50; uses: A, G, M, NT, O.
 - a. Products:
 - 1) Tremco Spectrem 2.
 - 2) The Dow Chemical Company Dowsil 795 Silicone Building Sealant.
 - 3) Pecora 895NST.
 - 4) Sika Sikasil WS-295.
 - 5) or accepted equal.
 - b. Use at exterior joints in window wall systems such as glass to glass, glass to metal, and metal to metal joints.

2.3 ACCESSORIES

- A. Joint Cleaner: Non-corrosive and non-staining type as recommended by sealant manufacturer; compatible with joint forming materials.
- B. Primers: Non-staining, quick-drying type and consistency recommended by the sealant manufacturer for the particular application.
- C. Joint Backing: Non-adhering backing to sealant; non-staining, compatible with sealant and primer such as round, closed cell or bi-cell polyethylene foam rod; oversized 25 percent to 50 percent larger than joint width. Materials impregnated with oil, bitumen or similar materials are not permitted.
- D. Bond Breakers: Type and consistency recommended by the sealant manufacturer to suit the particular application.
- E. Bond Breaker Tape: Self-adhesive, pressure sensitive polyethylene tape.
- F. Masking Tape: Non-staining, non-absorbent tape compatible with joint sealants and adjacent joint surfaces.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine job site conditions; verify substrate, surfaces, and joint openings are ready to receive work and field measurements are as shown on drawings, as specified in this Section, and as recommended by manufacturer.
- B. Report unacceptable conditions to Architect. Begin installation only when unacceptable conditions have been corrected.

3.2 PREPARATION

- A. Clean, prepare, and prime joints in accordance with ASTM C1193 and manufacturer's written instructions.
- B. Remove loose materials and foreign matter that might impair sealant adhesion. Clean porous materials such as concrete by grinding, sand or water blast cleaning, mechanical abrading, acid washing or a combination of these methods as required to provide a clean, sound base surface for sealant adhesion.
 1. Remove laitance by acid washing, grinding or mechanical abrading.
 2. Remove form oils, release agents, chemical retardants, by sand or water blast cleaning.
 3. Blow from joints with oil-free compressed air loose particles resulting from grinding, abrading, or blast cleaning prior to sealant application.
- C. Mechanically or chemically clean nonporous surfaces such as metal and glass. Remove temporary protective coatings on metallic surfaces using solvents that leave no residue as recommended by metal surface manufacturer. When masking tape or strippable films are used, remove the tape or film and clean any residual adhesive. Apply and wipe-dry cleaning solvents using clean, lint-free cloths or paper towels, do not allow solvent to air dry without wiping.
- D. Protect elements surrounding the work of this Section from damage or disfiguration. Apply masking tape to adjacent surfaces to prevent damage to finishes from sealant installation.

3.3 APPLICATION

- A. Apply sealants in accordance with ASTM C1193, manufacturer's written instructions, and accepted shop drawings.
- B. Apply acoustical sealants in accordance with ASTM C919, manufacturer's written instructions, except where more stringent requirements are specified herein, and accepted shop drawings.
- C. Apply sealant where indicated on the Drawings and at all exterior joints and openings in the building envelope that are observable sources of air or water infiltration.
- D. Measure joint dimensions and size materials to achieve required width-to-depth ratios. Acceptable joint width-to-depth ratios:

Material	Joint Width	Joint Depth	
		Minimum	Maximum
Metal or other nonporous surfaces.	1/4 inch (minimum)	1/4 inch	1/4 inch
	Over 1/4 inch	1/2 of width	1/2 inch
Wood, concrete, or other porous surfaces.	1/4 inch (minimum)	1/4 inch	1/4 inch
	Over 1/4 inch	1/2 of width	1/2 inch
	Over 1/2 to 2 inches	1/2 inch	1/2 inch
	Over 2 inches	As recommended by sealant manufacturer.	

- E. Install joint backing to achieve desired joint width-to-depth ratio. Roll the material into the joint to avoid lengthwise stretching. Do not twist or braid rod stock.

- F. Install bond breaker where joint backing is not used to prevent three-sided adhesion.
- G. Apply primer where required and where recommended by sealant manufacturer for sealant adhesion.
- H. Install sealants within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- I. Install sealants immediately after joint preparation.
- J. Install sealants free of air pockets, foreign embedded matter, ridges, and sags.
- K. Produce uniform, cross sectional shapes and depths relative to joint width that allow optimum sealant movement capability.
- L. Tool joints concave. Use dry tooling method.
- M. Cure sealants in compliance with their manufacturer's instructions to obtain high early bond strength, internal cohesive strength, and durability. Do not disturb seals until completely cured.

3.4 CLEANING AND REPAIRING

- A. Immediately clean work under provisions of Division 01.
- B. Clean adjacent soiled surfaces. Use a cleaning agent as recommended in writing by the sealant manufacturer. Remove any masking tape immediately after tooling joints, leaving finished work in neat and clean condition.
- C. Repair or replace defaced or disfigured caused by work of this Section.

3.5 PROTECTION OF FINISHED WORK

- A. Protect finished installation under provisions of Division 01.
- B. Protect sealant until cured.
- C. Do not paint sealants until sealant is fully cured.
- D. Do not paint silicone sealant.
- E. Protect joint sealants from contact with contaminating substances and from damage. Cut out, remove, and replace contaminated or damaged sealants, immediately, so that they are without contamination or damage at time of Project Completion.

END OF SECTION

SECTION 08 81 00

GLASS GLAZING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Glass and glazing for windows.

1.2 RELATED SECTIONS

- A. Section 07 92 00 – Joint Sealants: Sealant and back-up material.
- B. Section 08 81 50 – View Control Decorative Glazing Film.

1.3 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 Division 01 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. American National Standards Institute (ANSI) – ANSI Z97.1: Standard for Safety Glazing Materials Used in Buildings.
 - 2. ASTM C920 – Standard Specification for Elastomeric Joint Sealants.
 - 3. ASTM C1036 – Standard Specification for Flat Glass.
 - 4. ASTM C1048 – Standard Specification for Heat-Treated Flat Glass – Kind HS, Kind FT Coated and Uncoated Glass.
 - 5. ASTM C1279 – Standard Test Method for Non-Destructive Photoelastic Measurement of Edge and Surface Stresses in Annealed, Heat-Strengthened, and Fully Tempered Flat Glass.
 - 6. ASTM E1300 – Standard Practice for Determining Load Resistance of Glass in Buildings.
 - 7. Consumer Product Safety Commission (CPSC) – CPSC 16 CFR 1201: Safety Standard for Architectural Glazing Materials.
 - 8. GANA Glazing Manual.
 - 9. GANA Sealant Manual.
 - 10. SGCC – Safety Glazing Certification Council – Certified Products Directory.

1.4 SUBMITTALS

- A. Submit under provisions of Division 01.

B. Product Data:

1. Provide structural, physical, and environmental characteristics, size limitations, and special handling or installation requirements for each type of glazing specified.
2. Product Data on Glazing Compounds: Provide chemical, functional, and environmental characteristics, limitations, and special handling or installation requirements. Identify available colors.

C. Submit documentation indicating that all tempered glazing to be installed on this project is certified by the Safety Glazing Certification Council.

1.5 PERFORMANCE / DESIGN CRITERIA

A. Glass Strength: Analysis shall comply with ASTM E1300, Determining Load Resistance of Glass in Buildings. Provide glass products in the thickness and strengths (annealed or heat treated) required to meet or exceed the following criteria based on project loads and in-service conditions.

1. Minimum thickness of annealed or heat-treated glass products to be selected so the worst-case probability of failure does not exceed the following:
 - a. Eight breaks per thousand for glass installed vertically or not fifteen degrees or more from the vertical plane and under wind action.
 - b. One break per thousand for glass installed fifteen degrees or more from the vertical plane and under action of wind and/or snow.
2. Deflection must be limited to prevent disengagement from the frame and be less than or equal to 3/4 inch or L/175.

B. Thermal and Optical Performance: Provide glass products with performance properties specified in this Section. Performance properties shall be manufacturer's published data as determined according to the following procedures:

1. Center of glass U-Value: NFRC 100 methodology using LBNL WINDOW 5.2 computer program.
2. Center of glass solar heat gain coefficient: NFRC 200 methodology using LBNL-35298 WINDOW 5.2 computer program.
3. Solar optical properties: NFRC 300.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with GANA Glazing Manual and GANA Sealant Manual for glazing installation methods.
- B. Installer's Qualifications: The installation shall be performed only by an installation firm normally engaged in this business. All work shall be performed by qualified mechanics that specialize in glazing and glass installation.
- C. Safety glazing shall meet the requirements of 2022 CBC Section 2406 and shall be identified in accordance with 2022 CBC Sections 2403.1 and 2406.3, with identification etched in glass.
- D. Glass installation in frames shall comply with the Minimum Glazing Requirements in CBC Table 2403.2.1.

1.7 JOB AND ENVIRONMENTAL CONDITIONS

- A. Do not install glazing when ambient temperature is less than 40 degrees F.
- B. Maintain minimum ambient temperature before, during and 48 hours after installation of glazing compounds.

1.8 FIELD MEASUREMENTS

- A. Verify that field measurements are as indicated on shop Drawings.

1.9 COORDINATION

- A. Coordinate Work with glazing frames, wall openings, and adjacent Work.

PART 2 PRODUCTS

2.1 GENERAL

- A. All glass shall be graded and meet requirements of ASTM C1036 and ASTM C1048, Type 1, quality q3. Each light of glass delivered and installed shall have affixed thereto the manufacturer's grade label.
- B. Glazing material installed in Hazardous Locations subject to human impact shall be certified and permanently labeled as meeting applicable requirements referenced in NFPA 80 and 2022 CBC Section 2406.
 - 1. CPSC 16 CFR 1201, Category I and II.

2.2 GLASS TYPES

- A. Float Glass:
 - 1. Acceptable Manufacturers:
 - a. Vitro Architectural Glass.
 - b. Oldcastle Glass.
 - c. Viracon.
 - d. Guardian.
 - e. Substitutions: Under provisions of Division 01.
 - 2. Material: 1/4 inch thick clear glass, tempered where required by CBC and where indicated on Drawings.

2.3 GLAZING SEALANT

- A. Glazing Sealants: ASTM C920, Type S, Grade NS, Uses "G" and "A". Dow Corning 795, Tremco "Proglaze" or GE Silicone Sealants; Tremco "Mono" acrylic sealant or accepted equal. All sealants shall be compatible with the type of glazing and window frame to which they are applied.

2.4 GLAZING ACCESSORIES

- A. Setting Blocks: Neoprene EPDM blocks with a Shore A durometer hardness of 85, ± 5 percent, chemically compatible with sealant used.

- B. Spacer Shims: Neoprene, 50-60 Shore A durometer hardness, minimum 3 inches long by one half the height of the glazing stop by thickness to suit application.
- C. Glazing Tape: 100 percent solids by weight, highly adhesive and elastic, cross-linked butyl rubber preformed tape with a continuous integral EPDM shim; 57 Shore 00 durometer hardness; black color; Tremco POLYshim II Tape or accepted equal.
- D. Glazing Splines: Resilient polyvinyl chloride extruded shape to suit glazing channel retaining slot; black color.
- E. Miscellaneous: Furnish all primers-sealers, setting blocks, shims, spacers, compression seals, etc., as required for a first class workmanlike job.

2.5 FABRICATION

A. Flat Glass:

- 1. Comply with ASTM C1036 Standard Specification for Flat Glass, Type 1, Class 1 (clear) or Class 2 (tinted, heat-absorbing and light reducing) and Quality q3.
- 2. ASTM C1048 Heat Treated Flat Glass, Kind HS (heat-strengthened) or FT (fully tempered), Condition A (uncoated).
 - a. Heat Treated Flat Glass shall be produced by horizontal (roller hearth) process with inherent rollerwave distortion parallel to the bottom edge of the glass as installed.
 - b. Maximum peak to valley rollerwave 0.003 inch in the central area and 0.008 inch within 10.5 inches of the leading and trailing edge.
 - c. Maximum bow and warp 1/32 inch per lineal foot.
 - d. All heat strengthened glass shall have a surface compression of 3,500 psi to 7,500 psi. The surface compression shall be verified to meet ASTM C1279 requirements.
 - e. All tempered architectural safety glass shall have a minimum surface compression of 10,000 psi, an edge compression of not less than 9,700 psi, or conform to the requirements of ANSI Z97.1 and CPSC 16CFR-1201.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify prepared openings for adequacy to receive glass.
- B. Verify that openings for glazing are correctly sized and within tolerance.
- C. Verify that surfaces of glazing channels or recesses are clean, free of obstructions, and ready to receive glazing.
- D. Report in writing any conditions that may be detrimental to the Work.

3.2 PREPARATION

- A. Clean contact surfaces with solvent and wipe dry.
- B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.
- C. Check that glass is free of edge damage or face imperfections.

3.3 INSTALLATION

- A. General: Install glazing types at locations indicated on Drawings, according to glazing manufacturer's recommendations and as specified herein.
- B. Glass Glazing:
 - 1. Positioning Glass: Orient pattern and draw of glass pieces in same direction. Set all sheet glass so that any waves, etc. are horizontal.
 - 2. Orient heat-treated glass so that the roller wave is parallel to the window sill/header.
 - 3. Do not cut, nip or abrade tempered glass.
 - 4. Watershed: Gunnable sealants, when applied as a cap head, shall form a bevel or watershed away from the glass. When tape is used to the sightline, it shall form a watershed when compressed. Do not undercut a sealant, compound, or tape below the sightline. Tool and finish sealant as required. Used tooling solution recommended by the sealant manufacturer.
 - 5. Positive Contact:
 - a. When applying a heel bead, lap onto the glass a minimum of 3/16 inch.
 - b. When applying a toe bead, whether continuous or a corner seal, make certain it is large enough to contact both the glass and sash. Install the sealant prior to glass placement.
 - 6. Setting blocks shall be 1/16 inch less than the full rabbet width, minimum length of 4 inches and high enough to provide the recommended minimum bite and edge clearance for the glass. Center blocks at 1/4 points unless otherwise recommended by the glass manufacturer.
 - 7. Provide spacer-shims at a maximum of 24 inches on center.
 - 8. Clearances: Observe minimum face clearances, edge clearance and glass bite as recommended by the glass and sealant manufacturers.
 - 9. Tape Installation: Do not install glazing tapes more than one day ahead of glass placement. Remove the paper backing from the tape only when the lite is ready to be installed. Do not stretch the tape to make it fit. Do not overlap the ends of the tape. Instead, butt ends together, and when corners are butted together, daub with sealant to assure a positive seal.
 - 10. Glazing tapes must be kept under proper compression.
 - 11. Glazing stops shall be installed so that stop or frame does not bear directly against glass.

3.4 CLEANING

- A. Clean work under provisions of Division 01.
- B. Remove glazing materials from finish surfaces.
- C. Remove temporary labels after work is complete.
- D. Clean glass.

3.5 PROTECTION OF FINISHED WORK

- A. Protect finished Work under provisions of Division 01.

- B. Replacement: At completion of construction and prior to its acceptance, all broken, cracked, excessively scratched, or otherwise imperfect glazing materials included under this Section shall be replaced with new glazing materials of the type specified, as directed by the Architect, and at no additional cost to the Owner.

END OF SECTION

SECTION 08 81 50

VIEW CONTROL DECORATIVE GLAZING FILM

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. View control and decorative film applied to glass.

RELATED SECTIONS

- B. Section 08 81 00 – Glass Glazing.

1.2 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 Division 01 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. IWFA – International Window Film Association.

1.3 SUBMITTALS

- A. Submit under provisions of Division 01.
- B. Product Data: Provide for each glazing film type. Provide physical and environmental characteristics, size limitations, handling, and installation requirements.
- C. Samples: Submit two samples, 12 inches by 12 inches in size, illustrating each type of glazing film, pattern, and design for Architect's review and acceptance.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Glazing film manufacturer specializing in manufacture of safety glazing films with minimum ten years successful experience.
- B. Installer Qualifications: Documented experience in the application of self-adhesive window films with at least ten applications of similar size and complexity, and approved by film manufacturer.

1.5 JOB AND ENVIRONMENTAL CONDITIONS

- A. Do not install glazing film when ambient temperature is less than 40 degrees F.
- B. Maintain minimum ambient temperature before, during and 48 hours after installation of glazing film.

1.6 FIELD MEASUREMENTS

- A. Verify that field measurements are as indicated on shop drawings.

1.7 COORDINATION

- A. Coordinate Work with glazing frames, wall openings, and adjacent Work.

1.8 DELIVERY, STORAGE, AND HANDLING

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

1.9 WARRANTY

- A. Special Warranty for Glazing Films: Manufacturer's standard form in which glazing film manufacturer agrees to replace film that deteriorate within specified warranty period. Defects include peeling, cracking, discoloration, and deterioration of film.
 - 1. Warranty Period: Manufacturer's standard.

PART 2 PRODUCTS

2.1 MANUFACTURERS AND PRODUCTS

- A. Acceptable Manufacturers and Products:
 - 1. 3M Window Film, Saint Paul, MN; 866-499-8857, www.3m.com/windowfilm. Product:
 - a. Fasara Aerina #SH2FGAR.
 - 2. LLumar Architectural Films and Decorative Films by CPFilms Inc., Martinsville, VA; 276-627-3000, www.cpfilms.com.
 - 3. Decorative Films by Vista Window Films, St. Louis, MO; 800-345-6088, www.vista-films.com.
 - 4. Decorative Films by Solar Gard; 866-300-2674, www.solargard.com.
- B. Substitutions: Under provisions of Division 01.

2.2 VIEW CONTROL DECORATIVE FILM

- A. General: Film shall be manufactured from polyester and shall be finished to achieve the desired performance and aesthetic characteristics. Finished film shall be self-adhesive and include a coating to reduce the effects of scratching and abrasions that occur in normal daily activity. Film shall be applied to interior side of glass surfaces.
 - 1. Product Family: Gradation.
 - 2. Width: 50 inches.
 - 3. Shading Coefficient: 0.91 percent.
 - 4. Visible Light Reflectance: 13 percent.
 - 5. Visible Light Transmittance: 79 percent.
 - 6. Flammability: Class A when tested in accordance with ASTM E84.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that existing conditions are adequate for proper application and performance of film.

- B. Verify glass is not cracked, chipped, broken, or damaged.
- C. Do not begin installation until substrates have been properly prepared.
- D. Report in writing any conditions that may be detrimental to Work.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Verify that glass is free of damage or face imperfections.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's printed instructions. Installation shall be accomplished by a recognized professional installer of film for energy control purposes. Completed work shall meet IWFA visual acceptance standard.
- B. Decorative Film Overlay: Apply squarely aligned to glass edges, uniformly smooth, free from wrinkles and rough edges, in patterns indicated, to the back face of clean glass, unless otherwise indicated on Drawings.
- C. Verify the direction of obscurity for directional films prior to installation.
- D. Install without bubbles, ripples, drips, dirt, cuts, tears or gaps between film and frame.

3.4 CLEANING

- A. Clean work under provisions of Division 01.
- B. Clean installed film per manufacturer's instructions.
- C. Clean newly installed film and window frames after installation.
- D. Clean up cleaning solutions, run-off cleaning water and adhesive mounting solution.

3.5 PROTECTION OF FINISHED WORK

- A. Protect installed products until completion of the project.
- B. Where installed film could be damaged by subsequent construction provide tape warning strips or barricades to prevent contact.
- C. Touch-up, repair or replace damaged products before Project Completion.
- D. At completion of building construction and prior to its acceptance, all cracked, scratched, damaged, or otherwise imperfect glazing film shall be replaced with new glazing film of the type specified, as directed by Architect, and at no cost to Owner.

END OF SECTION

SECTION 09 22 16
NON-STRUCTURAL METAL FRAMING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Metal stud framing and accessories at interior locations.

1.2 RELATED SECTIONS

- A. Section 07 92 00 – Joint Sealants.
- B. Section 09 29 00 – Gypsum Board.

1.3 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 Division 01 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 A653/A653M – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - 2. ASTM A924/A924M – Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.
 - 3. ASTM C645 – Standard Specification for Nonstructural Steel Framing Members.
 - 4. ASTM C754 – Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.
 - 5. ASTM C1513 – Standard Specification for Steel Tapping Screws for Cold-Formed Steel Framing Connections.
 - 6. SFIA – Steel Framing Industry Association.
 - 7. SSMA – Steel Stud Manufacturers Association.
 - 8. SSPC Paint 20 – Zinc Rich Primers.

1.4 SUBMITTALS

- A. Submit under provisions of Division 01.
- B. Product Data: Submit data describing standard framing member materials and finish, product criteria, load charts and limitations.
- C. Manufacturer's Installation Instructions: Submit special procedures, perimeter conditions requiring special attention.
- D. Evaluation Reports: For products not covered in SSMA or SFIA standards, submit manufacturer's current ICC report reviewed per the applicable building code.

1.5 SYSTEM DESCRIPTION

- A. Interior Walls: Metal stud framing system with interior gypsum board specified in Section 09 29 00.
- B. Maximum Allowable Deflection: 1:120 span at gypsum board finish.
- C. Wall Systems: Design to provide for movement of components without damage, failure of joint seals, undue stress on fasteners, or other detrimental effects when subject to seasonal or cyclic day/night temperature ranges.

1.6 QUALITY ASSURANCE

- A. Framing members shall be provided by a member of the Steel Stud Manufacturer's Association (SSMA) or Steel Framing Industry Association (SFIA).
- B. Perform Work in accordance with ASTM C754.
- C. Comply with 2022 CBC, Chapter 22A, Section 2211A.
- D. Form, fabricate, install, and connect components in accordance with ML/SFA 540.

1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section.
- B. Installer: Company specializing in performing Work of this Section.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Notify manufacturer of damaged materials received. Do not install damaged materials.
- B. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Protect cold-formed metal framing products from corrosion, deformation, and other damage during delivery, storage, and handling as required by AISI's "Code of Standard Practice".

1.9 PRE-INSTALLATION MEETING

- A. Convene minimum one week prior to commencing Work of this Section under provisions of Division 01.

1.10 COORDINATION

- A. Coordinate placement of components within stud framing system.

PART 2 PRODUCTS

2.1 METAL FRAMING SYSTEM

- A. Acceptable Manufacturers:
 - 1. ClarkDietrich Building Systems, West Chester, OH; 513-870-1100, www.clarkdietrich.com.
 - 2. MarinoWARE, South Plainfield, NJ; 800-627-4661, www.marinoware.com.

3. CEMCO, Pittsburg, CA; 925-473-9340, www.cemcosteel.com.
4. SCAFCO Steel Stud Company, Spokane, WA; 509-343-9000, www.scafco.com.

B. Substitutions: Under provisions of Division 01.

2.2 COMPONENTS

A. Framing System Components:

1. 20 Gauge and Thinner: Manufactured per ASTM C645 with material meeting the requirements of ASTM A1003, Non-structural Grade 33 (NS33).
2. 18 Gauge: Manufactured with material meeting the requirements of ASTM A1003, Structural Grade 33, Type H (ST33H).
3. 16 Gauge and Thicker: Manufactured with material meeting the requirements of ASTM A1003, Structural Grade 50, Type H (ST50H).

B. Studs: ASTM A653/A653M non-load bearing rolled steel, channel shaped, punched for utility access, depths, gauges, and spacing as indicated on the Drawings.

C. Tracks and Headers: Same material and thickness as studs.

D. Sheet Metal Backing: 16 gauge, unless noted otherwise on Drawings.

E. Fasteners: ASTM C1513, self-drilling, self-tapping corrosion resistant screws.

F. Anchorage Devices: As indicated on Drawings.

G. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20 Type II organic zinc rich.

2.3 FINISH

A. Framing Members and Connections: Provide galvanized finish per ASTM A653 with G-40 minimum coating weight. No equivalent coatings allowed.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify rough-in utilities are in proper location.

3.2 INSTALLATION

A. Install metal framing per ASTM C754 and as indicated on Drawings.

B. Align and secure top and bottom runners as indicated on Drawings.

C. Place two beads of acoustic sealant between tracks and substrate, studs, and adjacent construction, to achieve acoustic seal.

D. Place two beads of acoustic sealant between studs and adjacent vertical surfaces to achieve acoustic seal.

E. Framing at openings shall be as shown on Drawings. Install intermediate studs at same spacing as wall studs.

- F. Install studs vertically at 16 inches on center unless otherwise noted on Drawings.
- G. Align stud web openings horizontally.
- H. Secure studs to tracks as indicated on Drawings.
- I. Stud splicing not permissible.
- J. Fabricate corners using minimum of three studs.
- K. Double stud at wall openings and door and window jambs, not more than 2 inches from each side of openings.
- L. Brace stud framing system rigid.
- M. Coordinate erection of studs with requirements of door frames and window frames; install supports and attachments.
- N. Backing/Blocking: Shall be provided for all wall and ceiling finishes and for the supporting and anchorage of products, fixtures, and equipment for all trades. Coordinate size, type, and location of backing and supports with manufacturer or supplier of items requiring backing/blocking.
- O. Refer to Drawings for indication of partitions extending stud framing through ceiling to structure above. Maintain clearance under structural building members to avoid deflection transfer to studs. Install extended leg top track for slip connection.
- P. Refer to Drawings for indication of partitions through ceiling, but not to structure above. Install diagonal stud bracing staggered at 48 inches on center to structure above. Stud bracing width and gauge shall match that of the stud framing below.
- Q. Coordinate placement of insulation in stud spaces after stud frame erection.

3.3 ERECTION TOLERANCES

- A. Maximum Variation From Indicated Position: 1/8 inch in 10 feet (non-cumulative).
- B. Maximum Variation From Plumb: 1/8 inch in 10 feet (non-cumulative).

END OF SECTION

SECTION 09 29 00

GYPSUM BOARD

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Gypsum board:
 - 1. Type X gypsum board.
- B. Accessories.

1.2 RELATED SECTIONS

- A. Section 07 92 00 – Joint Sealants.
- B. Section 09 22 16 – Non-Structural Metal Framing.
- C. Section 09 68 13 – Tile Carpeting.
- D. Section 09 72 26 – Digital Wall Coverings.
- E. Section 09 91 00 – Painting.

1.3 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 Division 01 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 B117 – Standard Practice for Operating Salt Spray (Fog) Apparatus.
 - 2. ASTM C473 – Standard Test Method for Physical Testing of Gypsum Panel Products.
 - 3. ASTM C475/C475M – Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
 - 4. ASTM C840 – Standard Specification for Application and Finishing of Gypsum Board.
 - 5. ASTM C954 – Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness.
 - 6. ASTM C1002 – Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.

- 7. ASTM C1047 – Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base.
- 8. ASTM C1396/C1396M – Standard Specification for Gypsum Board.
- 9. GA-214 – Recommended Levels of Gypsum Board Finish.
- 10. GA-216 – Application and Finishing of Gypsum Board.

1.4 SUBMITTALS

- A. Submit under provisions of Division 01.
- B. Product Data: Submit product data for each product specified in this Section with the product and selected attributes clearly identified.

1.5 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Manufacturer Qualifications: Firm specializing in manufacturing products specified in this Section with a minimum five years' experience.
 - 2. Installer Qualifications: Firm specializing in installing work specified in this Section acceptable to manufacturer with experience on at least five projects of similar nature in past three years.
- B. Regulatory Requirements: Comply with requirements of CBC Chapter 25.
- C. Coordinate work in this Section with work in related Sections.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of Division 01.
- B. Deliver products in manufacturer's original containers, dry and undamaged, with seals and labels intact.
- C. Storage and Protection: Store materials in a dry secure place; neatly stacked to prevent sagging or damage to edges, ends, and surfaces. Protect from weather, surface contaminants, corrosion, construction traffic, and other potential damage.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Interior Environmental Requirements:
 - 1. Maintain room temperature at not less than 40 degrees F during application of gypsum board. Maintain room temperature at not less than 50 degrees F for joint treatment and decoration for 48 hours prior to and continuously thereafter until completely dry.
 - 2. Provide adequate ventilation during installation and curing period.
 - 3. Prevent exposure to excessive or continuous moisture before, during, and continuously after installation. Eliminate sources of moisture immediately.
 - 4. Protect gypsum board from direct exposure to rain, snow, sunlight, or excessive weather conditions.

PART 2 PRODUCTS

2.1 SUSTAINABLE BUILDING DESIGN REQUIREMENTS

- A. Provide sealants that meet VOC requirements of South Coast Air Quality Management District (SCAQMD) Rule 1168. Information is available at www.agmd.gov.

2.2 MANUFACTURERS

A. Acceptable Manufacturers:

1. USG – United States Gypsum Company, Chicago, IL; 312-606-4000, www.usg.com.
2. National Gypsum Co., Charlotte, NC; 704-365-7300, www.nationalgypsum.com.
3. GP-Gypsum – Georgia-Pacific Corp., Atlanta, GA; 404-652-4000, www.gp.com.
4. CertainTeed Corporation, Malvern, PA; 800-233-8990, www.certainteed.com.
5. PABCO Gypsum, Newark, CA; 510-792-9555, www.pabco gypsum.pacocoast.com.

- B. Substitutions: Under provisions of Division 01.

2.3 GYPSUM BOARD

- A. Type X Gypsum Board: ASTM C1396/1396M; 5/8-inch thick; 2.2 pounds per square foot; fire resistant core; maximum permissible length; ends square cut, tapered edges.

1. Acceptable Products:

- a. Sheetrock Brand Firecode X manufactured by USG,
- b. Gold Bond Brand XP Fire-Shield Gypsum Board manufactured by National Gypsum,
- c. ToughRock Fireguard manufactured by G-P Gypsum,
- d. CertainTeed Type X manufactured by CertainTeed Corporation,
- e. FLAME CURB Type X Gypsum Board manufactured by PABCO Gypsum,
- f. or accepted equal.

2.4 ACCESSORIES

- A. Corner Bead, Edge Trim, and Decorative Dividers: ASTM C1047; zinc-coated sheet steel. Acceptable product: 103 Deluxe Corner Bead manufactured by Clark Dietrich, or accepted equal.

- B. Control Joints: ASTM C1047; roll-formed zinc joint with removable protected opening. Acceptable product: Zinc Control Joint No. 093 manufactured by Clark Dietrich, or accepted equal.

C. Screws:

1. ASTM C1002, Type S or Type A; bugle head; self-drilling and self-tapping screws for light gauge steel framing (less than 0.033 inch thick).
2. ASTM C954; bugle head; self-drilling and self-tapping screws for heavy gauge steel framing (0.033 inch to 0.112 inch thick).

- D. Jointing Tape: ASTM C475/C475M; 2 inch wide heavy duty paper joint tape.

- E. Joint Compound: ASTM C475/C475M.

- F. Primer-Surfacer (used in lieu of skim coat in a Level 5 finish): High-build interior coating finish applied with an airless sprayer. Products: Sheetrock Brand Primer-Surfacer Tuff-Hide manufactured by USG, ProForm Brand Surfacer/Primer manufactured by National Gypsum, or accepted equal. Note: Walls applied with primer-surfacer do not require drywall paint primer prior to application of finish coats.
- G. Acoustical Sealant: Refer to Section 07 92 00.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine job site conditions and verify field dimensions.
- B. Verify framing for acceptable placement, spacing, and tolerance (alignment and plumb).
- C. Verify that framing and furring are securely attached.
- D. Verify that all blocking, headers, and supports are in place to support items attached to walls.
- E. Report unacceptable conditions to the Architect. Begin installation only when unacceptable conditions have been corrected.

3.2 SEALANTS

- A. Apply acoustical sealant at partitions per sealant manufacturer's instructions. Refer to Section 07 92 00.

3.3 GYPSUM BOARD INSTALLATION

- A. Install gypsum board to framing and furring members in accordance with manufacturer's recommendations, GA-216 or ASTM C840, and as specified in this Section.
- B. Install gypsum board with separate panels in moderate contact, do not force in place. Stagger end joints of adjoining panels. Neatly fit abutting end and edge joints.
- C. Install gypsum board in most economical direction, using maximum practical lengths, with edges occurring over firm bearing. Install 1/4 inch (nominal) above rough floor or curb. Cut out gypsum board as required to make neat close joints around openings.
- D. In vertical applications, provide lengths required to reach full height of vertical surfaces in one continuous piece.
- E. Where gypsum board is carried full height to structure above, provide for deflection of structure by undercutting board 3/8 inch (nominal) and sealing top edge of board to substrate with a continuous bead of sealant to form an elastic closure.
- F. Use screws to fasten gypsum board to framing.
- G. Treat cut edges and holes in moisture resistant gypsum board per manufacturer's recommendations.
- H. Place corner beads at all exterior corners. Use longest practical length. Place edge trims where gypsum board abuts dissimilar materials.

- I. Control Joints: Install control joints where indicated on the Drawings. Where not specifically indicated, install consistent with lines of building spaces as directed by Architect; and as a minimum, install as follows:
 - 1. Where a partition, wall, or ceiling traverses a construction joint (expansion, seismic, or building control element) in the base building structure.
 - 2. Where a wall or partition runs in an uninterrupted straight plane exceeding 30 linear feet.
 - 3. Where a partition transitions from floor-supported framing to overhead hung framing.
- J. Attach metal corner beads, edge trim, decorative dividers, and control joints to the supporting construction at 9 inches on center maximum spacing using same fasteners used to attach gypsum board panels.

3.4 JOINT TREATMENT AND FINISH

- A. Finish gypsum board surfaces in accordance with ASTM C840, GA-214, and GA-216.
- B. Remove dirt, oil, and other materials that may cause lack of bond from all surfaces to receive joint compound.
- C. Set mechanical fasteners below the plane of the board.
- D. Tape, fill, and sand all joints, edges and corners to produce smooth surface ready to receive finishes. Fill all dents, gouges, recesses, or other depressions with joint compound to produce a monolithic surface.
- E. Feather coats onto adjoining surfaces so that camber is maximum 1/32-inch.
- F. Levels of Finish: Finish gypsum board surfaces in accordance with GA-214 as follows:

Area	Finish
Plenum areas above ceilings.	Level 1 finish, no texture.
Smooth finish; satin/eggshell paint finish.	Level 4 finish. Level 5 finish where critical (severe) lighting condition occurs (refer to GA-214 for description of critical lighting).
Smooth finish; semi-gloss paint finish and digital wall coverings.	Level 5 finish.

3.5 TOLERANCES

- A. Maximum variation from true flatness: 1/4 inch in 10 feet in any direction.

3.6 CLEANING AND PROTECTION

- A. Cleaning and Repair: Clean surfaces that have been spotted or soiled during wallboard application.
- B. Defective Work: Remove and replace defective work that cannot be satisfactorily repaired, at the direction of the Architect, with no additional cost to the Owner.
- C. Protection: Protect installed work against damage from other construction work.

- D. Upon completion of the work under this Section, remove all surplus material, rubbish and debris from the premises and leave floors broom clean.

END OF SECTION

SECTION 09 51 13
ACOUSTICAL PANEL CEILINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Suspended metal grid ceiling system.
- B. Lay-in acoustical panels.
- C. Specialty ceilings.
- D. Accessories.

1.2 RELATED SECTIONS

- A. Section 09 29 00 – Gypsum Board.
- B. Divisions 21 – 23 – Mechanical.
- C. Divisions 26 – 28 – Electrical.

1.3 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 Division 01 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. ASCE 7-22 – Minimum Design Loads for Buildings and Other Structures.
 - 2. ASTM A641/A641M – Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.
 - 3. ASTM C635 – Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.
 - 4. ASTM C636 – Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels.
 - 5. ASTM E84 – Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 6. ASTM E580 – Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels in Areas Subject to Earthquake Ground Motions.
 - 7. ASTM E1264 – Standard Classification for Acoustical Ceiling Products.
 - 8. DSA IR 25-2.19 – Metal Suspension Systems for Lay-in Panel Ceilings.
 - 9. UL Fire Resistance Directory and Building Material Directory.

1.4 SUBMITTALS

- A. General: Submit in accordance with Division 01.
- B. Product Data: Provide data on metal grid system components, compression struts, and acoustical units with the specified products and selected attributes clearly identified.
- C. Samples: Submit two samples each, 12 inches square, of metal panels in specified color.
- D. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

1.5 SYSTEM DESCRIPTION

- A. Performance Requirements: Rigidly secure suspended acoustical ceiling system, including integral mechanical and electrical components with maximum deflection of 1/360.

1.6 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Metal Suspension Grid Manufacturer Qualifications: Firm specializing in manufacturing products specified in this Section with a minimum ten years' experience.
 - 2. Lay-in Acoustical Tile Manufacturer Qualifications: Firm specializing in manufacturing products specified in this Section with a minimum ten years' experience.
- B. Single Source Responsibility: Provide metal suspension systems and lay-in acoustical panels from a single manufacturer to ensure system compatibility and quality, and to comply with manufacturer's warranty requirements.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of Division 01.
- B. Deliver products in manufacturer's original containers, dry and undamaged, with seals and labels intact.
- C. Storage and Protection: Store materials in a dry secure place. Protect from weather, surface contaminants, construction traffic, and other potential damage.

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Maintain 60 degrees F minimum uniform temperature and 20 percent to 40 percent relative humidity prior to, during, and after installation of acoustical lay-in tiles.

1.9 SEQUENCING

- A. Sequence work to ensure acoustical ceilings are not installed until building is enclosed, sufficient heat is provided, dust-generating activities have terminated and overhead work is completed, tested and approved.
- B. Install acoustical units after interior wet work is dry.

1.10 MAINTENANCE

A. Extra Materials:

1. Furnish in accordance with Division 01.
2. Provide ten percent extra of each type of panel.

1.11 WARRANTIES

- A. Metal Suspension Systems: Suspension system shall be warranted to be free from defects in materials or factory workmanship and warranted against the occurrence of 50 percent red rust as designated by ASTM D610 test procedures for a period of ten years from the date of installation.
- B. Acoustical Panels: Panels shall be warranted to be free from defects in materials or factory workmanship, or sagging and warping as a result thereof, for one year from the date of installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers – Metal Suspension Systems:

1. Armstrong World Industries, Inc., Lancaster, PA; 888-234-5464, www.armstrong.com. Refer to ICC ESR-1308.
2. USG Interiors, Inc., Chicago, IL; 800-950-3839, www.usg.com. Refer to ICC ESR-1222.
3. CertainTeed Corporation, Malvern, PA; 800-233-8990, www.certainteed.com. Refer to ICC ESR-3336

B. Acceptable Manufacturers – Lay-in Acoustical Panels:

1. Armstrong World Industries, Inc.
2. USG Interiors, Inc.
3. CertainTeed Corporation

C. Substitutions: Under provisions of Division 01.

2.2 METAL SUSPENSION SYSTEM

- A. Metal Suspension Grid: ASTM C635, heavy duty classification in compliance with ASCE 7-05 13.5.6.2.2 (a); hot-dipped galvanized steel (minimum G30); 15/16 inch face; structural tee main and cross members; capped with steel, coated with factory applied baked-on white enamel paint.
1. Main runners, cross runners, splices, expansion devices, and intersection connectors shall be designed to carry a mean ultimate test load of not less than 180 pounds in compression and tension per ASTM E580.

B. Products, Suspension System:

	Main Runner	Cross Tees
1. Armstrong Prelude XL	7301	XL7342 and XL7328
2. USG Donn DX	DX26	DX424 and DX216
3. CertainTeed Seismicsecure Classic Stab	CS12-12-15	CS2-12-12 and CS4-12-12

C. Products, Suspension System Accessories:

	Wall Angle	Seismic Clip at Wall Angle
1. Armstrong	7800	BERC2
2. USG Donn	M7	ACM7
3. CertainTeed	WA15-15	CTSPC-2

2.3 ACCESSORIES – METAL SUSPENSION SYSTEM

- A. Metal suspension system accessories as required for a complete system including but not limited to moldings, stabilizer bars, splices, hold down clips, and light fixture clips.
- B. Wire Hangers: ASTM A641/A641M, zinc-coated wire, Class 1, soft temper, pre-stretched, with a yield stress of at least three times the design load; sizes and gauges as shown on the Drawings and as specified in this Section.
- C. Support channels and hangers: Galvanized primed steel (minimum G30); size and type to suit application and to meet seismic requirements and as specified in this Section.

2.4 ACOUSTICAL LAY-IN PANELS

A. Panel Type CL2:

1. ASTM E1264, Type III, Form 2; Pattern C E.
2. Material: Wet-formed mineral fiber with factory-applied latex paint finish.
3. Properties:
 - a. Color: White.
 - b. Light Reflectance: Minimum 0.86.
 - c. NRC: Minimum 0.65.
 - d. Fire Resistance: CBC Class A (NFPA Class A); Flame Spread: 25 or under; Smoke Developed: 50 or under per ASTM E84.
4. Products:

	Size (ft x ft x in thick)	Edge
Armstrong Georgian, No. 795	2 x 4 x 3/4	Square
USG Pebbled, No. 4800	2 x 4 x 3/4	Square
CertainTeed School Board, No. FF5B-197	2 x 4 x 5/8	Square

B. Accessories – Acoustical Lay-in Panels:

1. Touch-up Paint: Type and color to match acoustical and grid units.

2.5 SPECIALTY CEILING SYSTEMS

A. Metal Panel Ceiling System:

1. Acceptable Manufacturers:

- a. Basis-of-Design: Armstrong World Industries, Inc. Product: MetalWorks Torsion Spring Interior No. 7210M1FXSE.
- b. USG Interiors, Inc.
- c. Substitutions: Under provisions of Division 01.

2. Grid System: 15/16 inch Prelude XL suspension system in black color. Components:

- a. 7301TS 12 foot long heavy duty main beam slotted at 6 inches on center, installed at 4 feet on center.
- b. XL7341 standard 4 foot cross tee.
- c. XL7341TS 4 foot cross tee slotted at four locations.
- d. 7126 1.5 inch spreader hold down.
- e. 7125 1.5 inch x 2 inch box molding.

3. Panel Size: 24 inches x 48 inches.

4. Panel Material: 0.040 inch thick aluminum.

5. Panel Weight: 0.69 pounds per square foot.

6. Surface Finish: Factory-applied powder-coated finish. Color: Effects Sesame (FXSE).

7. Surface Texture: Smooth, unperforated; ASTM E1264, Type XX, Pattern G.

8. Surface Burning Characteristics: Class A when tested per ASTM E84 and complying with ASTM E1264 Classification.

- a. Flame Spread: 25 or less.
- b. Smoke Developed: 50 or less.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine job site conditions and verify field dimensions. Verify hangers will not interfere with other work.

3.2 INSTALLATION – SUSPENDED CEILING METAL GRID

- A. Install in accordance with manufacturer's instructions, DSA IR 25-2.19, CBC Sections 808.1 and 1617A.1.21, ASTM C635, ASTM C636, ASTM E580, ASCE 7-22 13.5.6.2, accepted shop drawings, and as specified in this Section.
- B. Install ceiling metal suspension system after major above ceiling work is complete. Coordinate location of hangers with other work.
- C. Hang suspension system independent of walls, columns, ducts, cable trays, pipes, and conduits.

- D. Use minimum 12 gauge hanger wires for up to and including four foot by four foot grid spacing attached to main runners.
- E. Provide 12 gauge hanger wires at the perimeter ends of all main and cross runners within 8 inches of the support or within 1/4 of the length of the end tee, whichever is least. End connections for runners which are designed and detailed to resist the applied vertical and horizontal forces may be used in lieu of the 12 gauge hanger wires, subject to DSA review and approval.
- F. Provide trapeze or other supplementary support members at obstructions to typical hanger spacing. Provide additional hangers, struts or braces as required at all ceiling breaks, soffits, or discontinuous areas. Where hanger wires are more than one in six out of plumb, provide counter-sloping wires.
- G. Ceiling grid members shall be attached to two adjacent walls using seismic clips, and at least 3/4 inch free of other walls. Where walls run diagonally to ceiling grid system runners, one end of main and cross runner should be free, and a minimum 3/4 inch clear of wall.
- H. At ceiling perimeter area, where main or cross runners are not connected to adjacent walls, provide interconnection between runners at the free end to prevent lateral spreading. A metal strut or a 16 gauge wire with positive mechanical connection to the runner may be used. Interlock is not required where perpendicular distance from the wall to the first parallel runner is 8 inches or less.
- I. Wall angles shall be positively attached to wall studs or blocking.
- J. Seismic clips shall be attached to wall angles with a minimum of two screws, and shall be installed around the entire ceiling perimeter.
 - 1. Pop rivets may be used in lieu of seismic clips at fixed sides where permitted by Evaluation Report.
- K. Expansion joints shall be provided in the ceiling at the intersections of corridors and at junctions of corridors and lobbies or other similar areas.
- L. Where ceiling areas exceed 2500 square feet, a seismic separation joint shall be provided to divide the ceiling into areas not exceeding 2500 square feet. Alternatively, comply with ASTM E580.
- M. Penetrations through the ceiling for fire sprinkler heads and other similar devices that are not integrally tied to the ceiling system in the lateral direction shall have a 2 inch oversized ring, sleeve, or adapter through the ceiling panel to allow free movement of 1 inch in all directions. Alternatively, a flexible fire sprinkler hose fitting that can accommodate 1 inch of ceiling movement per ASTM E580 may be used.
- N. Provide bracing assemblies consisting of a compression strut and four 12 gauge splayed bracing wires oriented 90 degrees from each other. Splayed bracing wires shall be taut and shall not exceed 45 degrees from the ceiling plane. Splices in bracing wires are not permitted. Space bracing assemblies as follows:
 - 1. Not more than 12 feet by 12 feet on center.
 - 2. Not more than 1/2 of the spacing given above from the perimeter wall and at the edge of vertical ceiling offsets.

3. Suspended acoustical ceiling systems with a ceiling area of 144 square feet or less surrounded by walls which connect directly to the structure above, do not require bracing assemblies when attached to two adjacent walls.
- O. Compression struts shall be adequate to resist the vertical component induced by the bracing wires, and shall not be more than one horizontal in six vertical out of plumb.
- P. Fasten hanger wires with not less than three tight turns in 3 inches. Fasten bracing wires with four tight turns in 1-1/2 inches. Install hanger or bracing wire anchors to the structure in a manner that the direction of the wire aligns as closely as possible to the direction of the forces acting on the wire.
- Q. Separate all ceiling hanging and bracing wires at least 6 inches from all unbraced ducts, pipes, conduit, etc.
- R. When drilled-in concrete anchors or shot-in anchors are used in reinforced concrete for hanger wires or when drilled-in concrete anchors are used in reinforced concrete for bracing wires, refer to Drawings for testing frequency and tension test load values. Shot-in anchors in concrete are not permitted for bracing wires. Refer to CBC Chapter 19A if any shot-in or drilled-in anchor fails.
 1. Concrete Anchorage Requirements:
 - a. Anchorage to Concrete: Conform to requirements of CBC Chapter 19A.
 - b. Tests for Post-Installed Anchors in Concrete: Conform to CBC Chapter 19A.
- S. Attach all light fixtures, ceiling mounted air terminals or services, light-weight miscellaneous devices, such as strobe lights, speakers, etc., and all other devices to the ceiling grid runners to resist a horizontal force equal to the weight of the fixtures. Screw or approved fasteners are required. A minimum of two attachments are required per ASTM E580.
 1. Devices weighing less than or equal to ten pounds shall have a 12 gauge slack safety wire anchored to the structure above.
- T. Flush or recessed light fixtures, air terminals or services, and flexible fire sprinkler hose fittings weighing more than 10 pounds and less than 56 pounds, shall be supported directly on the runners of a heavy duty grid system. In addition, provide two 12 gauge slack safety wires attached to the fixture at diagonal corners and anchored to the structure above. Four foot by four foot light fixtures shall have slack safety wires at each corner.
- U. Flush or recessed light fixtures, air terminals or services, and flexible fire sprinkler hose fittings weighing 56 pounds or more shall be independently supported by not less than four taut 12 gauge wires attached to the fixture and to the structure above. The four taut 12 gauge wires, including their attachment to the structure above must be capable of supporting four times the weight of the unit.
- V. Surface-mounted fixtures shall be attached to the main runner with at least two positive clamping devices made of minimum 14 gauge material. Rotational spring catches are not allowed. A 12 gauge suspension wire shall be attached to each clamping device and be attached to the structure above. Provide additional supports when light fixtures are eight feet or longer. Maximum spacing between supports shall not exceed eight feet.

- W. Support pendant mounted light fixtures directly from structure above with hanger wires or cables passing through each pendant hanger and capable of supporting two times the weight of the fixture. A bracing assembly is required where the pendant hanger penetrates the ceiling. Attach pendant hanger to bracing assembly in a manner to transmit horizontal force. Where the pendant mounted light fixture is directly and independently braced below the ceiling, such as with aircraft cables to walls, the brace assembly is not required above the ceiling.
- X. Do not eccentrically load suspended ceiling grid system or produce rotation of runners.
- Y. Install edge molding at intersection of ceiling and vertical surfaces, using longest practical lengths. Miter corners; provide edge moldings at junctions with other interruptions.

3.3 INSTALLATION – LAY-IN CEILING PANELS

- A. Install units in accordance with manufacturer's instructions.
- B. Fit units in place, free from damaged edges or other defects detrimental to appearance and function.
- C. Cut units to fit irregular grid and perimeter edge trim.
- D. Lay directional patterned units one way with pattern parallel to longest room axis. Fit border trim neatly against abutting surfaces.
- E. Install units after above ceiling work is complete.
- F. Install units level, in uniform plane, and free from twist, warp and dents.
- G. Metal panels and panels weighing more than 1/2 pound per square foot, other than mineral fiber acoustical panels, shall be positively attached to the ceiling suspension runners.
- H. Install hold-down clips to retain units tight to grid system within ten feet of all exterior doors.

3.4 ERECTION TOLERANCES

- A. Maximum variation from flat and level surface: 1/8 inch in 10 feet.
- B. Variation from plumb of grid members caused by eccentric loads: Two degrees maximum.

3.5 CLEANING

- A. Clean as recommended by manufacturer. Do not use materials or methods which may damage finish surface or surrounding construction.

END OF SECTION

SECTION 09 68 13

TILE CARPETING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Modular carpet tile.
- B. Resilient wall base, rubber.
- C. Accessories.

1.2 RELATED SECTIONS

- A. Section 09 29 00 – Gypsum Board: Walls to receive resilient carpet base.

1.3 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 Division 01 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. AATCC 134 – Electrostatic Propensity of Carpets.
 - 2. ASTM D1667 – Standard Specification for Flexible Cellular Materials-Vinyl Chloride Polymers and Copolymers (Closed-Cell Foam).
 - 3. ASTM E648 – Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source.
 - 4. ASTM E662 – Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
 - 5. ASTM F710 – Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
 - 6. ASTM F1861 – Standard Specification for Resilient Wall Base.
 - 7. ASTM F2170 – Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.
 - 8. CRI 104 – Standard for Installation of Commercial Carpet.

1.4 SUBMITTALS

- A. Submit under provisions of Division 01.
- B. Product Data: Submit product data for each product specified in this Section with the product and selected attributes clearly identified.

- C. Submit two full size samples illustrating color and pattern for each carpet material specified. Samples shall be labeled to indicate product name, weight, thickness, weave, and manufacturer's name.
 - 1. Physical sample requirements shall be waived if the product specified by manufacturer and product number is submitted.
- D. Submit two 4-inch long samples of wall base material of each color specified; include preformed or job-formed corners, as applicable.
- E. Submit manufacturer's installation instructions.
- F. Submit manufacturer's written Warranty.

1.5 QUALITY ASSURANCE

- A. Concrete slabs to receive tile carpeting shall conform to applicable requirements of ASTM F710.
- B. Manufacturer: Company specializing in commercial carpet tile with sufficient documented experience.
- C. Installer: Company with sufficient documented experience, approved by manufacturer. All work shall be performed by qualified and experienced mechanics working under the supervision of an experienced supervisor.
- D. A certification provided by carpet tile manufacturer shall be furnished to Owner stating that register numbers on carpet tile furnished was manufactured in accordance with these specifications.

1.6 MAINTENANCE DATA

- A. Submit three copies of manufacturer's maintenance data for commercial installation to Owner in an 8-1/2 by 11 inch hard cover binder.
- B. Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, vacuum cleaning, shampooing and recommended type of furniture casters and glides for use with specified carpet tile products.

1.7 REGULATORY REQUIREMENTS

- A. Carpet tile work shall conform to applicable requirements of Americans with Disabilities Act (ADA), Article 4.5.
- B. Carpet work shall comply with 2022 California Building Code, Chapter 11B, Accessibility to Public Buildings, Public Accommodations, Commercial Buildings and Public Housing, Section 11B-302 "Floor or Ground Surfaces", Section 11B-303, "Changes in Level", and Section 11B-302.2, "Carpet" requirements.
 - 1. Carpet tile edges and trim shall conform to CBC Section 11B-302.2 and Section 11B-303 requirements.
 - 2. Fasten exposed edges to floor surfaces with trim along that edge.
 - 3. Carpet tile shall have a level loop, textured loop, level cut pile, or level cut/uncut pile; height (measured from bottom of tuft) not to exceed 1/2 inch.

4. Carpet tile with a pile height exceeding 1/2 inch above adjoining floor surface, shall have a transition ramp between the surfaces.

C. Carpet shall meet testing requirements of ASTM E648 and ASTM E662.

1. Fire-Test-Response Characteristics: Provide products with the critical radiant flux classification indicated in Part 2, as determined by testing identical products per ASTM E648 and ASTM E662 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.

1.8 JOB AND ENVIRONMENTAL CONDITIONS

- A. Comply with CRI 104, Section 7.2, "Site Conditions; Temperature and Humidity" and Section 7.12, "Ventilation."
- B. Store materials for three days prior to installation in area of installation to achieve temperature stability.
- C. Environmental Limitations: Do not install carpet until wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
 1. Maintain minimum 70 degrees F ambient temperature at floor level three days prior to, during, and 24 hours after installation of materials.
- D. Carpet tiles shall be delivered to job site in original mill wrappings, with each box having register number and tags attached, or register number intact.

1.9 EXTRA MATERIALS

- A. Furnish extra materials described below, before installation begins, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
- B. Provide full size units equal to five percent of the total area of carpeting, but not less than ten square yards, of each type and color specified. Extra materials shall be packaged, identified, and delivered to Owner under provisions of Division 01.

1.10 WARRANTY

- A. Special Warranty for Carpet Tiles: Manufacturer's standard form in which manufacturer agrees to repair or replace components of carpet tile installation that fail in materials or workmanship within specified warranty period.
 1. Warranty does not include deterioration or failure of carpet tile due to unusual traffic, failure of substrate, vandalism, or abuse.
 2. Failures include, but are not limited to, more than ten percent loss of face fiber, edge raveling, snags, runs, loss of tuft bind strength, dimensional stability, excess static discharge, and delamination.
 3. Warranty Period: Manufacturer's Lifetime Commercial Limited Warranty.
- B. Provide installer's two year warranty commencing from the date of Project Completion.
- C. Submit warranty to Architect, under provisions of Division 01.

PART 2 PRODUCTS

2.1 MANUFACTURERS AND PRODUCTS

A. Acceptable Manufacturers:

1. Mohawk Group, Calhoun, GA; 800-554-6637, www.mohawkgroup.com. Product: Learn and Live Collection, Side Stripe #GT419.
2. Tandus Centiva, Dalton, GA; 800-248-2878, www.tandus.com.
3. Shaw Contract Group, Calhoun, GA; 800-257-7429, www.shawcontractgroup.com.
4. Interface, LaGrange, GA; 800-634-6032, www.interface.com.

B. Substitutions: Under provisions of Division 01.

2.2 CARPET TILE MATERIALS

A. Carpet Tile: Conforming to the following criteria:

1. Size: 24 inches by 24 inches.
2. Construction: Tufted.
3. Surface Texture: Textured patterned loop.
4. Gauge: 1/12 inch.
5. Stitches per Inch: 12.4.
6. Tufted Pile Weight: 17.00 ounces per square yard.
7. Total Thickness: 0.224 inch.
8. Density: 7650.
9. Fiber Type: Duracolor Tricor Premium Nylon.
10. Dye Method: Solution dyed.
11. Soil/Stain Protection: EcoSentry Soil Protection.
12. Backing: EcoFlex ONE.
13. Flammability: Class 1 (CRF: 0.45 watts per square centimeter or higher), per ASTM E648.
14. Smoke Density: NBS Smoke Density, less than 450 per ASTM E662.
15. Static Propensity: AATCC-134, 3.5 KV or lower; permanent conductive fiber.
16. Color: As indicated on Drawings.

B. Subfloor Filler: Portland cement type at concrete substrate as recommended by flooring material manufacturer.

1. Acceptable Manufacturers and Products:

- a. UZIN products provided by UFLOOR Systems, Inc.
- b. Ardex Feather Finish.

C. Primers and Adhesives:

1. Primers: As recommended by carpet tile and adhesive manufacturer.

2. Adhesives: Water-resistant, mildew-resistant, non-staining, pressure-sensitive type to suit products and subfloor conditions indicated, that complies with flammability requirements for installed carpet tile and is recommended by carpet tile manufacturer for releasable installation.

2.3 MANUFACTURERS AND PRODUCTS, RESILIENT WALL BASE

A. Acceptable Manufacturers:

1. Mannington Commercial. Product: BurkeBase.
2. Roppe Corporation.
3. Tarkett.
4. Substitutions: Under provisions of Division 01.

B. Wall Base Materials:

1. Wall Base: ASTM F1861, Type TS, Group 1 (rubber, vulcanized, thermoset).
2. Style: Cove (base with toe), top set; or straight (flat or toeless), as indicated on Drawings.
3. Height: 4 inches, unless otherwise indicated.
4. Thickness: 1/8 inch, minimum.
5. Lengths: Coils in manufacturer's standard length.
6. Flammability: Class 1 (CRF: 0.45 watts per square centimeter or higher), per ASTM E648.
7. Smoke Density: NBS Smoke Density, less than 450 per ASTM E662.
8. Colors: As selected by Architect.

C. Wall Base Accessories:

1. Preformed end stops, and outside corners, of the same material, manufacturer, size, and color as wall base.
2. Adhesive: Water-based type, as recommended by base manufacturer for substrates indicated.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that substrate surfaces are smooth and flat with maximum variation of 3/16 inch in 10 feet and are ready to receive work.
- B. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for concrete relative humidity and alkalinity range, installation tolerances, and other conditions affecting carpet tile performance. Examine carpet tile for type, color, pattern, and potential defects.
- C. Contractor shall verify that concrete floors are dry and exhibit negative alkalinity, carbonization or dusting. The concrete relative humidity and alkalinity tests shall be performed per ASTM F2170 and ASTM D1308 respectively, and shall be documented prior to installation of resilient flooring.

1. Maximum Relative Humidity of Concrete: 75 percent.
 2. pH Range: 8-9.
- D. When concrete relative humidity and alkalinity test results exceed the values specified above, contact Architect for direction.
- E. Carpet tile shall not be installed when the atmospheric relative humidity exceeds sixty percent. Contractor shall provide dehumidifiers as required to maintain sixty percent maximum relative humidity for the duration of the carpet tile installation.
- F. Beginning of installation means acceptance of existing substrate and site conditions.

3.2 PREPARATION

- A. General: Comply with ASTM F710, CRI 104, and with carpet manufacturer's written installation instructions for preparing substrates.
- B. Remove sub-floor ridges and bumps. Fill low spots, cracks, joints, holes and other defects with sub-floor filler.
- C. Apply, trowel and float filler to leave smooth, flat, hard surface. Repair all floor irregularities.
- D. Fill or level cracks, holes and depressions 1/8 inch wide or wider, and protrusions more than 1/32 inch, unless more stringent requirements are required by manufacturer's written instructions.
- E. Prohibit traffic until filler is cured.
- F. Broom and vacuum clean substrates to be covered immediately before installing carpet.
- G. When required by manufacturer, apply primer to concrete surfaces.
- H. Allow carpet to acclimate at installation location for at least 72 hours prior to beginning installation.

3.3 CARPET TILE INSTALLATION

- A. Comply with CRI 104 and with carpet tile manufacturer's written installation instructions.
- B. Installation Pattern: Install modular tile using the vertical ashlar technique.
- C. Installation Method: As recommended in writing by carpet tile manufacturer.
- D. Maintain dye lot integrity. Do not mix dye lots in the same area.
- E. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet tile manufacturer.
- F. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- G. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use nonpermanent, non-staining marking device.

- H. Install pattern parallel to walls and borders, unless otherwise indicated on Drawings.
- I. Install edge strips at unprotected or exposed edges of carpet tile including terminations at thresholds and where carpet tile abuts a dissimilar finished floor material. Carpet tile edges and trim shall comply with CBC Section 11B-302.2 and Section 11B-303 requirements.

3.4 RESILIENT WALL BASE INSTALLATION

- A. Install resilient wall base on entire wall perimeter including toe spaces and open ends of cabinets. Set all bases in adhesive as recommended by the manufacturer. All joints in bases, including those at any preformed corners, shall be plumb, flush, tight, and inconspicuous. Seat top edge and back of base firmly against the wall.
- B. Fit joints tight and vertical. Maintain minimum measurement of 18 inches between joints.
- C. Corners and Ends:
- D. At external corners, use preformed units. Install preformed corners before installing straight pieces.
- E. Interior corners shall be mitered and tightly fitted. Use straight pieces of maximum lengths possible.
- F. At exposed ends use preformed units.
- G. Install base on solid backing. Bond tight to wall and floor surfaces.
- H. Scribe and fit to door frames and other interruptions.
- I. Do not stretch resilient base during installation.

3.5 CLEANING

- A. Remove excess adhesive from floor, base and wall surfaces without damage. Remove and dispose of all scraps, cartons and rubbish upon completion of the work. Remove all loose yarn with sharp scissors.
- B. Clean carpet tiles of all spots with proper spot remover and vacuum clean carpet tile surfaces.
- C. Wall Base, Rubber: Clean by wiping with soft cloth dampened with warm water.

3.6 PROTECTION

- A. Prohibit traffic from carpet tile areas for 24 hours after installation. Installer shall take necessary steps to protect carpet tile work and the work of other trades during carpet tile installation, and shall be responsible for restoration of work or property damaged by carpet tile installer.
- B. Protect installed carpet tile to comply with CRI 104, Section 16, "Protection of Indoor Installations".
- C. Protect carpet tile from damage during construction operations for the remainder construction period. Cover carpet tile until Project Completion.

END OF SECTION

SECTION 09 72 26
DIGITAL WALL COVERINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Surface preparation.
- B. Wall covering, non-PVC, with mural.
- C. Adhesives and accessories.

1.2 RELATED SECTIONS

- A. Section 09 29 00 – Gypsum Board Systems: Wall substrate.

1.3 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 Division 01 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 D1308 – Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes.
 - 2. ASTM E84 – Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 3. ASTM F1141 – Standard Specification for Wallcovering.
 - 4. ASTM G21 – Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.
 - 5. NFPA 255 – Standard Method of Test of Surface Burning Characteristics of Building Materials.
 - 6. UL 723 – Test for Surface Burning characteristics of Building Materials.
 - 7. California Building Code (CBC), 2022 Edition.

1.4 SUBMITTALS

- A. Submit under provisions of Division 01.
- B. Product Data: Submit product data for each product specified in this Section with the product and selected attributes clearly identified.
- C. Samples: Provide paper proof of image and layout for review. When paper proof has been accepted, provide strike-off of image and layout on specified wall covering material.
 - 1. Architect to select portion of full-size artwork for strike off.

- D. Submit manufacturer's installation and maintenance instructions, including special procedures and treatment of perimeter conditions.

1.5 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in manufacturing commercial wall fabrics with sufficient documented experience, whose published product literature indicates compliance of wall coverings specified.
- B. Applicator: Company specializing in installation of commercial fabric wall covering performed by skilled applicators with sufficient documented experience.
- C. Materials Standards: UL rating and labeling, Smoke Toxicity, Fire Detection Characteristics Composition, Physical properties.
- D. Imperfections such as engraving roller die marks, roller repeat marks, glossy surface appearance, or other features deemed not in conformance with the specified materials will be cause for rejection if evidenced in either the submitted samples or the manufactured material delivered to the job.
- E. Each roll of material delivered to the job site shall have UL labels with specified fire-resistance rating.

1.6 REGULATORY REQUIREMENTS

- A. Conform to California Building Code, 2022 Edition, Chapter 8 "Interior Finishes" requirements for flame spread and smoke density ratings for wall coverings, when tested to ASTM E84; and NFPA 255.
- B. Fire-Test-Response Characteristics: As determined by testing identical wall coverings applied with identical adhesives to substrates according to test method indicated below by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Surface-Burning Characteristics: As follows, per ASTM E84:
 - a. Flame-Spread Index: 25 or less.
 - b. Smoke-Developed Index: 450 or less.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to site under provisions of Division 01.
- B. Store and protect products under provisions of Division 01.
- C. Inspect roll materials on site to verify acceptance.
- D. Protect packaged adhesive from temperature cycling and cold temperatures.
- E. Do not store roll goods on end.

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Provide continuous ventilation and heating facilities to maintain substrate surface and ambient temperatures above 65 degrees F, unless required otherwise by manufacturer's instructions.

- B. Do not apply adhesive when substrate surface temperature or ambient temperature is below 65 degrees F or relative humidity is above forty percent.
- C. Maintain these conditions 72 hours before, during and continuously after installation of wall covering.
- D. Lighting: Do not install wall covering until a permanent level of lighting is provided on the surfaces to receive wall covering.
 - 1. Provide lighting level of eighty foot candles measured mid-height at substrate surfaces to receive wall coverings.
- E. Protect adjoining surfaces against damage and soiling.

1.9 WARRANTY

- A. Submit warranties in accordance with Division 01 requirements.
- B. Wall Coverings: Submit manufacturer's written warranty against manufacturing defects for a period of five years, from the date of Project Completion.
- C. Primer and Adhesive: Submit manufacturer's written warranty against loss of adhesion and staining for a period of five years, from the date of Project Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS AND PRODUCTS

- A. Acceptable Manufacturers:
 - 1. DreamScape, a Division of Roysons Corporation, Rockaway, NJ; 973-625-7923, www.dreamscapewalls.com. Product: Dreamscape Smooth Matte.
 - 2. Koroseal Digital Surfaces, a Division of Koroseal Interior Products, LLC, Fairlawn, OH; 877-539-2557, www.koroseal.com. Product: Option e.
 - 3. Wolf Gordon, Inc., Long Island City, NY; 800-347-0550, www.wolf-gordon.com.
- B. Substitutions: Under provisions of Division 01.

2.2 DIGITAL WALL COVERING

- A. Materials: Type II non-PVC wall covering material with the following properties:
 - 1. Fabric: 100 percent polyester/natural fiber technology.
 - 2. Thickness: 0.022 inch.
 - 3. Total Weight: 14.0 ounces per lineal yard; 9.3 ounces per square yard.
 - 4. Roll Width: 54 inches.
 - 5. Permeability: 66 perms per ASTM E96.
 - 6. Fire Hazard Classification: Class A; as tested in accordance with ASTM E84 Tunnel Test; flame spread less than 25, smoke developed less than 450.
 - 7. Recycled Content: Minimum 31 percent post-consumer recycled content.
 - 8. Printing: Single-sided digital printing with latex, UV curable, solvent, and eco-solvent inks.

- B. Graphics: Custom design digital images as provided by Architect. Graphics shall be applied to wall covering material by fabricator's proprietary process. Provide pattern and design samples for Architect's review and acceptance prior to final printing on wall covering.
- C. Primers: Provide products by Roman Decorating Products, Calumet City, IL; 708-891-0770, www.romandecoratingproducts.com; unless otherwise recommended by wall covering manufacturer.
 - 1. R-35 Adhesion Promoting Primer PRO-935 by Roman Decorating Products.
 - 2. ULTRA-PRIME PRO-777 Primer by Roman Decorating Products.
 - 3. ULTRA PLUS Permeable Wallcovering Primer PRO-990 with Mildew Guard by Roman Decorating Products.
 - a. Mold and mildew-resistant.
 - b. VOC: Less than 20 g/L.
 - c. Vapor Permeance: 32 perms.
 - 4. ULTRA PLUS PRO-988 Primer with Mildew Guard by Roman Decorating Products.
 - a. VOC: Less than 15 g/L.
- D. Adhesives: Provide products by Roman Decorating Products, Calumet City, IL; 708-891-0770, www.romandecoratingproducts.com; unless otherwise recommended by wall covering manufacturer.
 - 1. ULTRA PLUS Clay Adhesive PRO-788 with Mildew Guard by Roman Decorating Products.
 - a. Mold and mildew-proof adhesive.
 - b. VOC: 20 g/L, maximum.
 - 2. ULTRA PLUS PRO-888 Clear Adhesive with Mildew Guard by Roman Decorating Products.
 - a. Clear, mold and mildew-resistant adhesive.
 - b. VOC: 15 g/L, maximum.
 - 3. ULTRA PLUS Permeable Wallcovering Adhesive PRO-550 with Mildew Guard by Roman Decorating Products.
 - a. Mold and mildew-resistant.
 - b. VOC: 20 g/L, maximum.
 - c. Vapor Permeance: 25 perms.
 - 4. EXTRA STRENGTH Clay Adhesive PRO-732 by Roman Decorating Products.
 - a. VOC: 20 g/L, maximum.
 - 5. Primer and Adhesive Warranty: Manufacturer's Five-year warranty against loss of adhesion.

2.3 ACCESSORIES

- A. Adhesive: Type recommended by wall covering manufacturer in writing, for use with specific wall covering and substrate.
 - 1. Mildew resistant, non-staining adhesive, water-based type.
 - 2. VOC Content: 50 g/L or less, when calculated according to 40 CFR 59 (EPA Method 24).

- B. Substrate Filler: As recommended by adhesive and wall covering manufacturers, compatible with substrate.
- C. Substrate Primer and Sealer: Mildew-resistant, type as recommended in writing by wall covering manufacturer.
- D. Seam Tape: As recommended in writing by wall covering manufacturer.

PART 3 EXECUTION

3.1 INSPECTION

- A. Verify that substrate surfaces are dry and ready to receive work and conform to requirements of the wall covering manufacturer.
- B. Verify flatness tolerance of surfaces does not vary more than 1/8 inch in 10 feet nor vary at a rate greater than 1/16 inch per foot.
- C. Measure moisture content of substrates using an electronic moisture meter. Do not apply wall coverings unless moisture content of surface is below twelve percent.
- D. Beginning of installation means acceptance of existing surfaces.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions for surface preparation.
- B. Clean substrates of substances that could impair bond of wall covering, including dirt, oil, grease, mold, mildew, and incompatible primers.
- C. Correct defects, fill cracks, and smooth irregularities with filler; sand smooth.
 - 1. Area to receive digital wall coverings shall have a Level 5 finish.
- D. Painted Surfaces: Check painted surfaces for pigment bleeding. Sand gloss, semigloss, and eggshell finish with fine sandpaper. Treat areas susceptible to pigment bleeding.
- E. Apply primer paint to substrate surfaces as recommended by manufacturer. Allow to dry. Lightly sand smooth.
- F. Sand glossy surfaces to remove gloss.
- G. Remove electrical, telephone and miscellaneous wall plates and covers and surface-mounted fixtures.
- H. Vacuum clean surfaces free of loose particles.
- I. Acclimatize wall-covering materials by removing them from packaging in the installation areas not less than 24 hours before installation.

3.3 INSTALLATION

- A. General: Comply with wall-covering manufacturers' written installation instructions applicable to products and applications indicated, except where more stringent requirements apply.

- B. Cut wall covering materials in manufacture's consecutive numerical bolt sequence starting with highest number bolt and working to the lowest number bolt.
- C. Install strips in same order as cut from roll.
- D. Apply adhesive and wall covering in accordance with manufacturer's written instructions.
- E. Apply adhesive to wall fabric surface immediately prior to application of wall covering.
- F. Razor trim edges on flat worktable. Do not razor cut on gypsum board surfaces.
- G. Apply wall covering smoothly, without wrinkles, gaps or overlaps. Eliminate air pockets and ensure full bond to substrate surface. Butt edges tight.
- H. Horizontal seams are not acceptable.
- I. Do not seam within 6 inches of internal or external corners.
- J. Install wall covering before installation of bases, cabinets, hardware or items attached to or spaced slightly away from wall surface. Do not install wall covering more than 1/4 inch below top of resilient base.
- K. Cover spaces above and below windows and above doors in pattern sequence from roll.
- L. Remove excess wet adhesive from seam before proceeding to next wall covering sheet. Wipe clean with dry cloth.
- M. Vertical seams of wall coverings shall be plumb and true.
- N. The wall covering shall be smoothed to the hanging surface using a stiff bristled sweep brush or a flexible board-knife to eliminate air bubbles.

3.4 CLEANING

- A. Clean wall coverings of excess adhesive, dust, dirt and other contaminants.
- B. Remove excessive adhesive from adjacent surfaces as work progresses.
- C. Replace wall plates and accessories removed prior to work of this Section.

3.5 PROTECTION

- A. Protect finished installation under provisions of Division 01.

END OF SECTION

SECTION 09 91 00

PAINTING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Surface preparation.
- B. Painting schedules, including painting of exposed surfaces, except as otherwise specified or indicated.

1.2 RELATED SECTIONS

- A. Section 09 29 00 – Gypsum Board.
- B. Divisions 21 – 23 – Mechanical.
- C. Divisions 26 – 28 – Electrical.

1.3 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 Division 01 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, Manuals and Codes:
 - 1. ASTM D523 – Standard Test Method for Specular Gloss.
 - 2. The Master Painters Institute, MPI Gloss and Sheen Levels.
 - 3. The Master Painters Institute, MPI Maintenance Repainting Manual.

1.4 SUBMITTALS

- A. Submit product data under provisions of Division 01.
- B. Provide product data on all painting products and accessories.
- C. Submit four brush-out samples 8 inches by 10 inches in size illustrating color and gloss level selected for each surface finishing product scheduled.
- D. During the Contract Closeout period, provide two copies of coating maintenance manual including, but not limited to, location of manufacturer's paint store closest to the project site, area summary with finish schedule, area detail designating where each product, color, and finish was used, product data sheets and material safety data sheets for each product used, color formulations for each color used, cleaning instructions, touch-up procedures, and color samples of each color and finish used.

1.5 QUALITY ASSURANCE

- A. Product Manufacturer: Company specializing in manufacturing quality paint and finish products with sufficient documented experience.
- B. Applicator: Company specializing in commercial painting and finishing with sufficient documented experience.
- C. Gloss Levels: Per Master Painters Institute (MPI) gloss standards "MPI Gloss and Sheen Levels," measured in accordance with ASTM D523.

GLOSS LEVEL	DESCRIPTION	GLOSS AT 60 DEGREES ASTM D523	SHEEN AT 85 DEGREES ASTM D523
G1	A traditional matte finish – flat.	5 units, maximum	and 10 units, maximum
G2	A high side sheen flat - "a velvet-like" finish.	10 units, maximum	and 10 - 35 units
G3	A traditional "eggshell-like" finish.	10 - 25 units	and 10 - 35 units
G4	A "satin-like" finish.	20 - 35 units	and 35 units, minimum
G5	A traditional semi-gloss.	35 - 70 units	-
G6	A traditional gloss.	70 - 85 units	-
G7	A high gloss.	More than 85 units	-

- D. Previously Painted Surfaces Requiring Repainting: Surface preparation, priming, and paint application shall conform to applicable requirements of MPI Maintenance Repainting Manual.

1.6 REGULATORY REQUIREMENTS

- A. Conform to California Building Code for flame spread and smoke density requirements for finishes.
- B. Furnish certification that all paint coatings furnished for the location of the project comply with the EPA clean air act for permissible levels of volatile organic content for architectural coatings applied in California as designated by California Air Resources Board (CARB).

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to site in manufacturer's original unopened, labeled containers; inspect to verify acceptance.
- B. Store and protect products from abuse and contamination.
- C. Container labeling is to include manufacturer's name, type of paint, brand name, brand code, coverage, surface preparation, drying time, cleanup, color designation and instructions for mixing and reducing.
- D. Store paint materials at minimum ambient temperature of 50 degrees F and a maximum of 90 degrees F, in well-ventilated area, unless required otherwise by manufacturer's instructions.
- E. Take precautionary measures to prevent fire hazards and spontaneous combustion.

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Provide continuous ventilation and heating facilities to maintain surface and ambient temperatures above 50 degrees F for 24 hours before, during and 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.
- B. Minimum Application Temperatures for Paints: 50 degrees F, unless required otherwise by manufacturer's instructions.
- C. Provide lighting level of 80 foot candles measured mid-height at substrate surface.

1.9 EXTRA STOCK

- A. Provide a new and unopened one-gallon container of each type, color, and sheen to Owner.
- B. Label each container with color, in addition to the manufacturer's label.

PART 2 PRODUCTS

2.1 PAINT SYSTEMS, GENERAL

- A. Material Compatibility:
 - 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

2.2 SUSTAINABLE DESIGN REQUIREMENTS

- A. VOC Content of Field-Applied Paints and Coatings: Provide products that comply with the SCAQMD rule 1113 limits for VOC content.

2.3 ACCEPTABLE MANUFACTURERS – PAINT

- A. Refer to Table at the end of this Section.
- B. Substitutions: Under provisions of Division 01.

2.4 ACCEPTABLE MANUFACTURERS – PRIMER SEALERS

- A. Refer to Table at the end of this Section.
- B. Substitutions: Under provisions of Division 01.

2.5 MATERIALS

- A. All paint materials shall be provided from a single manufacturer unless noted otherwise in this Section.
- B. Coatings:
 - 1. Ready mixed. Process pigments to a soft paste consistency capable of being readily and uniformly dispersed to a homogeneous coating.
 - 2. Good flow and brushing properties; capable of drying or curing free of streaks or sags.

- C. All field-applied interior paints shall use zero VOC colorants.
- D. Accessory Materials: All other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.

2.6 FINISHES

- A. Refer to schedule at end of Section for surface finish schedule. Refer to Drawings for color schedule.

PART 3 EXECUTION

3.1 INSPECTION

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- C. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 - 1. Gypsum Wallboard: 18 percent.
- D. Beginning of application constitutes acceptance of existing surfaces.

3.2 PREPARATION

- A. Remove electrical plates, hardware, light fixture trim, and fittings prior to preparing surfaces for painting.
- B. Correct minor defects and clean surfaces that affect work of this Section.
- C. Seal marks that may bleed through surface finishes.
- D. Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- E. Gypsum Board Surfaces: Latex fill minor defects. Spot-prime defects after repair.
- F. Previously Painted Surfaces: Existing conditions vary. Evaluate degree of surface degradation. Surface preparation methods shall conform to applicable requirements of MPI Maintenance Repainting Manual.

3.3 PROTECTION

- A. Protect elements surrounding the work of this Section from damage or disfiguration.
- B. Repair damage to other surfaces caused by work of this Section.
- C. Furnish drop cloths, shields and protective methods to prevent spray or droppings from disfiguring other surfaces.
- D. Remove empty paint containers from site.

3.4 APPLICATION

- A. Apply products in accordance with manufacturer's instructions.
 - 1. Paint mil thicknesses shall not be less than the minimums recommended by the paint manufacturers.
- B. Do not apply finishes to surfaces that are not dry.
- C. Apply each coat to uniform finish.
- D. Apply each coat of paint slightly darker than preceding coat unless otherwise approved.
- E. Sand lightly between coats to achieve required finish.
- F. Allow applied coat to dry before next coat is applied.

3.5 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT

- A. See Divisions 21 – 23 and 26 – 28 for other items requiring painting.
- B. Paint interior surfaces of air ducts and convector heating cabinets that are visible through grilles and louvers with one) coat of flat black paint, to limit of sight line. Paint dampers exposed behind grilles to match face panels.
- C. Lightly sand existing grilles prior to painting black.
- D. Reinstall electrical plates, hardware, light fixture trim, and fittings removed for surface preparation or painting.
- E. Do not paint factory-finished mechanical and electrical equipment.

3.6 CLEANING

- A. As Work proceeds, promptly remove paint where spilled, splashed, or spattered.
- B. During progress of Work, maintain premises free of unnecessary accumulation of tools, equipment, surplus materials, and debris.
- C. Collect cotton waste, cloths, and material which may constitute a fire hazard, place in closed metal containers, and remove from site daily.

3.7 PAINTING SCHEDULE – INTERIOR SURFACES: Descriptions in schedule apply to new and previously painted surfaces, except surface preparation and priming of previously painted surfaces shall be in accordance with applicable requirements of MPI Maintenance Repainting Manual.

- A. Gypsum Board:
 - 1. 1st coat – PVA Flat Primer Sealer
 - 2. 2nd and 3rd coats – Acrylic Semi-Gloss Enamel
- B. Gypsum Board:
 - 1. 1st coat – PVA Flat Primer Sealer
 - 2. 2nd and 3rd coats – Acrylic Eggshell Enamel

C. Ferrous Metal (Industrial) – For use at interior exposed structural steel:

1. 1st coat – Epoxy Flat Primer
2. 2nd and 3rd coats – Aliphatic Urethane Gloss Enamel

D. Ferrous Metal:

1. 1st coat – Acrylic Flat Primer
2. 2nd and 3rd coats – Acrylic Eggshell Enamel

E. Ferrous Metal:

1. 1st coat – Acrylic Flat Primer
2. 2nd and 3rd coats – Acrylic Semi-Gloss Enamel

APPLICATION	TYPE	MPI Gloss Level	MANUFACTURERS				
			Dunn Edwards/US Coatings	PPG Paints	Sherwin Williams	Kelly Moore/Devoe	Benjamin Moore
PRIMERS							
Interior Ferrous Metal (Industrial)	Epoxy	G1	EG2000	Amerlock 2 VOC	B58W00620	Amerlock 2 VOC	Corotech V155
Zero VOC Interior Gypsum Board	Acrylic	G1	VNSL00	9-900	B28 2600	971/973	N534
Interior Gypsum Board	PVA	G1	VNSL00	6-2	B28 2600	971	N534
Interior Ferrous Metal	Acrylic	G1	BRPR00	4020	B66W01251	6646	HP04
FINISHES							
Interior Ferrous Metal (Industrial)	Aliphatic Urethane Enamel	G6	UG3010 VOC	Amershiel VOC	Acrolon 100	Amershiel VOC	Corotech V500
Zero VOC Interior Gypsum Board	100 percent Acrylic	G1	SZRO10	9-110XI	Solo A74	1600	536
Zero VOC Interior Gypsum Board	100 percent Acrylic	G3	SWLL30	9-310XI	Solo A75	1610	537
Zero VOC Interior Gypsum Board	100 percent Acrylic	G5	SWLL50	9-510XI	Solo A76	1650	539
Interior Gypsum Board	100 percent Acrylic	G3	SWLL30	589-10	Solo A75	1610	537
Interior Gypsum Board	100 percent Acrylic	G5	SWLL50	9-510XI	Solo A76	1650	539
Interior Ferrous Metal	100 percent High Performance Acrylic	G3	Sierra Performance MetalMax DTM Acrylic Enamel	90-474	B66W01251	2887	V342
Interior Ferrous Metal	100 percent High Performance Acrylic	G5	Sierra Performance MetalMax DTM Acrylic Enamel	4216	B66W01151	2888	V341

END OF SECTION

SECTION 10 14 00

SIGNAGE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Interior Signages:
 - 1. Accessibility Signage.
 - 2. Directional Entry Signage.
 - 3. Evacuation Maps.

1.2 RELATED SECTIONS

- A. Section 08 81 00 – Glass Glazing.
- B. Section 09 29 00 – Gypsum Board.

1.3 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 Division 01 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. ADA – Americans with Disabilities Act - 2010 Standards for Accessible Design.
 - 2. ASTM E84 – Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 3. 2022 California Building Code (CBC).
 - 4. UL Building Materials Directory.

1.4 SUBMITTALS

- A. General: Submit in accordance with Division 01.
- B. Shop Drawings: Submit shop drawing for each sign and plaque to show construction, sections, text, character spacing, fonts, colors, and mounting details.
- C. Product Data: Submit product data for each product specified in this Section with the product and selected attributes clearly identified.
- D. Samples: Submit one full-size physical sample of each of the following sign types:
 - 1. Acrylic functional room sign demonstrating font, color, symbols, and braille characters.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Firm specializing in manufacturing products specified in this Section with a minimum five years' experience.
- B. Regulatory Requirements:
 - 1. Accessibility Signage, General: Provide signage in accordance with California Code of Regulations, Title 24, Part 2, Chapter 11B, Sections 11B-216 and 11B-703, 2022 California Building Code.
 - a. Finish, Color, and Contrast: Characters, pictograms, symbols and their backgrounds shall have a non-glare finish. Characters shall contrast with their background with either light characters on a dark background or dark characters on a light background.
 - b. Depth: Raised characters shall be 1/32 inch minimum above their background.
 - c. Case:
 - 1) Raised Characters: Characters shall be uppercase.
 - 2) Visual Characters: Characters shall be uppercase or lowercase or a combination of both.
 - d. Style: Characters shall be conventional in form. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms. Raised characters shall be sans serif.
 - e. Proportions: Visual characters on signs shall be selected from fonts where the width of the uppercase letter "O" is 60 percent minimum and 110 percent maximum of the height of the uppercase letter "I". Stroke thickness of the uppercase letter "I" shall be 15 percent maximum of the height of the character.
 - f. Character Height:
 - 1) Raised Characters: Character height measured vertically from the baseline of the character shall be 5/8 inch minimum and 2 inches maximum based on the height of the uppercase letter "I". Stroke thickness of tactile characters shall be 15 percent maximum of the height of the character.
 - 2) Visual Characters: Minimum character height shall comply with CBC Table 11B-703.5.5. Viewing distance shall be measured as the horizontal distance between the character and an obstruction preventing further approach towards the sign. Character height shall be based on the uppercase letter "I".
 - g. Character Spacing:
 - 1) Raised Characters: Character spacing shall be measured between the two closest points of adjacent raised characters within a message, excluding word spaces. Where characters have rectangular cross sections, spacing between individual raised characters shall be 1/8 inch minimum and four times the raised character stroke width maximum, Where characters have other cross sections, spacing between individual raised characters shall be 1/16 inch minimum and four times the raised character stroke width maximum at the base of the cross sections, and 1/8 inch minimum and four times the raised character stroke width maximum at the top of the cross sections. Characters shall be separated from raised borders and decorative elements 3/8 inch minimum. Spacing between individual tactile characters shall comply with CBC Section 11B-703.2.7 and Section 11B-703.2.8.

- 2) Visual Characters: Character spacing shall be measured between the two closest points of adjacent characters, excluding word spaces. Spacing between individual characters shall be 10 percent minimum and 35 percent maximum of character height.
 - h. Line Spacing: Spacing between the baselines of separate lines of characters within a message shall be 135 percent minimum and 170 percent maximum of the character height.
 - i. Format: Text shall be in horizontal format.
 - j. Braille: Comply with CBC Section 11B-703.3, contracted Grade 2 Braille.
 - 1) Dimensions and Capitalization: Braille dots shall have a domed or rounded shape and shall comply with CBC Table 11B-703.3.1. The indication of an uppercase letter or letters shall only be used before the first word of sentences, proper nouns and names, individual letters of the alphabet, initials, and acronyms.
 - 2) Position: Braille shall be positioned below the corresponding text in a horizontal format, centered under text. If text is multi-lined, Braille shall be placed below the entire text. Braille shall be separated 3/8 inch minimum and 1/2 inch maximum from any other tactile characters and 3/8 inch minimum from raised borders and decorative elements.
 - k. Pictograms: Comply with CBC Section 11B-703.6.
 - 1) Pictogram Field: Pictograms shall have a field height of six inches minimum. Characters and Braille shall not be located in the pictogram field.
 - 2) Text Descriptors: Pictograms shall have text descriptors located directly below the pictogram field. Text descriptors shall comply with CBC Sections 11B-703.2, 11B-703.3, and 11B-703.4.
 - l. Symbols of Accessibility: Symbols of accessibility shall comply with CBC Section 11B-703.7.
 - m. Edges and verticals on geometric symbols shall comply with CBC Section 11B-703.7.2.6.4.
2. Accessibility Signage:
- a. Tactile Exit Signage: CBC Chapter 10 "Means of Egress," Section 1013 "Exit Signs," Section 1013.1 "Where Required," and Section 1013.4 "Raised Character and Braille Exit Signs".
 - 1) Tactile signs required by CBC Section 1013.4 need not be provided with illumination per Section 1013.3.
 - b. Other Accessible Signage: CBC Chapter 11B, "Accessibility to Public Buildings, Public Accommodations, Commercial Buildings and Public Housing."
 - 1) Detailed Requirements for Accessible Signage: CBC Chapter 11B, Division 7, Section 11B-703, "Signs".
 - a) Sign Mounting Heights and Locations: CBC Sections 11B-703.4, 11B-703.5.6, and 11B-703.7.2.6.
 - b) Symbols of Accessibility: CBC Section 11B-703.7, "Symbols of Accessibility".
 - c) International Symbol of Accessibility: CBC Section 11B-703.7.2.1, "International Symbol of Accessibility".

- c. Field Inspection: Signs and identification shall be field inspected after installation and approved by the enforcing agency, in accordance with CBC Section 11B-703.1.1, "Plan Review and Inspection".

C. Pre-Installation Meetings:

1. Conduct pre-installation meeting in accordance with provisions of Division 01.
2. Convene pre-installation meeting one week prior to commencing work of this Section.
3. Coordinate work in this Section with work in related Sections.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of Division 01.
- B. Deliver products in manufacturer's original containers, dry and undamaged, with seals and labels intact.
- C. Storage and Protection: Store materials in a dry secure place. Protect from weather, surface contaminants, corrosion, construction traffic, and other potential damage.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:

1. WeidnerCA, Sacramento, CA; phone: 916-452-8000, URL: www.weidnerca.com.
2. ASI-Modulex, Dallas, TX; phone: 800-274-7732, URL: www.asisignage.com.
3. In Pro Corporation, Muskego, WI; phone: 800-222-5556, URL: www.inprocorp.com.
4. Mohawk Sign Systems, Inc., Schenectady, NY; phone: 518-842-5303, URL: www.mohawksign.com.
5. APCO, Atlanta, GA; phone: 404-688-9000, URL: www.apcosigns.com.
6. Diverse ID, Tampa, FL; phone: 877-446-2374, URL: www.diverseid.com.

B. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

- A. Acrylic Plastic: Non-glare finish acrylic with integral color as manufactured by Romark, Rohm and Haas, CYRO Industries Acrylite FF, or accepted equal. Thickness shall be 1/8 inch minimum at all other locations, unless noted otherwise. Colors as selected by Architect from manufacturer's full range of colors.

2.3 INTERIOR SIGNAGE

- A. Accessible Signage: Provide the following signages in accordance with 2010 ADA Standards for Accessible Design and 2022 CBC where indicated on Drawings:
 1. Material: Acrylic plastic, edges rounded, chamfered, or eased. Corners shall have minimum radius of 1/8 inch.
 2. Color: Characters, symbols, and pictograms on contrasting background per CBC Section 11B-703. Colors as selected by Architect from manufacturer's full range of colors.

3. Functional Room Signage and Directional Entry Signage: Provide room signage with inlaid characters raised 1/32-inch, upper case, sans serif type with corresponding contracted Grade 2 Braille. Raised characters shall be at least 5/8 inch high, but no higher than 2 inches. Characters and symbols shall contrast with their background per CBC Section 11B-703.
4. Tactile Exit Signage:
 - a. Provide tactile exit signs at doors in rooms or areas that require more than one exit or exit access per CBC Sections 1013.1 and 1013.4.
 - b. Acrylic plaque tactile exit signs shall have text at least 5/8 inch high, but no higher than 2 inch high, and corresponding contracted Grade 2 Braille shall be placed a minimum of 3/8 inch and a maximum of 1/2 inch directly below the text as follows:
 - 1) Each grade-level exterior exit door that is required to comply with CBC Section 1013.1 shall be identified by a tactile exit sign with the word "EXIT".
 - 2) Each exit door that is required to comply with CBC Section 1013.1, and that leads directly to a grade-level exterior exit by means of a stairway or ramp shall be identified by a tactile exit sign with the following words as appropriate: "EXIT STAIR DOWN", "EXIT RAMP DOWN," "EXIT STAIR UP," or "EXIT RAMP UP." At exit discharge level, door sign shall include a raised five-pointed star located to the left of the identifying floor level.
 - 3) Each exit door that is required to comply with CBC Section 1013.1, and that leads directly to a grade-level exterior exit by means of an exit enclosure or an exit passageway shall be identified by a tactile exit sign with the words "EXIT ROUTE".
 - 4) Each exit access door from an interior room or area to a corridor or hallway that is required to comply with CBC Section 1013.1 shall be identified by a tactile exit sign with the words "EXIT ROUTE".
 - 5) Each exit door through a horizontal exit that is required to comply with CBC Section 1013.1 shall be identified by a tactile exit sign with the words "TO EXIT".

B. Evacuation Maps: Refer to Drawings for sign size, graphics, and locations.

2.4 FABRICATION

- A. Work shall be assembled in the shop, as far as practical, ready for installation at the site. Work that cannot be shop assembled be trial fit in the shop to ensure proper field assembly.
- B. Drill or punch holes for bolts and screws; produce clean, true lines and surfaces.
- C. Acrylic signs shall have inlaid acrylic copy/characters and Braille symbols as described in this Section.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install signs and plaques level and plumb.
 1. Mounting Height With Tactile Characters: Per CBC Section 11B-703.4.1, tactile characters on signs shall be located 48 inches minimum above the finished floor or ground surface, measured from the baseline of the lowest Braille cells and 60 inches maximum above the finished floor or ground surface, measured from the baseline of the highest line of raised characters.

2. Mounting Location with Tactile Characters: Per CBC Section 11B-703.4.2 as follows:
 - a. Where a tactile sign is provided at a door, the sign shall be located alongside the door at the latch side.
 - b. Where a tactile sign is provided at double doors with one active leaf, the sign shall be located on the inactive leaf.
 - c. Where a tactile sign is provided at double doors with two active leafs, the sign shall be located to the right of the right hand door.
 - d. Where there is no space at the latch side of a single door or at the right side of double doors, signs shall be located on the nearest adjacent wall.
 - e. Signs containing tactile characters shall be located so that a clear floor space of 18 inches minimum by 18 inches minimum, centered on the tactile characters, is provided beyond the arc of any door swing between the closed position and 45 degree open position.
 - f. Where permanent identification signage is provided for rooms and spaces, they shall be located on the approach side of the door as one enters the room or space. Signs that identify exits shall be located on the approach side of the door as one exits the room or space.
3. Mounting Height With Visual Characters: Per CBC Section 11B-703.5.6, visual characters shall be 40 inches minimum above the finished floor or ground.
4. Toilet and Bathing Facility Signage: Per CBC Section 11B-703.7.2.6, the geometric door symbol shall be mounted at 58 inches minimum and 60 inches maximum above the finished floor or ground surface measured from the centerline of the symbol. The symbol shall be mounted within 1 inch of the vertical centerline of the door.

B. Interior Restroom Signs, Functional Room Signs, Tactile Exit Signs, Directional Entry Signs, and Evacuation Maps: Mount to door and wall surfaces with double faced adhesive foam tape strips and silicone adhesive.

1. Glass Mounted Signs: Apply acrylic sign to glass surfaces using double faced adhesive foam tape strips. Install same size, thickness, and color acrylic blank backer or sign of equal size on opposite side of exterior sign using double faced adhesive foam tape strips.

3.2 ADJUST AND CLEAN

- A. Clean and Touch-up: Remove all packing and protection blemishes and thoroughly clean and polish all finish surfaces. Restore any marred or abraded surfaces to their original condition by touching up in accordance with the manufacturer's recommendations. Touch-up shall not be obvious.
- B. Defective Work: Remove and replace all defective work that cannot be properly repaired, cleaned or touched-up, as directed by the Architect, with no additional cost to the Owner.
- C. Protect installed work during the construction period to prevent abuse and damage.

3.3 CLEAN-UP

- A. Upon completion of the work of this Section, remove all surplus materials, rubbish, and debris from the premises.

END OF SECTION

SECTION 12 24 13
ROLLER WINDOW SHADES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Manually Operated Roller Window Shades.
- B. Shade Fabric.

1.2 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 Division 01 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. NFPA 701 – Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.
 - 2. NFPA 703 – Standard for Fire-Retardant Treated Wood and Fire-Retardant Coatings for Building Materials.

1.3 SUBMITTALS

- A. Submit in accordance with Division 01.
- B. Shop Drawings:
 - 1. Provide plans, elevations, sections, product details, installation details, operational clearances, and relationship to adjacent work.
 - 2. Provide window treatment schedule for all roller shades. Use same room designations as indicated on Drawings and include opening sizes and key to typical mounting details.
- C. Product Data: Submit product data for each product specified in this Section with the product and selected attributes clearly identified.
- D. Samples: Provide two samples each of the following:
 - 1. Selection of metal component finishes.
 - 2. Selection of shade fabric colors, weaves, and types.
- E. Submit Environmental Certification and Third Party evaluation for Solar Shade Cloth Fabric.
 - 1. Environmental Certification: Submit written certification from the manufacturer, including third party evaluation, recycling characteristics, and perpetual use certification as specified below. Materials that are PVC-free without identifying their inputs shall not qualify as meeting the intent of this specification.

2. Third Party Evaluation: Provide documentation stating the shade cloth has undergone third party evaluation for all chemical inputs, down to a scale of 100 parts per million, and have been evaluated for human and environmental safety. Identify any and all inputs which are known to be carcinogenic, mutagenic, teratogenic, reproductively toxic, or endocrine disrupting. Identify items that are toxic to aquatic systems, contain heavy metals, or organohalogens. The material shall contain no inputs that are known problems to human or environmental health per the above major criteria, except for an input that is required to meet applicable fire codes and regulations.
3. Recycling Characteristics: Provide documentation that the shade cloth is part of a closed loop of perpetual use and not be required to be down-cycled, incinerated, or otherwise disposed of. Scrap material shall be capable of being sent back to the mill for reprocessing and recycling into the same quality yarn and woven into new material without down-cycling. Certify that this process is currently available and will be utilized for this project.
4. Perpetual Use Certification: Certify that at the end of the useful life of the shade cloth that the material can be sent back to the manufacturer for recapture as part of a closed loop of perpetual use and that the material can and will be reconstituted into new yard for weaving into new shade cloth. Provide information on each shade band indicating that the shade band can be sent back to the manufacturer for this purpose.

F. Storage and handling requirements and recommendations.

G. Manufacturer's installation instructions.

H. Manufacturer's Operation and Maintenance Instructions: Methods for maintaining roller shades, precautions regarding cleaning materials and methods, and instructions for operating hardware and controls.

1.4 QUALITY ASSURANCE

A. Qualifications

1. Manufacturer Qualifications: Obtain roller shades through one source from a single manufacturer with a minimum of ten years' experience in manufacturing products comparable to those specified in this Section.
2. Supplier Qualifications: The manufacturer or its subsidiary or licensed agent approved to supply products of this Section and honor any claims against the product presented in accordance with the warranty.
3. Installer Qualifications: Firm specializing in installing work specified in this Section acceptable to manufacturer with documented experience on at least five projects of similar nature in past three years.

B. Field Samples: Provide large size sample of selected fabric for final verification of color, weave, and density.

C. Pre-Installation Meetings:

1. Conduct pre-installation meeting in accordance with provisions of Division 01.
2. Convene pre-installation meeting one week prior to commencing work of this Section.
3. Coordinate work in this Section with work in related Sections.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of Division 01.
- B. Deliver products when all concrete, masonry, plaster, painting, and other wet work has been completed and dried.
- C. Deliver products in manufacturer's original containers, dry and undamaged, with seals and labels intact.
- D. Deliver shades in factory-labeled packages, marked with manufacturer and product name, fire-test-response characteristics, and location of installation using same room designations indicated on Drawings.
- E. Store materials in a dry secure place. Protect from weather, surface contaminants, corrosion, construction traffic, and other potential damage.

1.6 ENVIRONMENTAL REQUIREMENTS

- A. Solar shade cloth fabric shall be PVC-free.

1.7 PROJECT CONDITIONS

- A. Maintain ambient temperature between 60 degrees F and 85 degrees F and relative humidity between twenty percent and fifty percent 24 hours before installation and maintain until Owner's final acceptance.
- B. Condition products at designated work areas 24 hours before installation.

1.8 WARRANTY

- A. Comply with provisions of Division 01.
- B. Warrant installed units to be free from defects in material and workmanship as follows:
 - 1. Manual Roller Shade Hardware at Window Shades, and Chain: Manufacturer's standard non-depreciating twenty-five year limited warranty.
 - 2. TPO Solar Shadecloth: Manufacturer's standard non-depreciating ten year limited warranty.
 - 3. Roller Shade Installation: One year.
- C. In the event a warranted product or component fails, facilitate materials replacement at no cost to the Owner under the provisions of Division 01.

1.9 MAINTENANCE

- A. Operations and Maintenance Data:
 - 1. Comply with requirements of Division 01.
 - 2. Include operation and cleaning information.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:

1. Mecho, Long Island City, NY; phone: 718.729.2020, URL: <http://www.mechoshade.com>.
2. Lutron Shading Solutions by Vimco, a division of Lutron Electronics Co., Inc., Coopersburg, PA; phone: 800.523.9466, URL: <http://www.lutron.com>.
3. Hunter Douglas Architectural, Poway, CA, phone: 800.727.8953, URL: <http://www.hunterdouglasarchitectural.com>.
4. Draper, Inc., Spiceland, IN; phone: 800-238-7999, URL: <http://www.draperinc.com>.

B. Substitutions: Under provisions of Division 01.

2.2 MANUALLY OPERATED WINDOW SHADES

A. Manufacturers and Products:

1. Mecho. Product: Mecho/7.
2. Lutron Electronics Co., Inc. Product: Manual Shade Systems.
3. Hunter Douglas Architectural. Product: RB 500+ Manual Chain Operated Shades.
4. Draper, Inc. Product: Manual NEXD Systems.
5. Substitutions: Under provisions of Division 01.

B. Roller Tube:

1. Extruded aluminum alloy roller tube.
2. Diameter: Sufficient diameter and thickness to prevent excessive deflection.

C. Manual Operated Chain Drive Hardware and Brackets:

1. Provide brackets for mounting conditions indicated on Drawings.
2. Provide for universal, regular, and offset drive capability which enables the drive chain to always fall in front of the fabric plane.
3. Provide hardware capable for installation of a removable fascia, for both regular and/or reverse roll, which shall be installed without exposed fastening devices of any kind.
4. Provide shade hardware system that allows for removable regular and/or reverse roll fascias to be mounted continuously across two or more shade bands without requiring exposed fasteners of any kind.
5. Provide shade hardware system that allows for operation of multiple shade bands (multi-banded shades) by a single chain operator, subject to manufacturer's design criteria. Connectors shall be offset to assure alignment from the first to the last shade band.
6. Provide shade hardware system that allows multi-banded, manually-operated shades to be capable of smooth operation when the axis is offset a maximum of 6 degrees on each side of the plane perpendicular to the radial line of the curve, for a 12 degrees total offset.
7. Provide positive mechanical engagement of the drive mechanism to the shade roller tube. Friction-fit connectors for the drive mechanism connection to the shade roller tube are not acceptable.
8. Provide shade hardware constructed of minimum 16 gauge, 0.060 inch thick plated steel or heavier as required to support 150 percent of the full weight of each shade.

D. Drive Bracket / Brake Assembly:

1. Drive bracket shall be fully integrated with all roller shade accessories, including, but not limited to: fascia, center supports, and connectors for multi-banded shades.
2. Drive sprocket and brake assembly shall rotate and be supported on a welded 5/16-inch steel pin.
3. The brake shall be an over-running wrapped spring clutch design which disengages during the raising and lowering of a shade. The brake shall withstand a minimum pull force of 50 pounds in the stopped position.
4. The braking mechanism shall employ an oil-impregnated hub on to which the brake system is mounted. The oil impregnated hub design includes a wrapped spring clutch assembly that ensures a smooth, non-jerky operation in raising and lowering the shades. The assembly shall be permanently lubricated requiring no maintenance. Products that require externally applied lubrication and/or are not permanently lubricated are not acceptable.
5. The entire assembly shall be fully mounted on the steel support bracket, and fully independent of the shade tube assembly, which may be removed and reinstalled without effecting the roller shade limit adjustments.

- E. Chain: No. 10 stainless steel chain rated to 100 pound minimum breaking strength with connector and upper and lower ball stops. Provide wall mounted pulley wheel at bottom of chain to keep chain tracking straight and in-line during operation. Provide locking chain clips at each chain.

2.3 SHADE FABRIC

A. Manufacturers and Products:

1. Mecho, Product: EcoVeil 1350 Series, 100 percent thermoplastic olefin, 2 x 2 basketweave pattern with 5 percent openness factor.
1. Lutron Electronics Co., Inc., Product: Phifer SheerWeave Infinity 2 5%.
2. Hunter Douglas Architectural, Product: Phifer SheerWeave Infinity 2 5%.
3. Draper Inc., Product: Phifer SheerWeave Infinty2 5%.
4. Substitutions: Under provisions of Division 01.

B. Visually transparent non-raveling shade fabric.

- C. Shade fabric shall be PVC-free. All fabrics shall be TPO based, 'PVC-free' alone will not qualify for consideration.

D. Characteristics:

1. Meet or exceed requirements of NFPA 701 and Title 19 CCR Division 1, Chapter 8.
2. Content: 100 percent thermoplastic olefin (TPO).
3. Mesh Weight: 12.68 ounces per square yard.
4. Fabric Thickness: 0.034 inch.
5. Openness Factor: 3 percent.
6. Washable, colorfast and fade resistant.
7. Color: Eggshell #1366.

2.4 SHADE BANDS

- A. Shade Bands: Construction of shade band includes the fabric, the enclosed hem weight, shade roller tube, and the attachment of the shade band to the roller tube. Sewn hems and open hem pockets shall not be acceptable.
 - 1. Hembar: Universal exposed hembar.
 - 2. Shade Band and Shade Roller Attachment:
 - a. Use extruded aluminum shade roller tube of a diameter and wall thickness required to support shade fabric without excessive deflection.
 - b. Provide for positive mechanical attachment of shade band to roller tube; shade band shall be made removable / replaceable with a "snap-on" snap-off" Spline mounting, without having to remove shade roller from shade brackets or insert shadeband from the side.
 - c. Mounting Spline shall not require use of adhesives, adhesive tapes, staples, and/or rivets. Any method of attaching shade band to roller tube that requires the use of: adhesive, adhesive tapes, staples, and/or rivets, does not meet the performance requirements of this Section and will not be accepted.

2.5 ACCESSORIES

- A. Fascia:
 - 1. Continuous removable extruded aluminum fascia that attaches to shade mounting brackets without the use of adhesives, magnetic strips, or exposed fasteners.
 - 2. Fascia shall be able to be installed across two or more shade bands in one piece.
 - 3. Fascia shall fully conceal brackets, shade roller, and fabric on the tube.
 - 4. Provide bracket / fascia end caps where mounting conditions expose outside of roller shade brackets.
 - 5. Fascia shall include a channel for application of flexible material (shlegel) to closing off any light leakage between the fascia and a window frame, mullion, ceiling and/or any other horizontal surface.
 - 6. Fascia shall attach directly to the roller shade bracket without the need to install additional mounting hardware. Exposed fasteners shall not be allowed.
 - 7. Fascia shall positively lock in a top-down installation method.
 - 8. Notching of fascia for manual chain will not be acceptable.

2.6 FINISHES

- A. Extruded Aluminum (panels, fascias, covers, bars, and channels):
 - 1. Standard baked enamel paint finish. Colors selected by Architect from manufacturer's full range of standard colors.
- B. Shade Fabric: Type and color as selected by the Architect from samples submitted.

2.7 FABRICATION

- A. Take accurate field measurements to verify required dimensions prior to fabrication.
- B. Fabricate fabric to hang flat without buckling or distortion. Fabricate with heat-sealed trimmed edges to hang straight without curling or reveling.

- C. Fabricate unguided fabric to roll true and straight without shifting sideways more than 1/8 inch in either direction for every eight feet of shade height due to warp distortion or weave design.
- D. Fabricate with bottom hem weights as needed or exposed hem bar with light seal as applicable.
- E. Railroading of solar fabrics will not be allowed, except by permission of the Architect during submittal phase.
- F. Provide battens in standard shades as required to assure proper tracking and uniform rolling of fabric.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine substrate conditions and dimensions. Verify if substrate is ready and acceptable to receive window shade system.
- B. Confirm that blocking for roller shades is installed plumb, level, and fitted to window mullion as per Contract Documents and in accordance with industry standard tolerances. The horizontal surface of the shade pocket shall not be out-of-level more than 1/16 inch over 20 linear feet.
- C. Report unacceptable conditions to the Architect. Begin installation only when unacceptable conditions have been corrected.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's printed instructions and accepted shop drawings.
- B. Install roller shades level, plumb, square, and true according to manufacturer's written instructions, and located so shade band is not closer than 2 inches to interior face of glass. Allow proper clearances for window operation hardware.
- C. Adjust, align, and balance roller shades to operate smoothly, easily, safely, and free from binding or malfunction throughout entire operational range.
- D. Installation Tolerances:
 - 1. Maximum variation of gap at window opening perimeter: 1/4 inch per 8 feet of shade height.
 - 2. Maximum offset from level: 1/16 inch per 20 feet of shade width.

3.3 ADJUSTING

- A. Adjust parts for smooth, uniform operation.
- B. Adjust shade assembly and fabric to hang flat without buckling and distortion.
- C. Replace any units or components, which do not hang properly or operate smoothly at no additional cost to Owner.

3.4 CLEANING

- A. Clean exposed surfaces, including metal and fabric using non-abrasive materials and methods as recommended by manufacturer.
- B. Do not use materials or methods, which may damage finish or surrounding construction.
- C. Remove and replace work which cannot be satisfactorily cleaned at no additional cost to Owner.

END OF SECTION

SECTION 26 01 00

BASIC ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The requirements of the General Conditions and Division 1, General Requirements, apply to the work specified in this section.

1.2 DESCRIPTION OF WORK

- 1. Motors, motor controls and low voltage control wiring that are an integral part of equipment assemblies and heating and ventilation controls.
- 2. Painting of exposed electrical work.
- 3. Fire alarm system and devices.
- 4. Data network and distribution.

B. Work Included in Contract

- 1. Provide and install new 120/208V, 3 phase, 4 wire electrical distribution system with new distribution panels and panelboards and devices for a complete system as detailed on drawings.
- 2. Grounding and bonding per NEC.
- 3. Provide complete interior lighting and control systems.
- 4. Provide complete interior electrical devices.
- 5. Provide and install new lighting control system as shown on drawings.
- 6. Provide complete telephone/data system connected to existing campus system per District standards as shown on drawings and specified under Division 27.
- 7. Disconnect and reconnect existing fire alarm device where indicated on plans.

1.3 CODES AND STANDARDS

- A. In addition to Codes and Standards - Division 1, the following shall apply to this Division:

National Electrical Code with California amendments
California Admin. Code, Titles 17, 19, 24, Part 1.
U.L. Electrical Construction Materials List
Codes, rules and regulations as specified hereinafter
Local city and county agencies

1.4 SUBMITTALS

- A. Submittals shall be made in conformance with the General Conditions. The list shall include, for each item, the manufacturer, manufacturer's catalog number, type of class, the rating, capacity, size, etc. Submittals shall include:
1. Conduit & Fittings
 2. Boxes & Covers
 3. Fuses
 4. Wire & Cable
 5. Wiring Devices
 6. Disconnect Switches
 7. Lighting Fixtures (Note: Lighting fixtures are as noted or of a pre-approved equal. Submit photometric data along with manufacturer's information. Samples may be requested if fixture is unknown to engineer.)
 8. Lighting Control System
 9. Telephone/Data Networking System
 10. Fire Alarm System
- B. Shop Drawings: Submit for approval, detailed construction drawings for each item of fabricated equipment required for the electrical installation. All drawings shall be to scale, fully dimensioned, and provide sufficient detail to clearly indicate the arrangement of the equipment and its component parts. Construction of the equipment shown shall be revised to comply with the drawings and specifications as required by the Architect after review of the shop drawings, and the drawings submitted when requested by the Architect. Shop drawings shall be submitted for the following:
1. Lighting Systems and Controls
 2. Telephone/Data Networking System
 3. Fire Alarm System
- C. Substitution: Provide substitutions as outlined.

1.5 SUPERVISION OF ELECTRICAL WORK

- A. Contractor shall personally, or through an authorized and competent representative, constantly supervise the work from beginning to completion and final acceptance. So far as possible, keep same foreman and workmen throughout the project duration.

Work shall be subject to inspection and approval by Architect. Promptly furnish related information when so requested by Architect.

1.6 EQUIPMENT AND SYSTEMS IDENTIFICATION

- A. General: All panels, terminal cabinets, etc., shall be labeled as to identification and use. In general, equipment shall be identified in accordance with drawings. Identification tags, signs, labels and markers shall comply with OSHA and ANSI requirements.
- B. Nameplates: All equipment, terminal cabinets, panels and systems shall be identified by laminated, engraved plastic, white on black plates permanently attached to the equipment. Voltage and phase shall be listed on these plates.
- C. All terminal cabinets to have terminal strips and all wiring in terminal cabinets shall be tagged.
- D. Directories: Provide for power circuits, typewritten, neatly arranged in numerical order, and permanently fixed inside all new and existing panels.
- E. Provide lamecoid label on all receptacle and switch covers indicating complete circuit number.
- F. Provide lamecoid label on all blank cover plates indicating circuit number or low voltage system (i.e. future data, intrusion, etc.).
- G. Provide lamecoid label on all fire alarm device covers indicating complete device number.
- H. Provide service description etched on cover of all underground pull boxes.

1.7 OPERATING INSTRUCTIONS ON-SITE

- A. At time of occupancy, arrange for manufacturer's representatives to instruct building operating and maintenance personnel in use of any equipment requiring operating and maintenance. Arrange for all personnel to be instructed at one time. Pay all costs for such service (minimum of 4 hours).

1.8 ADJACENT WORK

- A. Coordinate work and complete with others in furnishing and placing this work.
- B. Work to approved shop drawings for work by others and to field measurements as necessary to properly fit the work.
- C. Project adjacent work as necessary; adjacent construction or exposed surfaces or surfaces damaged by use of materials or operations under this Section shall be repaired or replaced as directed by Architect.

1.9 DRAWINGS

- A. The electrical drawings, which constitute an integral part of this contract, shall serve as the working drawings. They indicate diagrammatically the general layout of the complete electrical system, including the arrangement of feeders, circuits, panelboards, service equipment, and other work. Field verifications of scale dimensions taken from the drawings are directed since actual field locations, distances and elevations will be governed by actual field conditions. Review architectural, structural, mechanical and plumbing drawings and adjust work to conform to all conditions indicated thereon. Discrepancies shown on different plans or between plans and actual field conditions, or between plans and specifications, shall promptly be brought to the attention of the Architect for a decision.

1.10 COORDINATION AND COOPERATION

- A. Drawings and specifications are both supplementary and complementary. Taken together, they are intended to define complete working installations of the systems represented, in accordance with approved practice in the trade, and in conformity with all applicable requirements of local jurisdictional offices and officers and codes and enforcing bodies.
- B. It shall be presumed that any bid offered under this Division of the Specifications is based on a careful examination of the job site, and of the plans and specifications; that the person(s) or firm(s) awarded a contract hereunder is/are experienced and qualified in the type of work represented; that every effort has been made to prepare complete, accurate and correct plans and specifications; and that reasonable diligence will be exercised in planning and scheduling the work to anticipate conflicts and/or detect errors or omissions. All such shall be immediately reported, and proper resolution agreed on between concerned parties before the work affected is performed. If due to lack of diligence, or to incompetence, failure to anticipate such problems shall not create a valid claim for extra costs or charges.
- C. Requirements of other trades, of utility companies, and of fire departments, protective services, communication systems, or other facilities of a utility nature, shall be determined prior to installation of systems, equipment, devices or materials affected by or dependent on such requirements.
- D. Unapproved deviations or changes based on a presumption of error or code violation, or work not suitable for its intended function, may not be accepted.
- E. Nothing herein shall act to prevent or discourage the contractor from suggesting or discussing possible changes in the work where such might be beneficial to the contractor or the owner, or might facilitate the work of this or other trades.
- F. Any work resulting in a claim for a change in the contract price must be approved and fully documented.

1.11 VISIT TO SITE

- A. Visit the project site, take requisite measurements, and verify exact location of buildings, utilities, and other facilities, and obtain such other information as is

necessary for an intelligent bid. No allowance will subsequently be made by the Architect or Owner for any error or omission on the part of the bidder in this connection.

1.12 RECORD DRAWINGS

- A. Record of Job Progress: Keep an accurate dimensional record of the "as-built" locations and of all work; all as required. This record shall be kept up-to-date on blue-line prints as the job progresses and shall be available for inspection at all times. It shall be reviewed by inspector prior to each monthly application for payment.
- B. Record of Installation: Refer to Supplementary General Conditions.
- C. Include on "as-built" drawings:
 - 1. Routing of all buried or concealed electrical feeders and conduits.
- D. Upon completion of the work, a completed set of as-built reproducible vellums and electronic file (ACAD 2014) on Cd/DVD disk(s) shall be delivered to the Architect.

1.13 GUARANTEE

- A. All work shall be guaranteed for a minimum period of one year from either the official date of completion or from the date of acceptance by the Owner, whichever is the later date. The guarantee period for certain items shall be longer, as indicated in the specification for those items.
- B. Should any trouble develop during the guarantee time due to defective material, faulty workmanship, or non-compliance with plans, specifications, codes or directions of the Owner, Architect, Engineer or Inspector, the Contractor shall furnish all necessary labor and materials to correct the trouble without additional charges.

1.14 COMMISSIONING

- A. Electrical systems including lighting and lighting controls, occupancy sensors, daylight controls, switching systems, exterior lighting controls and uninterruptible power supplies will be commissioned per the requirements specified in Commissioning Requirements."

END OF SECTION

SECTION 26 05 00

BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Electrical identification.
 - 2. Electrical demolition.
 - 3. Cutting and patching for electrical construction.

1.2 SUBMITTALS

- A. Product Data: For utility company electricity-metering components.
- B. Shop Drawings: Dimensioned plans and sections or elevation layouts and single-line diagram of electricity-metering component assemblies specific to this Project.

1.3 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Devices for Utility Company Electricity Metering: Comply with utility company published standards.
- C. Comply with NFPA 70.

1.4 COORDINATION

- A. Coordinate chases, slots, inserts, sleeves, and openings for electrical supports, raceways, and cable with general construction work.
- B. Sequence, coordinate, and integrate installing electrical materials and equipment for efficient flow of the Work. Coordinate installing large equipment that requires positioning before closing in the building.
- C. Coordinate electrical service connections to components furnished by utility companies.
 - 1. Coordinate installation and connection of exterior underground and overhead utilities and services, including provision for service entrances and electricity-metering components.
- D. Coordinate location of access panels and doors for electrical items that are concealed by finished surfaces.

- E. Where electrical identification devices are applied to field-finished surfaces, coordinate installation of identification devices with completion of finished surface.

PART 2 - PRODUCTS

2.1 SUPPORTING DEVICES

- A. Material: Cold-formed steel, with corrosion-resistant coating.
- B. Metal Items for Use Outdoors or in Damp Locations: Hot-dip galvanized steel.
- C. Slotted-Steel Channel: Flange edges turned toward web, and 9/16-inch- diameter slotted holes at a maximum of 2 inches o.c., in webs. Strength rating to suit structural loading.
- D. Slotted Channel Fittings and Accessories: Recommended by the manufacturer for use with the type and size of channel with which used.
 - 1. Materials: Same as channels and angles, except metal items may be stainless steel.
- E. Raceway and Cable Supports: Manufactured clevis hangers, riser clamps, straps, threaded C-clamps with retainers, ceiling trapeze hangers, wall brackets, and spring-steel clamps or click-type hangers.
- F. Pipe Sleeves: ASTM A 53, Type E, Grade A, Schedule 40, galvanized steel, plain ends.
- G. Cable Supports for Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug for nonarmored electrical cables in riser conduits. Plugs have number and size of conductor gripping holes as required to suit individual risers. Body constructed of malleable-iron casting with hot-dip galvanized finish.
- H. Expansion Anchors: Carbon-steel wedge or sleeve type.
- I. Toggle Bolts: All-steel springhead type.
- J. Powder-Driven Threaded Studs: Heat-treated steel.

2.2 ELECTRICAL IDENTIFICATION

- A. Identification Device Colors: Use those prescribed by ANSI A13.1, NFPA 70, and these Specifications.
- B. Colored Adhesive Marking Tape for Raceways, Wires, and Cables: Self-adhesive vinyl tape, not less than 1 inch wide by 3 mils thick.
- C. Tape Markers for Conductors: Vinyl or vinyl-cloth, self-adhesive, wraparound type with preprinted numbers and letters.
- D. Color-Coding Cable Ties: Type 6/6 nylon, self-locking type. Colors to suit coding scheme.
- E. Underground Warning Tape: Permanent, bright-colored, continuous-printed, vinyl tape compounded for permanent direct-burial service, and with the following features:

1. Not less than 6 inches wide by 4 mils thick.
 2. Embedded continuous metallic strip or core.
 3. Printed legend that indicates type of underground line.
- F. Engraved-Plastic Labels, Signs, and Instruction Plates: Engraving stock, melamine plastic laminate punched or drilled for mechanical fasteners 1/16-inch minimum thickness for signs up to 20 sq. in. and 1/8-inch minimum thickness for larger sizes. Engraved legend in black letters on white background.
- G. Warning and Caution Signs: Preprinted; comply with 29 CFR 1910.145, Chapter XVII. Colors, legend, and size appropriate to each application.
1. Interior Units: Aluminum, baked-enamel-finish, punched or drilled for mechanical fasteners.
 2. Exterior Units: Weather-resistant, nonfading, preprinted, cellulose-acetate butyrate with 0.0396-inch, galvanized-steel backing. 1/4-inch grommets in corners for mounting.
- H. Fasteners for Nameplates and Signs: Self-tapping, stainless-steel screws or No. 10/32 stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 ELECTRICAL EQUIPMENT INSTALLATION

- A. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom.
- B. Materials and Components: Install level, plumb, and parallel and perpendicular to other building systems and components, unless otherwise indicated.
- C. Equipment: Install to facilitate service, maintenance, and repair or replacement of components. Connect for ease of disconnecting, with minimum interference with other installations.
- D. Right of Way: Give to raceways and piping systems installed at a required slope.

3.2 ELECTRICAL SUPPORTING DEVICE APPLICATION

- A. Damp Locations and Outdoors: Hot-dip galvanized materials or nonmetallic, slotted channel system components.
- B. Dry Locations: Steel materials.
- C. Strength of Supports: Adequate to carry present and future loads, times a safety factor of at least four with, 200-lb minimum design load for each support element.

3.3 SUPPORT INSTALLATION

- A. Support parallel runs of horizontal raceways together on trapeze- or bracket-type hangers.
- B. Size supports for multiple raceway or cable runs so capacity can be increased by a 25 percent minimum in the future.
- C. Support individual horizontal single raceways with separate, malleable-iron pipe hangers or clamps except use spring-steel fasteners for 1-1/2-inch and smaller single raceways above suspended ceilings and for fastening raceways to slotted channel and angle supports.
- D. Install sleeves for cable and raceway penetrations of concrete slabs and walls unless core-drilled holes are used. Install sleeves for cable and raceway penetrations of masonry and fire-rated gypsum walls and of all other fire-rated floor and wall assemblies. Install sleeves during erection of concrete and masonry walls.
- E. Secure electrical items and their supports to building structure, using the following methods unless other fastening methods are indicated:
 - 1. Wood: Wood screws or screw-type nails.
 - 2. Gypsum Board: Toggle bolts. Seal around sleeves with joint compound, both sides of wall.
 - 3. Masonry: Toggle bolts on hollow block and expansion bolts on solid block. Seal around sleeves with mortar, both sides of wall.
 - 4. New Concrete: Concrete inserts with machine screws and bolts.
 - 5. Existing Concrete: Expansion bolts.
 - 6. Structural Steel: Spring-tension clamps.
 - a. Comply with AWS D1.1 for field welding.
 - 7. Light Steel Framing: Sheet metal screws.
 - 8. Fasteners for Damp, Wet, or Weather-Exposed Locations: Stainless steel.
 - 9. Light Steel: Sheet-metal screws.
 - 10. Fasteners: Select so load applied to each fastener does not exceed 25 percent of its proof-test load.

3.4 IDENTIFICATION MATERIALS AND DEVICES

- A. Install at locations for most convenient viewing without interference with operation and maintenance of equipment.
- B. Coordinate names, abbreviations, colors, and other designations used for electrical identification with corresponding designations indicated in the Contract Documents or required by codes and standards. Use consistent designations throughout Project.
- C. Self-Adhesive Identification Products: Clean surfaces before applying.

- D. Tag and label circuits designated to be extended in the future. Identify source and circuit numbers in each cabinet, pull and junction box, and outlet box. Color-coding may be used for voltage and phase identification.
- E. Install continuous underground plastic markers during trench backfilling, for exterior underground power, control, signal, and communication lines located directly above power and communication lines. Locate 6 to 8 inches below finished grade. If width of multiple lines installed in a common trench or concrete envelope does not exceed 16 inches, overall, use a single line marker.
- F. Install warning, caution, and instruction signs where required to comply with 29 CFR 1910.145, Chapter XVII, and where needed to ensure safe operation and maintenance of electrical systems and of items to which they connect. Indoors install engraved plastic-laminated instruction signs with approved legend where instructions are needed for system or equipment operation. Install metal-backed butyrate signs for outdoor items.
- G. Provide service description etched on cover of all underground pull boxes.

3.5 FIRESTOPPING

- A. Apply firestopping to cable and raceway sleeves and other penetrations of fire-rated floor and wall assemblies to restore original undisturbed fire-resistance ratings of assemblies. Firestopping installation is specified in Division 27 Section "Through-Penetration Firestop Systems."

3.6 CONCRETE BASES

- A. Construct concrete bases of dimensions indicated, but not less than 4 inches larger, in both directions, than supported unit. Follow supported equipment manufacturer's anchorage recommendations and setting templates for anchor-bolt and tie locations, unless otherwise indicated.

3.7 DEMOLITION

- A. Protect existing electrical equipment and installations indicated to remain. If damaged or disturbed in the course of the Work, remove damaged portions and install new products of equal capacity, quality, and functionality.
- B. Accessible Work: Remove exposed electrical equipment and installations, indicated to be demolished, in their entirety.
- C. Abandoned Work: Cut and remove buried raceway and wiring, indicated to be abandoned in place, 2 inches below the surface of adjacent construction. Cap raceways and patch surface to match existing finish.
- D. Remove, store, clean, reinstall, reconnect, and make operational components indicated for relocation.

3.8 CUTTING AND PATCHING

- A. Cut, channel, chase, and drill floors, walls, partitions, ceilings, and other surfaces required to permit electrical installations. Perform cutting by skilled mechanics of trades involved.
- B. Repair, refinish and touch up disturbed finish materials and other surfaces to match adjacent undisturbed surfaces.

END OF SECTION

SECTION 26 05 19

CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes building wires and cables and associated connectors, splices, and terminations for wiring systems rated 600 V and less.

1.2 SUBMITTALS

- A. Field quality-control test reports.

1.3 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where subparagraph titles below introduce lists, the following requirements apply for product selection:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.

2.2 CONDUCTORS AND CABLES

- A. Manufacturers:
 - 1. Alcan Aluminum Corporation; Alcan Cable Div.
 - 2. American Insulated Wire Corp.; a Leviton Company.
 - 3. General Cable Corporation.
 - 4. Senator Wire & Cable Company.
 - 5. Southwire Company.
- B. Refer to Part 3 "Conductor and Insulation Applications" Article for insulation type, cable construction, and ratings.
- C. Conductor Material: Copper complying with NEMA WC 5 or 7; solid conductor for No. 10 AWG and smaller, stranded for No. 8 AWG and larger.
- D. Conductor Insulation Types: Type THW, THHN-THWN or XHHW complying with NEMA WC 5 or 7.

2.3 CONNECTORS AND SPLICES

- A. Manufacturers:
 - 1. AMP Incorporated/Tyco International.
 - 2. Hubbell/Anderson.
 - 3. O-Z/Gedney; EGS Electrical Group LLC.
 - 4. 3M Company; Electrical Products Division.
- B. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.

PART 3 - EXECUTION

3.1 CONDUCTOR AND INSULATION APPLICATIONS

- A. Service Entrance: Type THHN-THWN, single conductors in raceway.
- B. Exposed Feeders: Type THHN-THWN, single conductors in raceway .
- C. Feeders Concealed in Ceilings, Walls, and Partitions: Type THHN-THWN, single conductors in raceway.
- D. Feeders Concealed in Concrete, below Slabs-on-Grade, and in Crawlspace: Type THHN-THWN, single conductors in raceway.
- E. Exposed Branch Circuits, including in Crawlspace: Type THHN-THWN, single conductors in raceway.
- F. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN-THWN, single conductors in raceway.
- G. Branch Circuits Concealed in Concrete and below Slabs-on-Grade: Type THHN-THWN, single conductors in raceway.
- H. Cord Drops and Portable Appliance Connections: Type SO, hard service cord.
- I. Fire Alarm Circuits: Type THHN-THWN, in raceway.
- J. Class 1 Control Circuits: Type THHN-THWN, in raceway.
- K. Class 2 Control Circuits: Type THHN-THWN, in raceway.

3.2 INSTALLATION

- A. Conceal cables in finished walls, ceilings, and floors, unless otherwise indicated.
- B. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- C. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.

- D. Install exposed feeders parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
- E. Support cables according to Division 26.
- F. Seal around cables penetrating fire-rated elements according to Section "Through-Penetration Firestop Systems."
- G. Identify and color-code conductors and cables according to Division 26 Section "Basic Electrical Materials and Methods."
- H. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
- I. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches of slack.

3.3 FIELD QUALITY CONTROL

- A. Testing: Perform each electrical test and visual and mechanical inspection stated in NETA ATS, Section 7.3.1. Certify compliance with test parameters.
- B. Test Reports: Prepare a written report to record the following:
 - 1. Test procedures used.
 - 2. Test results that comply with requirements.
 - 3. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.

END OF SECTION

SECTION 26 05 26
GROUNDING AND BONDING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes grounding of electrical systems and equipment. Requirements specified in this Section may be supplemented by requirements of other Sections.

1.2 SUBMITTALS

- A. Product Data: For ground rods.
- B. Field quality-control test reports.

1.3 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled under UL 467 as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Boggs, Inc.
 - 2. Copperweld Corp.
 - 3. Dossert Corp.
 - 4. Erico Inc.; Electrical Products Group.
 - 5. Galvan Industries, Inc.
 - 6. Harger Lightning Protection, Inc.
 - 7. Hastings Fiber Glass Products, Inc.
 - 8. Heary Brothers Lightning Protection Co.
 - 9. ILSCO.
 - 10. Kearney/Cooper Power Systems.
 - 11. Korns, C. C. Co.; Division of Robroy Industries.
 - 12. Lightning Master Corp.
 - 13. Lyncole XIT Grounding.

14. O-Z/Gedney Co.; a business of the EGS Electrical Group.
15. Robbins Lightning, Inc.
16. Salisbury, W. H. & Co.
17. Superior Grounding Systems, Inc.
18. Thomas & Betts, Electrical.

2.2 GROUNDING CONDUCTORS

- A. For insulated conductors, comply with Division 16 Section "Conductors and Cables."
- B. Equipment Grounding Conductors: Insulated with green-colored insulation.
- C. Isolated Ground Conductors: Insulated with green-colored insulation with yellow stripe. On feeders with isolated ground, use colored tape, alternating bands of green and yellow tape to provide a minimum of three bands of green and two bands of yellow.
- D. Grounding Electrode Conductors: Stranded cable.
- E. Underground Conductors: Bare, tinned, stranded, unless otherwise indicated.
- F. Bare, Solid-Copper Conductors: ASTM B 3.
- G. Assembly of Bare, Stranded-Copper Conductors: ASTM B 8.
- H. Bare, Tinned-Copper Conductors: ASTM B 33.
- I. Copper Bonding Conductor: No. 4 or No. 6 AWG, stranded copper conductor.
- J. Copper Bonding Jumper: Bare copper tape, braided bare copper conductors, terminated with copper ferrules; 1-5/8 inches wide and 1/16 inch thick.
- K. Tinned-Copper Bonding Jumper: Tinned-copper tape, braided copper conductors, terminated with copper ferrules; 1-5/8 inches wide and 1/16 inch thick.
- L. Grounding Bus: Bare, annealed copper bars of rectangular cross section, with insulated spacer.
- M. Connectors: Comply with IEEE 837 and UL 467; listed for use for specific types, sizes, and combinations of conductors and connected items. Exothermic-welded type, in kit form, selected per manufacturer's written instructions.

2.3 GROUNDING ELECTRODES

- A. Ground Rods: Copper-clad steel.
 1. Size: 3/4 inches in diameter by 120 inches long.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Use only copper conductors for both insulated and bare grounding conductors in direct contact with earth, concrete, masonry, crushed stone, and similar materials.
- B. In raceways, use insulated equipment grounding conductors.
- C. Exothermic-Welded Connections: Use for connections to structural steel and for underground connections.
- D. Grounding Bus: Install in electrical and telephone equipment rooms, in rooms housing service equipment, and elsewhere as indicated.
 - 1. Use insulated spacer; space 1 inch from wall and support from wall 6 inches above finished floor, unless otherwise indicated.
 - 2. At doors, route the bus up to the top of the door frame, across the top of the doorway, and down to the indicated height above the floor.
- E. Underground Grounding Conductors: Use copper conductor, No. 2/0 AWG minimum. Bury at least 24 inches below grade or bury 12 inches above duct bank when installed as part of the duct bank.
- F. Equipment Grounding Conductors: Comply with NFPA 70, Article 250, for types, sizes, and quantities of equipment grounding conductors, unless specific types, larger sizes, or more conductors than required by NFPA 70 are indicated.
 - 1. Install insulated equipment grounding conductors in feeders.
 - 2. Isolated Grounding Receptacle Circuits: Install an insulated equipment grounding conductor connected to the receptacle grounding terminal. Isolate grounding conductor from raceway and from panelboard grounding terminals. Terminate at equipment grounding conductor terminal of the applicable derived system or service, unless otherwise indicated.
 - 3. Nonmetallic Raceways: Install an equipment grounding conductor in nonmetallic raceways unless they are designated for telephone or data cables.
 - 4. Air-Duct Equipment Circuits: Install an insulated equipment grounding conductor to duct-mounted electrical devices operating at 120 V and more, including air cleaners and heaters. Bond conductor to each unit and to air duct.
 - 5. Water Heater, Heat-Tracing, and Antifrost Heating Cables: Install an insulated equipment grounding conductor to each electric water heater, heat-tracing, and antifrost heating cable. Bond conductor to heater units, piping, connected equipment, and components.
 - 6. Signal and Communication Systems: For telephone, alarm, voice and data, and other communication systems, provide insulated grounding conductor in raceway from grounding electrode system to each service location, terminal cabinet, wiring closet, and central equipment location and per Division 27.

- a. Service and Central Equipment Locations and Wiring Closets: Terminate grounding conductor on a grounding bus per Division 27.
 - b. Terminal Cabinets: Terminate grounding conductor on cabinet grounding terminal.
7. Metal Poles Supporting Outdoor Lighting Fixtures: Provide a grounding electrode in addition to installing an insulated equipment grounding conductor with supply branch-circuit conductors.
- G. Ground Rods: Install at least three rods spaced at least one-rod length from each other and located at least the same distance from other grounding electrodes.
 1. Drive ground rods until tops are 2 inches below finished floor or final grade, unless otherwise indicated.
 2. Interconnect ground rods with grounding electrode conductors. Use exothermic welds, except as otherwise indicated. Make connections without exposing steel or damaging copper coating.
- H. Grounding Conductors: Route along shortest and straightest paths possible, unless otherwise indicated. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
- I. Bonding Straps and Jumpers: Install so vibration by equipment mounted on vibration isolation hangers or supports is not transmitted to rigidly mounted equipment. Use exothermic-welded connectors for outdoor locations, unless a disconnect-type connection is required; then, use a bolted clamp. Bond straps directly to the basic structure taking care not to penetrate any adjacent parts. Install straps only in locations accessible for maintenance.
- J. Metal Water Service Pipe: Provide insulated copper grounding conductors, in conduit, from building's main service equipment, or grounding bus, to main metal water service entrances to building. Connect grounding conductors to main metal water service pipes by grounding clamp connectors. Where a dielectric main water fitting is installed, connect grounding conductor to street side of fitting. Bond metal grounding conductor conduit or sleeve to conductor at each end.
- K. Water Meter Piping: Use braided-type bonding jumpers to electrically bypass water meters. Connect to pipe with grounding clamp connectors.
- L. Bond each aboveground portion of gas piping system upstream from equipment shutoff valve.
- M. Connections: Make connections so galvanic action or electrolysis possibility is minimized. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact will be galvanically compatible.
 1. Use electroplated or hot-tin-coated materials to ensure high conductivity and to make contact points closer to order of galvanic series.
 2. Make connections with clean, bare metal at points of contact.
 3. Make aluminum-to-steel connections with stainless-steel separators and mechanical clamps.

4. Make aluminum-to-galvanized steel connections with tin-plated copper jumpers and mechanical clamps.
 5. Coat and seal connections having dissimilar metals with inert material to prevent future penetration of moisture to contact surfaces.
 6. Exothermic-Welded Connections: Comply with manufacturer's written instructions. Welds that are puffed up or that show convex surfaces indicating improper cleaning are not acceptable.
 7. Equipment Grounding Conductor Terminations: For No. 8 AWG and larger, use pressure-type grounding lugs. No. 10 AWG and smaller grounding conductors may be terminated with winged pressure-type connectors.
 8. Noncontact Metal Raceway Terminations: If metallic raceways terminate at metal housings without mechanical and electrical connection to housing, terminate each conduit with a grounding bushing. Connect grounding bushings with a bare grounding conductor to grounding bus or terminal in housing. Bond electrically noncontinuous conduits at entrances and exits with grounding bushings and bare grounding conductors, unless otherwise indicated.
 9. Tighten screws and bolts for grounding and bonding connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A.
 10. Compression-Type Connections: Use hydraulic compression tools to provide correct circumferential pressure for compression connectors. Use tools and dies recommended by connector manufacturer. Provide embossing die code or other standard method to make a visible indication that a connector has been adequately compressed on grounding conductor.
 11. Moisture Protection: If insulated grounding conductors are connected to ground rods or grounding buses, insulate entire area of connection and seal against moisture penetration of insulation and cable.
- N. Manholes and Handholes: Install a driven ground rod close to wall and set rod depth so 4 inches will extend above finished floor. If necessary, install ground rod before manhole is placed and provide a No. 1/0 AWG bare, tinned-copper conductor from ground rod into manhole through a waterproof sleeve in manhole wall. Protect ground rods passing through concrete floor with a double wrapping of pressure-sensitive tape or heat-shrunk insulating sleeve from 2 inches above to 6 inches below concrete. Seal floor opening with waterproof, nonshrink grout.
- O. Connections to Manhole Components: Connect exposed-metal parts, such as inserts, cable racks, pulling irons, ladders, and cable shields within each manhole or handhole, to ground rod or grounding conductor. Make connections with No. 4 AWG minimum, stranded, hard-drawn copper conductor. Train conductors level or plumb around corners and fasten to manhole walls. Connect to cable armor and cable shields as recommended by manufacturer of splicing and termination kits.

3.2 FIELD QUALITY CONTROL

A. Testing: Perform the following field quality-control testing:

1. After installing grounding system but before permanent electrical circuitry has been energized, test for compliance with requirements.
2. Test completed grounding system at each location where a maximum ground-resistance level is indicated and at service disconnect enclosure grounding terminal. Measure ground resistance not less than two full days after the last trace of precipitation, and without the soil being moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural ground resistance. Perform tests, by the fall-of-potential method according to IEEE 81.
3. Provide drawings locating each ground rod, ground rod assembly, and other grounding electrodes. Identify each by letter in alphabetical order, and key to the record of tests and observations. Include the number of rods driven and their depth at each location and include observations of weather and other phenomena that may affect test results. Describe measures taken to improve test results. Nominal maximum values are as follows:
 - a. Equipment Rated 500 kVA and Less: 10 ohms.
 - b. Equipment Rated 500 to 1000 kVA: 5 ohms.
 - c. Equipment Rated More Than 1000 kVA: 3 ohms.
 - d. Substations and Pad-Mounted Switching Equipment: 5 ohms.
 - e. Manhole Grounds: 10 ohms.

END OF SECTION

SECTION 26 05 29

SEISMIC CONTROLS FOR ELECTRICAL WORK

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes seismic restraints and other earthquake-damage-reduction measures for electrical components. It applies to and complements optional seismic-restraint requirements in the various electrical component Sections of these Specifications.

1.2 DEFINITIONS

- A. Seismic Restraint: A fixed device (a seismic brace, an anchor bolt or stud, or a fastening assembly) used to prevent vertical or horizontal movement, or both vertical and horizontal movement, of an electrical system component during an earthquake.
- B. Mobile Structural Element: A part of the building structure such as a slab, floor structure, roof structure, or wall that may move independently of other structural elements during an earthquake.

1.3 SUBMITTALS

- A. Product Data: Illustrate and indicate types, styles, materials, strength, fastening provisions, and finish for each type and size of seismic-restraint component used. Include documentation of evaluation and approval of components by agencies acceptable to authorities having jurisdiction.
- B. Shop Drawings: For components, physical arrangements, and installation details not defined by Drawings. Indicate materials, details and layouts.
- C. Pre-approval and Evaluation Documentation: By an agency approved by authorities having jurisdiction, showing maximum ratings of restraints.
- D. Qualification data.
- E. Field quality-control test reports.

1.4 QUALITY ASSURANCE

- A. Comply with seismic-restraint requirements in California Building Code, unless requirements in this Section are more stringent.
- B. Testing Agency Qualifications: An independent testing and inspection agency, acceptable to authorities having jurisdiction, with the experience and capability to conduct the inspection indicated.

1.5 PROJECT CONDITIONS

- A. Project Seismic Zone and Zone Factor as Defined in 2022 CBC and per structural documents.

1.6 COORDINATION

- A. Coordinate layout and installation of seismic bracing with building structure, architectural features, and mechanical, fire-protection, electrical, and other building systems.
- B. Coordinate concrete bases with building structural system.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Amber/Booth Company, Inc.
 - 2. B-Line Systems, Inc.
 - 3. Erico, Inc.
 - 4. GS Metals Corp.
 - 5. Loos & Company, Inc.
 - 6. Mason Industries, Inc,
 - 7. Powerstrut.
 - 8. Thomas & Betts Corp.
 - 9. Unistrut Corporation.

2.2 MATERIALS

- A. Use the following materials for restraints:
 - 1. Indoor Dry Locations: Steel, zinc plated.
 - 2. Outdoors and Damp Locations: Galvanized steel.
 - 3. Corrosive Locations: Stainless steel.

2.3 ANCHORAGE AND STRUCTURAL ATTACHMENT COMPONENTS

- A. Strength: Defined in reports by ICC Evaluation Service or another agency acceptable to authorities having jurisdiction.
- B. Concrete and Masonry Anchor Bolts and Studs: Steel-expansion wedge type.
- C. Concrete Inserts: Steel-channel type.
- D. Through Bolts: Structural type, hex head, high strength. Comply with ASTM A 325.
- E. Welding Lugs: Comply with MSS SP-69, Type 57.
- F. Beam Clamps for Steel Beams and Joists: Double sided. Single-sided type is not acceptable.

- G. Bushings for Floor-Mounted Equipment Anchors: Neoprene units designed for seismically rated rigid equipment mountings, and matched to the type and size of anchor bolts and studs used.
- H. Bushing Assemblies for Wall-Mounted Equipment Anchorage: Assemblies of neoprene elements and steel sleeves designed for seismically rated rigid equipment mountings, and matched to the type and size of attachment devices used.

2.4 SEISMIC-BRACING COMPONENTS

- A. Slotted Steel Channel: 1-5/8-by-1-5/8-inch cross section, formed from 0.1046-inch-thick steel, with 9/16-by-7/8-inch slots at a maximum of 2 inches o.c. in webs, and flange edges turned toward web.
 - 1. Materials for Channel: ASTM A 570, GR 33.
 - 2. Materials for Fittings and Accessories: ASTM A 575, ASTM A 576, or ASTM A 36.
 - 3. Fittings and Accessories: Products of the same manufacturer as channels and designed for use with that product.
 - 4. Finish: Baked, rust-inhibiting, acrylic-enamel paint applied after cleaning and phosphate treatment, unless otherwise indicated.
- B. Channel-Type Bracing Assemblies: Slotted steel channel, with adjustable hinged steel brackets and bolts.
- C. Hanger Rod Stiffeners: Slotted steel channels, installed vertically, with internally bolted connections to hanger rod.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install seismic restraints according to applicable codes and regulations and as approved by authorities having jurisdiction, unless more stringent requirements are indicated.
- B. Install structural attachments as follows:
 - 1. Use bolted connections with steel brackets, slotted channel, and slotted-channel fittings to spread structural loads and reduce stresses.
 - 2. Attachments to New Concrete: Bolt to channel-type concrete inserts or use expansion anchors.
 - 3. Attachments to Existing Concrete: Use expansion anchors.
 - 4. Holes for Expansion Anchors in Concrete: Drill at locations and to depths that avoid reinforcing bars.
 - 5. Attachments to Solid Concrete Masonry Unit Walls: Use expansion anchors.
 - 6. Attachments to Hollow Walls: Bolt to slotted steel channels fastened to wall with expansion anchors.

7. Attachments to Wood Structural Members: Install bolts through members.
8. Attachments to Steel: Bolt to clamps on flanges of beams or on upper truss chords of bar joists.

C. Install electrical equipment anchorage as follows:

1. Anchor panelboards, motor-control centers, motor controls, switchboards, transformers, fused power-circuit devices, control, and distribution units as follows:
 - a. Anchor equipment rigidly to a single mobile structural element or to a concrete base that is structurally tied to a single mobile structural element.
 - b. Size concrete bases so expansion anchors will be a minimum of 10 bolt diameters from the edge of the concrete base.
 - c. Bushings for Floor-Mounted Equipment Anchors: Install to allow for resilient media between anchor bolt or stud and mounting hole in concrete.
 - d. Anchor Bolt Bushing Assemblies for Wall-Mounted Equipment: Install to allow for resilient media where equipment or equipment-mounting channels are attached to wall.
 - e. Torque bolts and nuts on studs to values recommended by equipment manufacturer.

D. Install seismic bracing as follows:

1. Install bracing according to spacings and strengths indicated by approved analysis.
2. Expansion and Contraction: Install to allow for thermal movement of braced components.
3. Attachment to Structure: If specific attachment is not indicated, anchor bracing to the structure at flanges of beams, upper truss chords of bar joists, or at concrete members.

E. Accommodation of Differential Seismic Motion: Make flexible connections in raceways, cables, wireway, cable trays, and busway where they cross expansion- and seismic-control joints, where adjacent sections or branches are supported by different structural elements, and where they terminate at electrical equipment anchored to a different mobile structural element from the one supporting them.

3.2 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing and inspection agency to inspect seismic-control installation for compliance with indicated requirements.
- B. Testing Agency: Engage a qualified testing and inspection agency to inspect seismic-control installation for compliance with indicated requirements.
- C. Reinspection: Correct deficiencies and verify by reinspection that work complies with requirements.

- D. Provide written report of tests and inspections.

END OF SECTION

SECTION 26 13 00
RACEWAYS AND BOXES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes raceways, fittings, boxes, enclosures, and cabinets for electrical wiring.

1.2 SUBMITTALS

- A. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets indicated.

1.3 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where subparagraph titles below introduce lists, the following requirements apply for product selection:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.

2.2 METAL CONDUIT AND TUBING

- A. Manufacturers:
 - 1. AFC Cable Systems, Inc.
 - 2. Alflec Inc.
 - 3. Anamet Electrical, Inc.; Anaconda Metal Hose.
 - 4. Electri-Flex Co.
 - 5. Grinnell Co./Tyco International; Allied Tube and Conduit Div.
 - 6. LTV Steel Tubular Products Company.
 - 7. Manhattan/CDT/Cole-Flex.
 - 8. O-Z Gedney; Unit of General Signal.
 - 9. Wheatland Tube Co.
- B. Rigid Steel Conduit: ANSI C80.1.
- C. Aluminum Rigid Conduit: ANSI C80.5.

- D. IMC: ANSI C80.6.
- E. EMT and Fittings: ANSI C80.3.
 - 1. Fittings: Compression type.
- F. FMC: Aluminum.
- G. LFMC: Flexible steel conduit with PVC jacket.
- H. Fittings: NEMA FB 1; compatible with conduit and tubing materials.

2.3 NONMETALLIC CONDUIT AND TUBING

- A. Manufacturers:
 - 1. American International.
 - 2. Anamet Electrical, Inc.; Anaconda Metal Hose.
 - 3. Arnco Corp.
 - 4. Cantex Inc.
 - 5. Certainteed Corp.; Pipe & Plastics Group.
 - 6. Condux International.
 - 7. ElecSYS, Inc.
 - 8. Electri-Flex Co.
 - 9. Lamson & Sessions; Carlon Electrical Products.
 - 10. Manhattan/CDT/Cole-Flex.
 - 11. RACO; Division of Hubbell, Inc.
 - 12. Spiralduct, Inc./AFC Cable Systems, Inc.
 - 13. Thomas & Betts Corporation.
- B. RNC: NEMA TC 2, Schedule 40 and Schedule 80 PVC.
- C. RNC Fittings: NEMA TC 3; match to conduit or tubing type and material.

2.4 SURFACE RACEWAYS

- A. Surface Metal Raceways: Galvanized steel with snap-on covers. Finish with manufacturer's standard prime coating.
 - 1. Manufacturers:
 - a. Airey-Thompson Sentinel Lighting; Wiremold Company (The).
 - b. Thomas & Betts Corporation.
 - c. Walker Systems, Inc.; Wiremold Company (The).
 - d. Wiremold Company (The); Electrical Sales Division.
- B. Surface Nonmetallic Raceways: Two-piece construction, manufactured of rigid PVC compound with matte texture and manufacturer's standard color.
 - 1. Manufacturers:
 - a. Butler Manufacturing Co.; Walker Division.

- b. Enduro Composite Systems.
 - c. Hubbell, Inc.; Wiring Device Division.
 - d. Lamson & Sessions; Carlon Electrical Products.
 - e. Panduit Corp.
 - f. Walker Systems, Inc.; Wiremold Company (The).
 - g. Wiremold Company (The); Electrical Sales Division.
- C. Types, sizes, and channels as indicated and required for each application, with fittings that match and mate with raceways.

2.5 BOXES, ENCLOSURES, AND CABINETS

A. Manufacturers:

- 1. Cooper Crouse-Hinds; Div. of Cooper Industries, Inc.
- 2. Emerson/General Signal; Appleton Electric Company.
- 3. Erickson Electrical Equipment Co.
- 4. Hoffman.
- 5. Hubbell, Inc.; Killark Electric Manufacturing Co.
- 6. O-Z/Gedney; Unit of General Signal.
- 7. RACO; Division of Hubbell, Inc.
- 8. Robroy Industries, Inc.; Enclosure Division.

B. Sheet Metal Outlet and Device Boxes: NEMA OS 1.

C. Cast-Metal Outlet and Device Boxes: NEMA FB 1, Type FD, with gasketed cover.

D. Nonmetallic Outlet and Device Boxes: NEMA OS 2.

E. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.

F. Cast-Metal Pull and Junction Boxes: NEMA FB 1, cast aluminum with gasketed cover.

G. Hinged-Cover Enclosures: NEMA 250, Type 1, with continuous hinge cover and flush latch.

- 1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.

H. Cabinets: NEMA 250, Type 1, galvanized steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel. Hinged door in front cover with flush latch and concealed hinge. Key latch to match panelboards. Include metal barriers to separate wiring of different systems and voltage and include accessory feet where required for freestanding equipment.

I. Concrete Boxes: Pre-cast reinforced, size and type as shown; Christy, Brooks or approved equal. All underground boxes shall be provided with traffic grade, spring loaded, bolt-down, steel cover.

2.6 FACTORY FINISHES

- A. Finish: For raceway, enclosure, or cabinet components provide manufacturer's standard prime-coat finish ready for field painting.

2.7 FIRESTOPPING FOR LOW VOLTAGE SLEEVES

- A. Firestop Pillows: STI SpecSeal® Brand re-enterable, non-curing, mineral fiber core encapsulated on six sides with intumescent coating contained in a flame retardant poly bag, the following products are acceptable:
 - 1. Specified Technologies Inc. (STI) SpecSeal® Series SSB Pillows.
- B. Fire Rated Cable Pathways: STI EZ-PATH™ Brand device modules comprised of steel raceway with intumescent foam pads allowing 0 to 100 percent cable fill, the following products are acceptable:
 - 1. Specified Technologies Inc. (STI) EZ-PATH™ Fire Rated Pathway.
 - 2. Specified Technologies Inc. (STI) Mini EZ-PATH™ Fire Rated Pathway.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

- A. Outdoors:
 - 1. Exposed: Rigid steel or IMC.
 - 2. Concealed: Rigid steel or IMC.
 - 3. Underground, Single Run: RNC.
 - 4. Underground, Grouped: RNC.
 - 5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
 - 6. Boxes and Enclosures: NEMA 250, Type 3R.
- B. Indoors:
 - 1. Exposed: EMT.
 - 2. Concealed: EMT.
 - 3. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC; except use LFMC in damp or wet locations.
 - 4. Damp or Wet Locations: Rigid steel conduit.
 - 5. Boxes and Enclosures: NEMA 250, Type 1, except as follows:
 - a. Damp or Wet Locations: NEMA 250, Type 4, stainless steel.
- C. Minimum Raceway Size: 3/4-inch trade size.
- D. Raceway Fittings: Compatible with raceways and suitable for use and location.
 - 1. Intermediate Steel Conduit: Use threaded rigid steel conduit fittings, unless otherwise indicated.
 - 2. PVC Externally Coated, Rigid Steel Conduits: Use only fittings approved for use with that material. Patch all nicks and scrapes in PVC coating after installing conduits.

3. For Outdoor Use – conduit hub, NEMA 4 for conduit connection/terminating to cabinet/panel/boxes.
4. All connectors to be steel. Die cast connectors are not acceptable.
- E. Do not install aluminum conduits embedded in or in contact with concrete.

3.2 INSTALLATION

- A. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
- B. Complete raceway installation before starting conductor installation.
- C. Support raceways as specified in Division 16 Section "Basic Electrical Materials and Methods."
- D. Install temporary closures to prevent foreign matter from entering raceways.
- E. Protect stub-ups from damage where conduits rise through floor slabs. Arrange so curved portions of bends are not visible above finished slab.
- F. Make bends and offsets so ID is not reduced. Keep legs of bends in same plane and keep straight legs of offsets parallel, unless otherwise indicated.
- G. Conceal conduit and EMT within finished walls, ceilings, and floors, unless otherwise indicated.
 1. Install concealed raceways with a minimum of bends in shortest practical distance, considering type of building construction and obstructions, unless otherwise indicated.
- H. Raceways Embedded in Slabs: Install in middle 1/3 of slab thickness where practical and leave at least 2 inches of concrete cover.
 1. Secure raceways to reinforcing rods to prevent sagging or shifting during concrete placement.
 2. Space raceways laterally to prevent voids in concrete.
 3. Run conduit larger than 1-inch trade size parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support.
 4. Change from nonmetallic tubing to Schedule 80 nonmetallic conduit, rigid steel conduit, or IMC before rising above floor.
- I. Install exposed raceways parallel or at right angles to nearby surfaces or structural members and follow surface contours as much as possible.
 1. Run parallel or banked raceways together on common supports.
 2. Make parallel bends in parallel or banked runs. Use factory elbows only where elbows can be installed parallel; otherwise, provide field bends for parallel raceways.
- J. Join raceways with fittings designed and approved for that purpose and make joints tight.
 1. Use insulating bushings to protect conductors on all raceways 2" and larger.

- K. Tighten set screws of threadless fittings with suitable tools.
- L. Terminations:
 - 1. Where raceways are terminated with locknuts and bushings, align raceways to enter squarely and install locknuts with dished part against box. Use two locknuts, one inside and one outside box.
 - 2. Where raceways are terminated with threaded hubs, screw raceways or fittings tightly into hub so end bears against wire protection shoulder. Where chase nipples are used, align raceways so coupling is square to box; tighten chase nipple so no threads are exposed.
- M. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of pull wire.
- N. Telephone and Signal System Raceways, 2-Inch Trade Size and Smaller: In addition to above requirements, install raceways in maximum lengths of 150 feet and with a maximum of two 90-degree bends or equivalent. Separate lengths with pull or junction boxes where necessary to comply with these requirements.
- O. Install raceway sealing fittings at suitable, approved, and accessible locations and fill them with UL-listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings at the following points:
 - 1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
 - 2. Where otherwise required by NFPA 70.
- P. Stub-up Connections: Extend conduits through concrete floor for connection to freestanding equipment. Install with an adjustable top or coupling threaded inside for plugs set flush with finished floor. Extend conductors to equipment with rigid steel conduit; FMC may be used 6 inches above the floor. Install screwdriver-operated, threaded plugs flush with floor for future equipment connections.
- Q. Flexible Connections: Use maximum of 72 inches of flexible conduit for recessed and semi-recessed lighting fixtures; for equipment subject to vibration, noise transmission, or movement; and for all motors. Use LFMC in damp or wet locations. Install separate ground conductor across flexible connections.
- R. Surface Raceways: Install a separate, green, ground conductor in raceways from junction box supplying raceways to receptacle or fixture ground terminals.
- S. Set floor boxes level and flush with finished floor surface.
- T. Install hinged-cover enclosures and cabinets plumb. Support at each corner.

3.3 PROTECTION

- A. Provide final protection and maintain conditions that ensure coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.
 - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.

2. Repair damage to PVC or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION

SECTION 26 22 00

FUSES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Cartridge fuses rated 600 V and less for use in switches controllers and motor-control centers.

1.2 SUBMITTALS

- A. Product Data: For each fuse type indicated.
- B. Operation and maintenance data.

1.3 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NEMA FU 1.
- C. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Cooper Bussman, Inc.
 - 2. Eagle Electric Mfg. Co., Inc.; Cooper Industries, Inc.
 - 3. Ferraz Shawmut, Inc.
 - 4. Tracor, Inc.; Littelfuse, Inc. Subsidiary.

2.2 CARTRIDGE FUSES

- A. Characteristics: NEMA FU 1, nonrenewable cartridge fuse; class and current rating indicated; voltage rating consistent with circuit voltage.

PART 3 - EXECUTION

3.1 FUSE APPLICATIONS

- A. Service Entrance: Class L, fast acting or J, fast acting.
- B. Motor Branch Circuits: Class RK5, time delay.

3.2 INSTALLATION

- A. Install fuses in fusible devices. Arrange fuses so rating information is readable without removing fuse.

3.3 IDENTIFICATION

- A. Install labels indicating fuse replacement information on inside door of each fused switch.

END OF SECTION

SECTION 26 27 26

WIRING DEVICES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Single and duplex receptacles, ground-fault circuit interrupters.
 - 2. Single- and double-pole snap switches and dimmer switches.
 - 3. Device wall plates.
 - 4. Floor service outlets, poke-through assemblies and multioutlet assemblies.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: List of legends and description of materials and process used for premarking wall plates.
- C. Samples: One for each type of device and wall plate specified, in each color specified.

1.3 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Wiring Devices:
 - a. Bryant Electric, Inc./Hubbell Subsidiary.
 - b. Eagle Electric Manufacturing Co., Inc.
 - c. Hubbell Incorporated; Wiring Device-Kellems.
 - d. Leviton Mfg. Company Inc.
 - e. Pass & Seymour/Legrand; Wiring Devices Div.
 - 2. Multioutlet Assemblies:

- a. Hubbell Incorporated; Wiring Device-Kellems.
- b. Wiremold Company (The).
- 3. Poke-Through, Floor Service Outlets and Telephone/Power Poles:
 - a. Hubbell Incorporated; Wiring Device-Kellems.
 - b. Pass & Seymour/Legrand; Wiring Devices Div.
 - c. Square D/Groupe Schneider NA.
 - d. Thomas & Betts Corporation.
 - e. Wiremold Company (The).

2.2 RECEPTACLES

- A. Straight-Blade and Locking Receptacles: Heavy-Duty grade.
- B. Straight-Blade Receptacles: Hospital grade.
- C. GFCI Receptacles: Straight blade, non-feed-through type, Hospital or Heavy-Duty grade, with integral NEMA WD 6, Configuration 5-20R duplex receptacle; complying with UL 498 and UL 943. Design units for installation in a 2-3/4-inch deep outlet box without an adapter.

2.3 SWITCHES

- A. Single- and Double-Pole Switches: Comply with DSCC W-C-896F and UL 20.
- B. Snap Switches: Heavy-Duty grade, quiet type.
- C. Combination Switch and Receptacle: Both devices in a single gang unit with plaster ears and removable tab connector that permit separate or common feed connection.
 - 1. Switch: 20 A, 120/277-V ac.
 - 2. Receptacle: NEMA WD 6, Configuration 5-20R.

2.4 WALL PLATES

- A. Single and combination types to match corresponding wiring devices.
 - 1. Plate-Securing Screws: Metal with head color to match plate finish.
 - 2. Material for Finished Spaces:
 - a. 0.035-inch thick, satin-finished stainless steel.
 - 3. Material for Unfinished Spaces: Galvanized steel.
 - 4. Material for Wet Locations: Cast aluminum with spring-loaded, lockable, lift cover, and listed and labeled for use in "wet locations."

2.5 FLOOR SERVICE FITTINGS

- A. Type: Modular, flush-type, dual-service units suitable for wiring method used.

- B. Compartments: Barrier separates power from voice and data communication cabling.
- C. Service Plate: Rectangular, solid brass with satin finish.
- D. Power Receptacle: NEMA WD 6, Configuration 5-20R, gray finish, unless otherwise indicated.
- E. Voice and Data Communication Outlet: See telecommunication specifications for requirements.
- F. Wiremold RFB4-4DB series complete with brackets, devices, corresponding covers and hardware.

2.6 POKE-THROUGH ASSEMBLIES

- A. Description: Factory-fabricated and -wired assembly of below-floor junction box with multichanneled, through-floor raceway/firestop unit and detachable matching floor service outlet assembly.
 - 1. Service Outlet Assembly: Flush type with two simplex receptacles and space for two RJ-45 jacks.
 - 2. Size: Selected to fit nominal 4-inch cored holes in floor and matched to floor thickness.
 - 3. Fire Rating: Unit is listed and labeled for fire rating of floor-ceiling assembly.
 - 4. Closure Plug: Arranged to close unused 4-inch cored openings and reestablish fire rating of floor.
 - 5. Wiring Raceways and Compartments: For a minimum of four No. 12 AWG conductors; and a minimum of four, 4-pair, Category 6 voice and data communication cables.

2.7 MULTIOUTLET ASSEMBLIES

- A. Components of Assemblies: Products from a single manufacturer designed for use as a complete, matching assembly of raceways and receptacles.
- B. Raceway Material: PVC.
- C. Wire: No. 12 AWG.

2.8 FINISHES

- A. Color:
 - 1. Wiring Devices Connected to Normal Power System: As selected by Architect, unless otherwise indicated or required by NFPA 70.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install devices and assemblies level, plumb, and square with building lines.

- B. Install wall dimmers to achieve indicated rating after derating for ganging.
- C. Install unshared neutral conductors on line and load side of dimmers.
- D. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical, and with grounding terminal of receptacles on bottom. Group adjacent switches under single, multigang wall plates.
- E. Remove wall plates and protect devices and assemblies during painting.
- F. Adjust locations of floor service outlets to suit arrangement of partitions and furnishings.

3.2 IDENTIFICATION

- A. Comply with Division 26 Section "Basic Electrical Materials and Methods."
 - 1. Receptacles: Identify panelboard and circuit number from which served. Use hot, stamped or engraved machine printing with black-filled lettering on face of plate, and durable wire markers or tags inside outlet boxes.
 - 2. Submit same for approval.

3.3 CONNECTIONS

- A. Ground equipment according to Division 26 Section "Grounding and Bonding."
- B. Connect wiring according to Division 26 Section "Conductors and Cables."

3.4 FIELD QUALITY CONTROL

- A. Perform the following field tests and inspections:
 - 1. After installing wiring devices and after electrical circuitry has been energized, test for proper polarity, ground continuity, and compliance with requirements.
 - 2. Test GFCI operation with both local and remote fault simulations according to manufacturer's written instructions.
- B. Remove malfunctioning units, replace with new units, and retest as specified above.

END OF SECTION

SECTION 26 28 16

ENCLOSED SWITCHES AND CIRCUIT BREAKERS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following individually mounted, enclosed switches and circuit breakers:
 - 1. Fusible switches.
 - 2. Nonfusible switches.
 - 3. Molded-case circuit breakers.
 - 4. Enclosures.

1.2 SUBMITTALS

- A. Product Data: For each type of enclosed switch, circuit breaker, accessory, and component indicated.
- B. Field quality-control test reports.
- C. Operation and maintenance data.

1.3 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 FUSIBLE AND NONFUSIBLE SWITCHES

- A. Manufacturers:
 - 1. Eaton Corporation; Cutler-Hammer Products.
 - 2. General Electric Co.; Electrical Distribution & Control Division.
 - 3. Siemens Energy & Automation, Inc.

4. Square D/Group Schneider.
- B. Fusible Switch, 600 A and Smaller: NEMA KS 1, Type GD, with clips or bolt pads to accommodate specified fuses, lockable handle with capability to accept two padlocks, and interlocked with cover in closed position.
- C. Nonfusible Switch, 600 A and Smaller: NEMA KS 1, Type GD, lockable handle with capability to accept two padlocks, and interlocked with cover in closed position.
- D. Accessories:
 1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
 2. Neutral Kit: Internally mounted; insulated, capable of being grounded, and bonded; and labeled for copper and aluminum neutral conductors.
 3. Auxiliary Contact Kit: Auxiliary set of contacts arranged to open before switch blades open (required for all disconnects located downstream of Variable frequency Drives)

2.3 MOLDED-CASE CIRCUIT BREAKERS AND SWITCHES

- A. Manufacturers:
 1. Eaton Corporation; Cutler-Hammer Products.
 2. General Electric Co.; Electrical Distribution & Control Division.
 3. Siemens Energy & Automation, Inc.
 4. Square D/Group Schneider.
- B. Molded-Case Circuit Breaker: NEMA AB 1, with interrupting capacity to meet available fault currents.
 1. Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
 2. Adjustable Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting.
 3. Current-Limiting Circuit Breakers: Frame sizes 400 A and smaller and let-through ratings less than NEMA FU 1, RK-5.
 4. GFCI Circuit Breakers: Single- and two-pole configurations with 30-mA trip sensitivity.
- C. Molded-Case Circuit-Breaker Features and Accessories:
 1. Standard frame sizes, trip ratings, and number of poles.
 2. Lugs: Mechanical style suitable for number, size, trip ratings, and conductor material.

3. Application Listing: Type SWD for switching fluorescent lighting loads; Type HACR for heating, air-conditioning, and refrigerating equipment.
4. Shunt Trip: 120-V trip coil energized from separate circuit, set to trip at 55 percent of rated voltage.

2.4 ENCLOSURES

- A. NEMA AB 1 and NEMA KS 1 to meet environmental conditions of installed location.
 1. Outdoor Locations: NEMA 250, Type 3R.
 2. Kitchen Areas: NEMA 250, Type 4X, stainless steel.
 3. Other Wet or Damp Indoor Locations: NEMA 250, Type 4.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Coordinate size and location of concrete bases. Verify structural requirements with structural engineer.
- B. Concrete base is specified in Division 26 Section "Basic Electrical Materials and Methods," and concrete materials and installation requirements are specified in Division 3.
- C. Comply with applicable portions of NECA 1, NEMA PB 1.1, and NEMA PB 2.1 for installation of enclosed switches and circuit breakers.
- D. Mount individual wall-mounting switches and circuit breakers with tops at uniform height, unless otherwise indicated. Anchor floor-mounting switches to concrete base.
- E. Comply with mounting and anchoring requirements specified in Division 26 Section "Seismic Controls for Electrical Work."
- F. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.
- G. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs as specified in Division 26 Section "Basic Electrical Materials and Methods."

3.2 FIELD QUALITY CONTROL

- A. Prepare for acceptance testing as follows:
 1. Inspect mechanical and electrical connections.
 2. Verify switch and relay type and labeling verification.
 3. Verify rating of installed fuses.
- B. Perform the following field tests and inspections and prepare test reports:

1. Perform each electrical test and visual and mechanical inspection stated in NETA ATS, Section 7.5 for switches and Section 7.6 for molded-case circuit breakers. Certify compliance with test parameters.
2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.

END OF SECTION

SECTION 26 51 00

INTERIOR LIGHTING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Interior LED lighting fixtures.
2. Emergency lighting units.
3. Exit signs.
4. Accessories, including LED fixture dimmers, occupancy sensors and lighting fixture retrofitting.

1.2 SUBMITTALS

- A. Product Data: For each type of lighting fixture scheduled, arranged in order of fixture designation. Include data on features, accessories, and finishes. Clearly identify ballast(s) and lamp(s) for each lighting fixture.
- B. Operation and maintenance data.

1.3 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.
- C. NFPA 101 Compliance: Comply with visibility and luminance requirements for exit signs.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
1. Products: Subject to compliance with requirements, provide one of the products specified.

2.2 FIXTURES AND COMPONENTS, GENERAL

- A. Air-Handling Fixtures: For use with plenum ceiling for air return and heat extraction and for attaching an air-diffuser-boot assembly specified in Division 25 Section "Diffusers, Registers, and Grilles."
1. Air Supply Units: Slots in one or both side trims join with air-diffuser-boot assemblies.

2. Heat Removal Units: Air path leads through lamp cavity.
3. Combination Heat Removal and Air Supply Unit: Heat is removed through lamp cavity at both ends of the fixture door with air supply same as for air supply units.
4. Dampers: Operable from outside fixture for control of return-air volume.
5. Static Fixtures: Air supply slots are blanked off, and fixture appearance matches active units.

2.3 LIGHTING FIXTURES

- A. Fixtures : See drawings.

2.4 LAMP BALLASTS

- A. Description: Include the following features, unless otherwise indicated:

1. Designed for type and quantity of lamps indicated at full light output except for emergency lamps powered by in-fixture battery-packs.
2. Externally fused with slow-blow type rated between 2.65 and 3.0 times the line current.
3. Warrantied for 5 years to include replacement LEDS, drivers and labor cost.

- B. LED lamps shall include following features:

1. L.E.D. 3500K - Philips, CREE or approved equal..
2. Comply with NEMA C82.11.
3. Normal Light Output (NLO) BF 0.87.
4. Sound Rating: A.
5. Total harmonic distortion rating of less than 20 percent according to NEMA C82.11.
6. Transient Voltage Protection: IEEE C62.41, Category A.
7. Listed class P automatic reset thermal protection.
8. Lamp Current Crest Factor: Less than 1.7

- C. Drivers for dimmer-controlled fixtures shall comply with general and fixture-related requirements above for electronic drivers and the following features:

1. Dimming Range: 100 to 5 percent of rated lamp lumens.
2. Compatibility: Certified by manufacturer for use with specific dimming system indicated.

2.5 EXIT SIGNS

- A. General: Comply with UL 924; for sign colors and lettering size, comply with authorities having jurisdiction.
- B. Internally Lighted Signs:
 - 1. Lamps for AC Operation: Light-emitting diodes, 70,000 hours minimum of rated lamp life.
- C. Self-Powered Exit Signs (Battery Type): Integral automatic charger in a self-contained power pack.
 - 1. Battery: Sealed, maintenance-free, nickel-cadmium type with special warranty.
 - 2. Charger: Fully automatic, solid-state type with sealed transfer relay.
 - 3. Operation: Relay automatically energizes lamp from battery when circuit voltage drops to 80 percent of nominal voltage or below. When normal voltage is restored, relay disconnects lamps from battery, and battery is automatically recharged and floated on charger.

2.6 EMERGENCY LIGHTING UNITS

- A. General: Self-contained units complying with UL 924.
 - 1. Battery: Sealed, maintenance-free, lead-acid type with minimum 10-year nominal life and special warranty.
 - 2. Charger: Fully automatic, solid-state type with sealed transfer relay.
 - 3. Operation: Relay automatically turns lamp on when power supply circuit voltage drops to 80 percent of nominal voltage or below. Lamp automatically disconnects from battery when voltage approaches deep-discharge level. When normal voltage is restored, relay disconnects lamps from battery, and battery is automatically recharged and floated on charger.
 - 4. Wire Guard: Where indicated, heavy-chrome-plated wire guard protects lamp heads or fixtures.
 - 5. Integral Time-Delay Relay: Holds unit on for fixed interval when power is restored after an outage; time delay permits high-intensity-discharge lamps to restrike and develop adequate output.

2.7 EMERGENCY LIGHTING FIXTURES

- A. Internal Type: Self-contained, modular, battery-inverter unit factory mounted within fixture body. Comply with UL 924.
 - 1. Emergency Connection: Operate one lamp continuously. Connect unswitched circuit to battery-inverter unit and switched circuit to fixture ballast.
 - 2. Night Light Connection: Operate one lamp continuously.
 - 3. Test Switch and Light-Emitting-Diode Indicator Light: Visible and accessible without opening fixture or entering ceiling space.

4. Battery: Sealed, maintenance-free, nickel-cadmium type with minimum seven-year nominal life.
5. Charger: Fully automatic, solid-state, constant-current type.

2.8 LED LAMPS

- A. L.E.D. 3500K - Philips, CREE or approved equal..

2.9 FIXTURE SUPPORT COMPONENTS

- A. Comply with Division 26 Section "Basic Electrical Materials and Methods" for channel- and angle-iron supports and nonmetallic channel and angle supports.
- B. Single-Stem Hangers: 1/2-inch.
- C. Twin-Stem Hangers: Two, 1/2-inch steel tubes with single canopy designed to mount a single fixture. Finish same as fixture.
- D. Wires: ASTM A 641/A 641M, Class 3, soft temper, zinc-coated, 12 gage.
- E. Wires For Humid Spaces: ASTM A 580/A 580M, Composition 302 or 304, annealed stainless steel, 12 gage.
- F. Rod Hangers: 3/16-inch minimum diameter, cadmium-plated, threaded steel rod.
- G. Hook Hangers: Integrated assembly matched to fixture and line voltage and equipped with threaded attachment, cord, and locking-type plug.

2.10 LIGHTING CONTROL DEVICES

- A. Lighting control devices are existing. Reconnect to existing controls.
- B. Light Level Sensor: Detect changes in ambient lighting level and provide dimming range of 10 to 100 percent in response to change.
 1. Sensor Capacity: At least 40 electronic dimming ballasts.
 2. Adjustable Ambient Detection Range: 10 to 100 fc minimum
- C. Occupancy Sensors: Adjustable sensitivity and off delay time range of 5 to 15 minutes.
 1. Device Color:
 - a. Wall Mounted: White.
 - b. Ceiling Mounted: White.
 2. Occupancy detection indicator.
 3. Ultrasonic Sensors: Crystal controlled with circuitry that causes no detection interference between adjacent sensors.
 4. Infrared Sensors: With daylight filter and lens to afford coverage applicable to space to be controlled.

Combination Sensors: Ultrasonic and infrared sensors combined.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Fixtures: Set level, plumb, and square with ceilings and walls. Install lamps in each fixture.
- B. Support for Fixtures in or on Grid-Type Suspended Ceilings: Use grid for support.
 - 1. Install a minimum of four ceiling support system rods or wires for each fixture. Locate not more than 6 inches from fixture corners.
 - 2. Support Clips: Fasten to fixtures and to ceiling grid members at or near each fixture corner with clips that are UL listed for the application.
 - 3. Fixtures of Sizes Less Than Ceiling Grid: Install as indicated on reflected ceiling plans or center in acoustical panel, and support fixtures independently with at least two 3/4-inch metal channels spanning and secured to ceiling tees.
 - 4. Install at least two independent support rods or wires from structure to a tab on lighting fixture. Wire or rod shall have breaking strength of the weight of fixture at a safety factor of 3.
- C. Suspended Fixture Support: As follows:
 - 1. Pendants and Rods: Where longer than 48 inches, brace to limit swinging. Pendant fixtures shall be free to swing a minimum of 45 degrees from the vertical in all directions without contacting any obstructions. Otherwise, seismic restraints are required.
 - 2. Stem-Mounted, Single-Unit Fixtures: Suspend with twin-stem hangers.
 - 3. Continuous Rows: Use tubing or stem for wiring at one point and tubing or rod for suspension for each unit length of fixture chassis, including one at each end.
 - 4. Continuous Rows: Suspend from cable.
- D. Adjust aimable fixtures to provide required light intensities.
- E. Occupancy sensor and daylighting sensor placement review by factory representative is required before installing sensors.

3.2 COMMISSIONING

- A. All electrical power and lighting controls will be commissioned per the requirements of Section 01810, Commissioning Requirements. Contractor is to provide a factory representative to start-up, test and commission all lighting controls.

END OF SECTION

SECTION 27 21 00

DATA NETWORKING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. General Requirements
- B. Scope: Data, Telephone/Voice
- C. Industry Guidelines and Standards
- D. Submittals

1.2 GENERAL REQUIREMENTS

- A. Manufacturer: The term "manufacturer" shall be defined as the company, or group of companies, that actually produces the products meeting the requirements of Section 2 of this document. The manufacturer shall have a minimum of seven (7) years experience in manufacturing products of this type and shall be ISO 9001 Certified.
- B. Contractor: The term "contractor" shall be defined as the company, or group of companies, that actually installs the product. The contractor selected to provide the installation of this system shall be certified by the manufacturer in all aspects of design, installation and testing of the products described herein.
 - 1. The contractor shall hold a valid State of California C-7 Or C-10 Contractor's license, shall have completed at least ten (10) projects of equal scope, shall have been in business of furnishing and installing systems of this scope and magnitude for at least three (3) years and capable of being bonded to assure the Owner's Project Manager of performance and satisfactory service during the guarantee period.
 - 2. The contractor shall hold all other licenses required by the legally constituted authorities having jurisdiction over the work.
 - 3. All work shall be performed under the supervision of a company accredited by the manufacturer and such accreditation must be presented.
 - 4. The contractor shall be a manufacturer's authorized distributor and warrantee station for the equipment offered and shall maintain a fully equipped service organization capable of furnishing adequate repair service to the equipment. The contractor shall maintain a spare set of all major parts for the system at all times.
 - 5. The contractor selected for this Project must adhere to the engineering, installation and testing procedures and utilize the authorized manufacturer components and distribution channels in provisioning this Project.
 - 6. The contractor shall own and maintain tools and equipment necessary for successful installation and testing of optical and Category 6A metallic premise distribution systems and have personnel who are adequately trained in the use of such tools and equipment.

7. All of the equipment in this specification shall be furnished and installed by the Authorized Factory Distributor of the equipment. The Contractor shall furnish a letter from the manufacturer of all major equipment, which certifies that the installing contractor is the Authorized Distributor and that the equipment has been installed according to factory intended practices. The Contractor shall furnish a written guarantee from the manufacturer that they will have a service representative assigned to this area for the life of the equipment.
8. All communication system supplied shall be listed by Underwriter's Laboratories under UL Standard 1459. A copy of the UL listing card for the proposed system shall be included with the contractor's submittal.

C. Responsible Person for Contractor: Submit name of the individual authorized to receive construction change documents, and who is responsible for informing others in Contractor's employ or subcontractors of changes in the Work.

1.3 SCOPE OF WORK

- A. DATA: The work shall include, but not be limited to the following objectives:
1. Disconnect and reconnect existing data drops and cabling as shown on Plans and specified herein.
 2. The installation shall include cable (fiber optic and twisted-pair copper), fiber optics raceway, fiber interconnect equipment, connectors (fiber and copper), jumpers (fiber optic and twisted-pair copper), wiring blocks, data and phone communications outlets, racks, enclosures, and passive distribution equipment. Additionally, Contractor shall provide labor and any incidental material required for installation.
 3. All data jacks and cables shall be blue in color.
 4. All Wireless Access Point jacks and cables shall be green in color.
 5. Data Horizontal Wiring: Existing cable shall be protected and re-connected. If cable is damaged the contractor shall be responsible for replacing with new.
 6. Only virgin materials shall be used in the construction of cabling.
 7. Provide testing of existing cables and connections to insure a complete and operable end-to-end data connection using EIA/TIA TSB-67 testing guidelines at level II accuracy for Category 6A.
 8. All terminations into patch panel for connection to Switches using contractor supplied patch cords/station cables. For each data cable installed, the contractor shall supply one (1) 1' Category 6A patch cord for the patch panel location. Station cords shall be delivered as directed by computer services in boxes clearly labeled with School name, quantity and size of station cords. District to install patch cords from patch-panel to switches.
 9. Warranty:
 - a. Contractor shall warrant the installation and that all approved cabling components meet or exceed the requirements of TIA/EIA-568A, TIA/EIA-568A-A5, and ISO/IEC 11801.
 - b. Contractor must fully warrant proper operation of installed system and components for a minimum of 25 years after system turnover to Owner. The Contractor shall provide a "performance" level warranty. Warranty shall be 25 year COMMScope SYSTIMAX.
 - c. The permanent link cabling system shall be warranted for a period of at least 25 years.

- d. The contractor will provide a two (2) year written warranty covering workmanship and materials in compliance with District specifications. All repairs shall be made at no cost to District during the warranty period.
- e. Contractor will provide to the District warranty information covering parts and materials used by the contractor.
- f. Upon hookup of system and system start-up by District, if system troubles should indicate problems with the cables or terminations, it shall be the responsibility of the cable installation contractor to repair any such problems free of charge to the District. The contractor shall start this repair work within a 48 hour period of time from initial notification by District.

B. INDUSTRY GUIDELINES AND STANDARDS

- 1. When Contract Documents differ from governing codes, furnish and install larger size or higher standards called for without extra charge. Notify the District Representative of any discrepancies prior to commencement of construction. Obtain written clarification prior to proceeding with work.
- 2. Electrical cable, wire and connectors shall be installed as indicated, in accordance with the manufacturer's written instructions, the applicable requirements of NEC and the National Electrical Contractors Association's "Standard of Installation", and in accordance with recognized industry practices to ensure that products serve the intended functions.
- 3. The National Fire Code (NFPA), National Electrical Code (NEC), California Electrical Code (CEC), California Building Code and Local Codes will be followed.
- 4. Applicable Standards
 - a) National Electrical Code (NEC), most recent edition.
 - b) ANSI/TIA/EIA-568-B -- Commercial Building Telecommunications Cabling Standard ANSI/TIA/EIA-568-A-1 -- Propagation Delay and Delay Skew Specifications for 100 ohm 4-pair Cable.
 - c) ANSI/TIA/EIA-568-A-2 - Commercial Building Standards Updates
 - d) ANSI/TIA/EIA-569-A -- Commercial Building Standard for Telecommunications Pathways and Spaces.
 - e) ANSI/TIA/EIA-606 -- The Administration Standard for the Telecommunications Infrastructure of Commercial Buildings.
 - f) ANSI/TIA/EIA-607 -- Commercial Building Grounding and Bonding Requirements for Telecommunications.
 - g) ANSI/TIA/EIA TSB-67 -- Transmission Performance Specifications for Field-testing of Unshielded Twisted-Pair Cabling Systems.
 - h) ANSI/TIA/EIA TSB-75 -- Additional Horizontal Cabling Practices for Open Offices.
 - i) BICSI -- Telecommunications Distribution Methods Manual.
 - j) BICSI -- Cabling Installation Manual.
 - k) IEEE 802.3 "Carrier Sense Multiple Access with Collision Detection".
 - l) IEEE 802.3ab "Gigabit Ethernet transmission over unshielded twisted pair (UTP)"
 - m) IEEE 802.z "1000Base-SX transmission over multi-mode fiber and 1000Base-LX transmission over single-mode fiber
 - n) ISO/IEC DIS 11801, January 6, 1994.
 - o) UL Cable Certification Program.

- p) ANSI X3T9.5 Requirements for UTP at 100 Mbps.
- q) EIA/TIA Technical Specification Bulletin 36. Technical Systems Bulletin additional Cable Specifications for Unshielded Twisted-Pair Cables.
- r) EIA/TIA Technical Specification Bulletin 40. Technical Systems Bulletin additional Transmission Specifications for Unshielded Twisted-Pair Connecting Hardware.
- s) TIA/EIA-607 Commercial Building Grounding and Bonding Requirements for Telecommunications.
- t) EIA/TIA-455-61 FOTP-61 Measurement of Fiber or Cable Attenuation Using an OTDR.
- u) ANSI/EIA/TIA-455-A-1991 Standard Test Procedures for Fiber Optic Fibers, Cables and Transducers, Sensors, Connecting and Terminating Devices, and other Fiber Optic Components
- v) ANSI/ICEA S-83-596-1994, Fiber Optic Premises Distribution Cable.
- w) ANSI/ICEA S-87-640-2000, Fiber Optic Outside Plant Communications Cable.
- x) ANSI/TIA/EIA-526-7-1998, Optical Power Loss Measurements of Installed Single-mode Fiber Cable Plant-OFSTP-7.
- y) ANSI/TIA/EIA-526-14-A-1998, Optical Power Loss Measurements of Installed Multimode Fiber Cable Plant-OFSTP-14A.
- z) ANSI/TIA/EIA-598-A-1995, Optical Fiber Cable Color Coding.
- aa) ANSI/TIA/EIA-604-3-1997, FOCIS 3 Fiber Optic Connector Intermateability Standard.

1.4 SUBMITTALS

- A. Pre-construction material submittals
 - 1. Whenever in the Contract Documents any materials, products, processes or articles are indicated or specified by the name brand of the manufacturer, or by patent or proprietary names, such specifications shall be deemed to be a measure of quality and utility or a standard, and shall be deemed to be followed by the words, "or equal". It is the intent of this article to comply with Public Contract Code Section 3400.
- B. Proposed Product Substitutions
 - 1. All proposed product substitutions shall be requested as per Section Product Substitution Procedures.

PART 2 - PRODUCTS

2.1 PRODUCTS

- A. Cabling:
 - 1. COMMSCOPE SYSTIMAX 2091B, blue, Category 6A cabling.
- B. Patch Panels:
 - 1. COMMSCOPE SYSTIMAX 360-IPR-1100A-E-GS6-2U-48.

C. Jacks:

1. CommScope SYSTIMAX MGS-600, blue Must adhere to the 942

D. Labels:

1. Provided by CLPCCD

PART 3 - EXECUTION

3.1 GENERAL REQUIRMENTS

- A. The wiring of the system shall be executed in accordance with the drawings and the equipment manufacturer's wiring diagrams. Should any variations in these requirements occur, the contractor shall notify the Owner's Representative before making any changes. It shall be the responsibility of the manufacturer-authorized distributor of the approved equipment to install the equipment and guarantee the system to operate as per plans and specifications.
- B. Furnish all conductors, equipment plugs, terminal strips, etc., and labor to install a complete and operable system.
- C. Splices of conductors in underground pull boxes are not permitted.
- D. The labor employed by the contractor shall be regularly employed in the installation and repair of communication systems and shall be acceptable to the Owner's Representative to engage in the installation and service of this system.
- E. The contractor shall thoroughly clean all equipment and materials. All exposed parts of the equipment, cabinets, and other equipment shall be left in a clean condition, unblemished and free of all dirt, dust, smudges, spots, fingerprints, etc. The contractor shall remove all debris and rubbish occasioned by the electronic systems work from the site. The contractor shall thoroughly clean all buildings of any dirt, debris, rubbish, marks, etc., caused by the performance of this work.
- F. The system must meet all local and other prevailing codes.
- G. All cabling installations shall be performed by qualified technicians.
- H. All cabling shall be splice free.
- I. In order to ensure the least amount of cable untwisting, it is required that all cables shall be stripped using a special tool.
- J. The use of lubricants (i.e. Blue 77) to facilitate the installation of cables in conduits is highly discouraged. If such a lubricant must be used, the contractor shall verify the acceptability of the lubricant to be used with the cable manufacturer, prior to using such a lubricant. Lubricants that harden after installation are not allowed.

- K. Under no circumstance are “channel locks” or other pliers to be used.
- L. Plenum rated cable may be run exposed above ceilings, provided the cabling is supported independent of other utilities such as conduits, pipes, and the ceiling support systems. The cable shall not be laid directly on the ciling panels. The use of cable ties shall be done in accordance with the cable manufacturer’s requirements. The cable jacket composition must meet local and all other prevailing fire and safety codes.
- M. All firewalls penetrated by structured cabling shall be sealed by use of a non-permanent fire blanket or other method in compliance with the current edition of national Fire Protection Association (NFPA) and the National Electric Code (NEC) or other prevailing code. The contractor must not use concrete or other non-removable substance for fire stopping on cable trays, wire ways or conduits.
- N. Site Cleaning. Throughout the progress of the plant construction, the contractor shall keep the working area free from debris of all types and remove from the premises all rubbish resulting from any work done by Contractor. On a daily basis and at the completion of its work the Contractor shall, to the extent possible, leave the premises in a clean and finished condition.
- O. Conduits. All backbone cabling will run through dedicated conduits. All new conduits will be supplied with a pull string. Contractor shall supply pull string and pull rope for the installation of all cables in existing conduits. For all conduits left with available capacity, Contractor shall replace pull strings with ¼-inch pull rope during the course of his work. Contractor must seal all conduits with an approved sealing compound.
- P. Cabling and Termination Identifications. All new cabling shall be of the type specified herein. Any conflicts between cabling types specified and code or design requirements shall be submitted to Owner’s Representative for review and final disposition. All cabling shall be neatly laced, dressed and adequately supported. Cabling must be concealed to the fullest extent possible. In addition, a numbering and marking scheme must be used to identify all cable and cabling terminations. All cables, regardless of length, shall be marked and/or numbered at both ends. Marking codes and methodologies shall correspond to the instructions in this specification.
- Q. Seismic Requirements. Contractor will install all equipment racks, equipment cabinet enclosures, cable runways, etc. according to the local, state and/or federal code. Contractor will notify Owner’s Representative of such requirements and shall provide such bracing as required.
- R. Safety Requirements. Contractor will utilize appropriate personnel and display warning signs, signals, flags and/or barricades at the work site to ensure adherence to safety regulations and as prudence requires.
- S. Owner or Owner’s Representative may view work or testing in progress.

3.2 CABLE ROUTING

- A. The cables will be routed to their respective Main Distribution Frame (MDF), Intermediate Distribution Frame (IDF), or to service drop utilizing the shortest path possible.
- B. Cable shall not be exposed at any point in the cable path. Contractor is to use appropriate pathway for the situation (i.e. inside wall, conduit, or non metallic surface raceway). EXCEPTION: In MDF ROOM ONLY cables may be exposed and routed in contractor supplied D-rings every 4 feet. J-hooks are acceptable above suspended ceiling tiles.
- C. Cables shall be protected and sleeved with a conduit in locations where cables need to pass through walls, floors, or hard ceilings. Contractor shall install threaded IMC or rigid conduit with large fender washers, lock rings, and screw on protective bushings on both ends. The fire rating of the wall must be maintained during and after installation.
- D. At solid wall location such as plaster, brick, concrete, cinder block, tile, reinforced concrete, Contractor will provide and install surface mounted non-metallic raceways or equivalent. The use of different series raceways is required at locations where cable fill capacities are exceeded.
- E. Terminations on block walls will be accomplished with District approved surface mount boxes.
- F. Cables will be run vertically inside the wall and into the ceiling space. Terminations on stud walls will be accomplished with cut-in type electrical boxes with a 1" conduit (flex or EMT) extended from the box within the wall to ceiling access space.
- G. Service loops:
 - 1. Category 6A (Data and Voice)
 - a. Shall be a minimum of 6'.
 - b. Shall be a minimum of 6' at all ground box locations that allow for the minimum bend radius specified by the manufacturer.
- H. Cables shall be run in corridors wherever possible in order to avoid furniture and work areas so that access to the cables is unencumbered.
- I. The cables are to be as accessible as possible, placed above all other items in the ceiling, including ducts and supports.
- J. Do not use pulling means, including fish tape, cable or rope, which can damage the Wiremold raceway.
- K. Use pulling compound or lubricant that will not deteriorate cable or conduit.
- L. Pulling compound shall be a water base pulling lubricant that will not deteriorate cable or conduit.

- M. Cables shall not be pulled across sharp edges. If sharp edges are present a small sleeve, insuliner or grommet shall be installed to protect the cable.
- N. Cables shall be pulled free of sharp bends or kinks.
- O. Cables shall not be forced or jammed between metal parts, assemblies, etc.
- P. Cables shall not be pulled across access doors and pull box covers. Access to all equipment and systems shall be maintained.
- Q. Manufacturer's specifications for pulling stress and minimum bend radius shall not be exceeded on any cable.
- R. Do not use staples or drive rings.

3.3 CABLE INSTALLATION PARAMETERS

- A. Contractor is required to adhere to the following parameters in this section whether or not existing equipment has been placed by Contractor and/or others.
- B. Contractor will notify District of any of the following requirements that cannot be met prior to bid.
- C. Data UTP specifications.
 - 1. Data terminations shall be T568B configuration unless otherwise specified
 - 2. Category 6A modular patch panels shall be installed in accordance with manufacturer's design and installation guidelines.
 - 3. Data UTP Testing
 - a. All data UTP cable shall be tested after installation according to the procedures and acceptability criteria described in EIA/TIA Standards for Category 6A cable and connecting hardware. Test at level 11 compliance.
 - b. Data UTP cable shall meet or exceed requirements for 1 Gbps data transmission.
 - c. Network certification of all four (4) pair will meet testing criteria for a minimum of 1000BASE-TX
 - d. Printed test results (both printed copy and data file copy) shall be provided as documentation of the quality of installation procedures and as a baseline for future troubleshooting.
 - e. All UTP testing equipment shall have current calibration certification.
- D. NOT USED.
- E. A maximum fill capacity of 40% will be deemed acceptable for conduits and 75% of raceway and surface mold. Contractor shall inform Consultant in writing if this requirement cannot be met. If the Contractor fails to inform the Consultant any labor involved in rerouting cables in such conduit or raceways shall be the sole responsibility of the Contractor.

- F. Cable shall be identified with a machine-printed tag identifying the system type in all access points (i.e. junction boxes, ground boxes, MDF, IDF's, etc.) and as they enter or exit the conduit pathway.
- G. Contractor will assess whether or not the ceiling space is a plenum air return which shall dictate the use of the listed plenum type or PVC type cable required in the materials specification section. Any cable installations that shall be pulled through underground conduit will require Outside Plant (OSP) cable.
- H. All cabling shall be installed with proper stress relief and tied down.
- I. Manufacturer's specification for pulling stress and minimum bend radius shall not be exceeded on any data, voice or any other cable.
- J. Power feeds of greater than 220 volts shall not be run parallel to the UTP cables. Parallel runs of greater than 20 feet require a minimum separation distance of 3 feet, or 18 inches if cables are contained in a metallic conduit, which is grounded.
- K. Multiple conduit runs of 110 volts power distribution shall not be run parallel to the UTP cables. Parallel runs of greater than 20 feet require a minimum separation distance of 18 inches.
- L. All power feeds crossing the path of the UTP cables at right angles shall be a minimum of 6 inches in distance from the UTP cables.
- M. There shall be an 18 inch separation between the cables and the fluorescent light fixtures. Contractor shall notify District representative in the event this requirement can not be met.
- N. All cable/cabling shall be kept 30 inches away from any heat source; i.e., HVAC ducting, steam valves, etc.
- O. NOT USED.
- P. Station Cable (UTP) or STP runs are not to exceed 295 feet for data and 1000 feet for voice.
- Q. Cable splicing at any point of a UTP or STP station cable or any cable installed by the contractor is unacceptable without specific district approval.
- R. No cabling is allowed to rest on any ceiling tile or suspension system unless specifically authorized by District. Strapping or mounted to any existing wires (e.g., lighting, ceiling grid, etc.) is not permitted.
- S. Cables shall be securely supported to building structure (i.e. stud, beam, or other framing member) within 12 inches of any conduit or raceway entrance.
- T. Contractor will place all station cables in the ceiling area on Contractor supplied and installed wire hangers or in floor spaces and raceways.

- U. Insulation shall be removed to expose shielding and conductors/fibers to the exact length required by manufacturer for proper termination of plugs, pins and fiber terminations.
 - 1. Wires and shielding shall not be nicked or damaged in any way upon termination of pins and closure of plug assembly.
 - 2. Pins and plugs, upon termination, shall not be damaged in any way.

3.4 LABELING AND IDENTIFICATION

- A. All cable plant labeling and administration documentation shall conform to ANSI/TIA/EIA 606 Administration Standard.
- B. The cables within the rack or cabinets shall be numbered for identification.
- C. Equipment used for labeling shall be: Brother "P-Touch" model PT-1750. Label media shall be black typeface on white tape. Tape material shall be 1/2" wide.
- D. Components shall be marked where they are administrated (label at all punch down points, panels, blocks, outlets, etc.).
- E. Industry standard color fields should be used where applicable as described in the Standards.
- F. All pathways labeled (conduit, trays, etc.).
- G. Data UTP Labeling
 - 1. Wiring termination locations shall be labeled to corresponding pairs at the MDF, IDF, C IDF and at each workstation end.
 - 2. Cables shall be labeled no more than 3" back from each end of the termination point with a cable label that matches the faceplate labeling.
 - 3. Contractor will provide tags, straps and adhesive labels. These tags, straps and adhesive labels shall be of high quality that will endure over time.
 - 4. Hand written labels are not acceptable.
 - 5. Each drop shall have a unique label throughout the site. This would allow a cable management system to track each cable pair.
 - 6. Labeling Scheme:
- H. Workstation Labeling: The faceplate or surface block shall be labeled with the Room # of the IDF where the cable sources from, the Room # the cable terminates in, and the sequential workstation number (ex. B10(IDF)-B2(RJ45 jack)-09(Workstation number). Each room shall have a sequential workstation number starting with the number 01 (ex. B10-B2-01 through B10-B2-10 and B10-B3-01 through B10-B3-10). The labeling itself shall be in a white background with black lettering.
- I. Closet Labeling: Patch panel shall be labeled with the Room # the cable terminates in (RJ45 jack) and sequential workstation number only. The labeling itself shall be in a black background with white lettering.

3.5 TESTING OF THE CABLING PLANT

- A. Contractor is responsible for supplying all of the required test equipment used to conduct acceptance tests.
- B. District reserves the right to be present during any or all of testing.
- C. All cabling not tested strictly in accordance with these procedures shall be re-tested at no additional cost to the District.
- D. 100% of the installed cabling must be tested. All tests must pass acceptance.
- E. Test equipment shall be fully charged prior to each day's testing.
- F. Test reports must be submitted in hardcopy or electronic format. Hand-written test reports are not acceptable.
- G. Hardcopy reports are to be submitted in labeled 3 ring binders with an attached affidavit verifying passing execution of all tests. For large installations electronic reports with hardcopy summaries are preferred. Hardcopy summary reports shall contain the following information on each row of the report: circuit ID, test specification used, length, date of test, and pass/fail result.
- H. Electronic reports are to be submitted on CD format. If proprietary software is used, CD shall contain any necessary software required to view test results. If the results are delivered in a standard format like Excel, Access, CSV files, etc. then software to read these files are not provided. Electronic reports must be accompanied by a Certificate signed by an authorized representative of the Contractor warranting the truth and accuracy of the electronic report. Certificate must reference traceable circuit numbers that match the electronic record.
- I. Test reports shall include the following information for each cabling element tested:
 - 1. Wire map results that indicate the cabling has no shorts, opens, miswires, split, reversed, or crossed pairs, and end to end connectivity is achieved.
 - 2. For Category 6A cabling: Attenuation, NEXT, PSNEXT, Return Loss, ELFEXT, and PSELFEXT data that indicate the worst case result, the frequency at which it occurs, the limit at that point, and the margin. These tests shall be performed in a swept frequency manner from 1 MHz to highest relevant frequency, using a swept frequency interval that is consistent with TIA and ISO requirements. Information shall be provided for all pairs or pair combinations and in both directions when required by the appropriate standards. Any individual test that fails the relevant performance specification shall be marked as a FAIL.
 - 3. Length (in meters), propagation delay, and delay skew relative to the relevant limit. Any individual test that fails the relevant performance specification shall be marked as a FAIL.
 - 4. Cable manufacturer, cable model number/type, and NVP
 - 5. Tester manufacturer, model, serial number, hardware version, and software version
 - 6. Circuit ID number and project name
 - 7. Auto-test specification used

- 8. Overall pass/fail indication
- 9. Date of test
- 10. Test reports shall be submitted within 7 business days of completion of testing.

3.6 TEST EQUIPMENT

- A. Test equipment used under this contract shall be from manufacturers that have a minimum of 5 years experience in producing field test equipment. Manufacturers must be ISO 9001 certified.
- B. All test tools of a given type shall be from the same manufacturer, and have compatible electronic results output.
- C. Test adapter cables must be approved by the manufacturer of the test equipment. Adapters from other sources are not acceptable.
- D. Baseline accuracy of the test equipment must exceed TIA Level III, as indicated by independent laboratory testing.
- E. Test equipment must be capable of certifying Category 6A and 6 links.
- F. Test equipment must have a dynamic range of at least 100 dB to minimize measurement uncertainty.
- G. Test equipment must be capable of storing full frequency sweep data for all tests and printing color graphical reports for all swept measurements.
- H. Test equipment must include S-Band time domain diagnostics for NEXT and return loss (TDNXT and TDRL) for accurate and efficient troubleshooting.
- I. Test equipment must be capable of running individual NEXT, return loss, etc measurements in addition to auto-tests. Individual tests increase productivity when diagnosing faults.
- J. Test equipment must include a library of cable types, sorted by major manufacturer.
- K. Test equipment must store at least 1000 Category 6A or 6 auto-tests in internal memory.
- L. Test equipment must be able to internally group auto-tests and cables in project folders for good records management.
- M. Test equipment must include DSP technology for support of advanced measurements.
- N. Test equipment must make swept frequency measurements in compliance with TIA standards.
- O. The measurement reference plane of the test equipment shall start immediately at the output of the test equipment interface connector. There shall not be a time domain dead zone of any distance that excludes any part of the link from the

measurement.

3.7 DOCUMENTATION AND DRAWINGS

- A. As a pre-requisite for the acceptance of the work, the Contractor shall provide all of the following information. The Contractor shall prepare and provide 2 copies of a complete Cable Book as documentation. This cable book shall consist of the following:
 - 1. Title of Project
 - 2. Index page detailing the following sections
 - 3. Site plans (as-built drawings)
 - 4. Drawings shall be professionally drafted (to scale, within a border similar to design drawings) and reproducible. Hand written drawings are not acceptable.
 - 5. The drawings shall depict, at a minimum, the following conditions:
 - a. The exact MDF/IDF/CIDF locations
 - b. Size and routing of backbone cable from each IDF to the MDF.
 - c. Station locations and their exact labeling ID(s) which shall match the physical label at the device.
 - d. New pathways, conduit, ground boxes, junction boxes, raceway, power poles and floor monuments.
 - e. Any other new conditions.
 - 6. Contractor shall provide 3 sets of as-built drawings, one of which shall be reproducible.
 - 7. In addition to the hard copy requirements, the as-builts, one of which shall be generated on Visio, and supplied to District. Media shall be recordable CD.
 - 8. The Contractor shall submit as-built drawings and media no later than 30 days after the installation date.
 - 9. Price list and contact information for emergency service work.
- B. Data station cable test results
 - 1. In sequential order by IDF and then drop number.
- C. Warranty certificates and documentation.

3.9 WARRANTY AND SUPPORT SERVICE

- A. The warranty shall commence from the date of final written acceptance by the Owner.
- B. All conditions for obtaining the manufacturer's Performance Warranty shall be the sole responsibility of the contractor.
- C. The contractor shall maintain a competent service organization and shall, if requested, submit a service maintenance agreement to the owner after the end of the guarantee period.
- D. A typewritten notice shall be posted at the equipment rack that shall indicate the firm, address and telephone number to call when service is necessary. The notice shall be mounted in a neatly finished metal frame with a clear plastic window and securely attached to the inside of the door.

- E. Extended Product Warranty and Application Assurance:
1. The 25 Year Extended Product Warranty shall ensure against product defects, that all approved cabling components exceed the specifications of TIA/EIA 568A and ISO/IEC IS 11801, exceed the attenuation and NEXT requirements of TIA/EIA TSB 67 and ISO/IEC IS 11801 for cabling links/channels, that the installation will exceed the loss and bandwidth requirements of TIA/EIA TSB 67 and ISO/IEC IS 11801 for fiber links/channels, for a twenty (20) year period. The warranty shall apply to all passive SCS components. The 25 Year Extended Product Warranty shall cover the replacement or repair of defective product(s) and labor for the replacement or repair of such defective product(s) for a twenty (25) year period.
 2. The 25 Year Application Assurance shall cover the failure of the wiring system to support the application which it was designed to support, as well as additional application(s) introduced in the future, up to 1000 Mbps parallel transmission schemes, by recognized standards or user forums that use the TIA/EIA-568A or ISO/IEC IS 11801 component and link/channel specifications for cabling, for a twenty (20) year period.
 3. Upon successful completion of the installation and subsequent inspection, the Owner's Project Manager shall be provided with a numbered certificate, from the manufacturing company, registering the installation.
- F. Contractor shall provide extra service upon request on a 24 hour-a-day, 365 day-a-Year basis. Pricing for such service shall be described in the "Cable Book" Documentation.

3.10 FINAL ACCEPTANCE

- A. The Owner or Owner's representative may visit the site during the installation of the system to ensure that correct installation practices are being followed.
- B. The Owner or Owner's representative will conduct a final job review once the contractor has finished the job. The review will take place within one week after the contractor notifies the owner.
- C. Two copies of all certification data and drawings for all identifications shall be provided to the Owner before the Owner's review.
- D. The Owner or Owner's representative will review the installation and certification data prior to the system acceptance.
- E. The Owner or Owner's representative may test some of the systems features to ensure that the certification data is correct. If a substantial discrepancy is found, the Owner reserves the right to have an independent consultant perform a certification of the entire system. If such a procedure is undertaken, the cost of the testing will be billed back to the contractor.
- F. In the event that repairs or adjustments are necessary, the contractor shall make these repairs at his own expense. All repairs shall be completed within 10 days from the time they are discovered.

END OF SECTION

SECTION 28 31 00

NETWORKED FIRE ALARM SYSTEM

PART 1 – GENERAL

1.1 RELATED SECTIONS

- A. Section 27 21 00 - Data Networking.

1.2 DESCRIPTION

- A. The fire alarm system shall comply with requirements of NFPA Standard 72 for Protected Premises Signaling Systems except as modified and supplemented by this specification. The system shall be electrically supervised and monitor the integrity of all conductors.
- B. The facility shall have an emergency voice alarm communication system. Digitally stored message sequences shall notify the building occupants that a fire or life safety condition has been reported. Message generator(s) shall be capable of automatically distributing up to eight (8) simultaneous, unique messages to appropriate audio zones within the facility based on the type and location of the initiating event. The Fire Command Center (FCC) shall also support Emergency manual voice announcement capability for both system wide or selected audio zones, and shall include provisions for the system operator to override automatic messages system wide or in selected zones.
- C. The system shall be able to support additional, alternate Fire Command Centers, which shall be capable of simultaneous monitoring of all system events. Alternate Fire Command Centers shall also support an approved method of transferring the control functions to an alternate Fire Command Center when necessary. All Fire Command Centers shall be individually capable of assuming Audio Command functions such as Emergency Paging, audio zone control functions, and Firefighter's Telephone communication functions.
- D. Each designated zone shall transmit separate and different alarm, supervisory and trouble signals to the Fire Command Center (FCC) and designated personnel in other buildings at the site via a multiplex communication network.
- E. The FACP and peripheral devices shall be manufactured 100% by a single U.S. manufacturer (or division thereof). It's acceptable for peripheral devices to be manufactured outside of the U.S. by a division of the U.S. based parent company.
- F. The system and its components shall be Underwriters Laboratories, Inc. listed under the appropriate UL testing standard as listed herein for fire alarm applications and the installation shall be in compliance with the UL listing.
- G. The installing company shall employ NICET (minimum Level II Fire Alarm Technology) technicians on site to guide the final checkout and to ensure the systems integrity.

1.3 SCOPE:

- A. Disconnect and reconnect existing initiation devices where shown on plans.
- B. Provide testing of fire alarm system per NFPA 72 upon completion of work.
- C. Basic Performance:
 - 1. Alarm, trouble and supervisory signals from all intelligent reporting devices shall be encoded on Class B Signaling Line Circuits (SLC).
 - 2. Device Circuits (IDC) shall be wired Class B as part of an addressable device connected by the SLC Circuit.
 - 3. Notification Appliance Circuits (NAC) shall be wired Class B as part of an addressable device connected by the SLC Circuit.
 - 4. A single ground fault or open circuit on the system Signaling Line Circuit shall not cause system malfunction, loss of operating power or the ability to report an alarm.
 - 5. Alarm signals arriving at the FACP shall not be lost following a primary power failure (or outage) until the alarm signal is processed and recorded.
 - 6. Speaker circuits may be controlled by NAC outputs built into the amplifiers, which shall function as addressable points on the Digital Audio Loop.
 - 7. NAC speaker circuits shall be arranged such that there is a minimum of one speaker circuit per floor of the building or smoke zone which ever is greater.
 - 8. Audio amplifiers and tone generating equipment shall be electrically supervised for normal and abnormal conditions.
 - 9. NAC speaker circuits and control equipment shall be arranged such that loss of any one (1) speaker circuit will not cause the loss of any other speaker circuit in the system.
 - 10. Two-way emergency telephone communication circuits shall be supervised for open and short circuit conditions.
 - 11. Speaker circuits shall be arranged such that there is a minimum of one speaker circuit per smoke zone.
 - 12. Speaker circuits shall be electrically supervised for open and short circuit conditions. If a short circuit exists on a speaker circuit, it shall not be possible to activate that circuit.
 - 13. Audio amplifiers and tone generating equipment shall be electrically supervised for abnormal conditions. Digital amplifiers shall provide built-in speaker circuits, field configurable as four Class B (Style Y) circuits.
 - 14. Digital amplifiers shall be capable of storing up to two minutes of digitally recorded audio messages and tones. The digital amplifiers shall also be capable of supervising the connection to the associated digital message generator, and upon loss of that connection shall be capable of one of the following system responses:
 - a. The digital amplifier shall automatically broadcast the stored audio message.
 - b. The digital amplifier shall switch to a mode where a local bus input on the digital amplifier will accept an input to initiate a broadcast of the stored message. This bus input shall be connected to a NAC on a local FACP for the purpose of providing an alternate means of initiating an emergency message during a communication fault condition.

- c. Speaker circuits shall be either 25 VRMS or 70VRMS. Speaker circuits shall have 20% space capacity for future expansion or increased power output requirements.
- d. Two-way emergency telephone (Fire Fighter Telephone) communication shall be supported between the Audio Command Center and up to seven (7) remote Fire Fighter's Telephone locations simultaneously on a telephone riser.
- e. Means shall be provided to connect FFT voice communications to the speaker circuits in order to allow voice paging over the speaker circuit from a telephone handset.
- f. The digital audio message generator shall be of reliable, non-moving parts, and support the digital storage of up to 32 minutes of tones and emergency messages, shall support programming options to string audio segments together to create up to 1000 messages, or to loop messages and parts of messages to repeat for pre-determined cycles or indefinitely.

1.4 GUARANTEE:

- A. The fire alarm control panel, voice panels and any head-end equipment shall have a manufacturer's warranty of a minimum of 3 years.

1.5 SUBMITTALS

- A. Submittals: Furnish catalog data, shop drawings, one-line diagrams, and scaled plan drawings. Building plans shall be 1/8"=1'0", and site plans shall be no smaller than 1"=40'. Minimum text height shall be 3/32" high. Contractor shall also submit name of firm he proposes to do work under this Section, addresses, phone numbers, and name of firm's contact, for approval. Such firms shall be factory authorized representatives of the equipment specified, who shall furnish all equipment, make all connections to same, and place the systems in operation. Such firms shall have offices and service departments within a 100 mile radius of project and shall have been in business of this type for at least five years. Copies of WKM design drawings are not acceptable for submittal drawings. Two submittal reviews will be made by the Architect's representative. Subsequent reviews will be charged to the Contractor. A rejection of a submittal or review of a partially presented submittal constitutes one submittal review.

1.6 POST CONTRACT MAINTENANCE:

- A. Complete maintenance and repair service for the fire detection system shall be available from a factory trained authorized representative of the manufacturer of the major equipment for a period of five (5) years after expiration of the guaranty.
- B. As part of the bid/proposal, include a quote for a maintenance contract to provide all maintenance, required tests, and list pricing for any replacement products included on the bill of materials, along with the list pricing for products not on the bill of materials; if test and inspection rates are different than full service rates the bid/proposal shall include

pricing for all levels for a minimum period of five (5) years. Rates and costs shall be valid for the period of five (5) years after expiration of the guaranty.

- C. Include also a quote for unscheduled maintenance/repairs, including hourly rates for technicians trained on this equipment, and response travel costs for each year of the maintenance period. Submittals that do not identify all post contract maintenance costs will not be accepted. Rates and costs shall be valid for the period of five (5) years after expiration of the guaranty.
- D. As part of the submittal, include a quotation for all parts and material, and all installation and test labor as needed to increase the number of intelligent or addressable devices by ten percent (10%). This quotation shall include intelligent smoke detectors, intelligent heat detectors, addressable manual stations, addressable monitor modules and addressable modules equal in number to one tenth of the number required to meet this specification (list actual quantity of each type).
- E. The quotation shall include installation, test labor, and labor to reprogram the system for this 10% expansion. If additional FACP hardware is required, include the material and labor necessary to install this hardware.
- F. Do not include cost of conduit or wire or the cost to install conduit or wire except for labor to make final connections at the FACP and at each intelligent addressable device. Do not include the cost of conventional peripherals or the cost of initiating devices or notification appliances connected to the addressable monitor/control modules.
- G. Submittals that do not include this estimate of post contract expansion cost will not be accepted.

1.7 APPLICABLE STANDARDS AND SPECIFICATIONS:

- A. The specifications and standards listed below form a part of this specification. The system shall fully comply with the latest issue of these standards, if applicable.
- B. National Fire Protection Association (NFPA) - USA:

No. 12	Extinguishing Systems (low and high)
No. 12A	Halon 1301 Extinguishing Systems
No. 13	Sprinkler Systems
No. 15	Water Spray Systems
No. 16	Foam / Water Deluge and Spray Systems
No. 17	Dry Chemical Extinguishing Systems
No. 17A	Wet Chemical Extinguishing Systems
No. 2001	Clean Agent Extinguishing Systems
No. 70	National Electric Code
No. 90A	Air Conditioning Systems
No. 92A	Smoke Control Systems
No. 92B	Smoke Management Systems in Malls, Atria, Large Areas
No. 72	National Fire Alarm Code

C. Underwriters Laboratories Inc. (UL) - USA:

No. 268	Smoke Detectors for Fire Protective Signaling Systems
No. 864	Control Units for Fire Protective Signaling Systems
No. 2572	Mass Notification Systems
No. 217	Smoke Detectors, Single and Multiple Station
No. 228	Door Closers - Holders for Fire Protective Signaling Systems
No. 268A	Smoke Detectors for Duct Applications
No. 521	Heat Detectors for Fire Protective Signaling Systems
No. 464	Audible Signaling Appliances
No. 38	Manually Actuated Signaling Boxes
No. 1481	Power Supplies for Fire Protective Signaling Systems
No. 346	Waterflow Indicators for Fire Protective Signaling Systems
No. 1076	Control Units for Burglar Alarm Proprietary Protective Signaling Systems
No. 1971	Visual Notification Appliances
No. 2017	Standard for General-Purpose Signaling Devices and Systems
No.60950	Safety of Information Technology Equipment

D. Local and State Building Codes.

E. All requirements of the Authority Having Jurisdiction (AHJ).

1.8 APPROVALS:

A. The system shall have proper listing and/or approval from the following nationally recognized agencies:

UL	Underwriters Laboratories, Inc
FM	Factory Mutual
CSFM	California State Fire Marshal

B. The system shall be certified for seismic applications in accordance with the California Building Code (CBC). The basis for qualification of seismic approval shall be via shake table testing.

PART 2 - PRODUCTS

2.1 MAIN FIRE ALARM CONTROL PANEL OR NETWORK NODE:

A. The existing Main FACP is a Gamewell E3 with voice evacuation and contains a microprocessor based Central Processing Unit (CPU) and power supply. The CPU shall communicate with and control the following types of equipment used to make up the system: intelligent addressable smoke and thermal (heat) detectors, addressable modules, printer, annunciators, and other system controlled devices.

B. In conjunction with intelligent Loop Control Modules and Loop Expander Modules, the main FACP shall perform the following functions:

1. Supervise and monitor all intelligent addressable detectors and monitor modules connected to the system for normal, trouble and alarm conditions.
2. Supervise all initiating signaling and notification circuits throughout the facility by way of connection to addressable monitor and control modules.
3. Detect the activation of any initiating device and the location of the alarm condition. Operate all notification appliances and auxiliary devices as programmed. In the event of CPU failure, all SLC loop modules shall fallback to degrade mode. Such degrade mode shall treat the corresponding SLC loop control modules and associated detection devices as conventional two-wire operation. Any activation of a detector in this mode shall automatically activate associated Notification Appliance Circuits.

2.2 System Capacity and General Operation

- A. The FACP shall be capable of communicating over a Local Area Network (LAN) or Wide Area Network (WAN) utilizing a peer-to-peer, inherently regenerative communication format and protocol. The network shall support communication speed up to 100 Mb and support up to 200 panels / nodes per network.
- B. The control panel shall be capable of expansion via up to 10 SLC loops. Each module shall support up to 318 analog/addressable devices for a maximum system capacity of 3180 points. The Fire Alarm Control Panel shall include a full featured operator interface control and annunciation panel that shall include a backlit 640-character liquid crystal display, individual, color coded system status LEDs, and a keypad for the control of the fire alarm system. Said LCD shall also support graphic bit maps capable of displaying the company name and logo of either company.
- C. All programming or editing of the existing program in the system shall be achieved without interrupting the alarm monitoring functions of the fire alarm control panel.
- D. The FACP shall be able to provide the following software and hardware features:
 1. Pre-signal and Positive Alarm Sequence: The system shall provide means to cause alarm signals to only sound in specific areas with a delay of the alarm from 60 to up to 180 seconds after start of alarm processing. In addition, a Positive Alarm Sequence selection shall be available that allows a 15-second time period for acknowledging an alarm signal from a fire detection/initiating device. If the alarm is not acknowledged within 15 seconds, all local and remote outputs shall automatically activate immediately.
 2. Smoke Detector Pre-alarm Indication at Control Panel: To obtain early warning of incipient or potential fire conditions, the system shall support a programmable option to determine system response to real-time detector sensing values above the programmed setting. Two levels of Pre-alarm indication shall be available at the control panel: alert and action.
 3. Alert: It shall be possible to set individual smoke detectors for pre-programmed pre-alarm thresholds. If the individual threshold is reached, the pre-alarm condition shall be activated.

4. Action: If programmed for Action and the detector reaches a level exceeding the pre-programmed level, the control panel shall indicate an action condition. Sounder bases installed with either heat or smoke detectors shall automatically activate on action Pre-Alarm level, with general evacuation on Alarm level.
5. The system shall support a detector response time to meet world annunciation requirements of less than 3 seconds.
6. Device Blink Control: Means shall be provided to turn off detector/module LED strobes for special areas.
7. NFPA 72 Smoke Detector Sensitivity Test: The system shall provide an automatic smoke detector test function that meets the sensitivity testing requirements of NFPA 72.
8. Programmable Trouble Reminder: The system shall provide means to automatically initiate a reminder that troubles exist in the system. The reminder will appear on the system display and (if enabled) will sound a piezo alarm.
9. On-line or Off-line programming: The system shall provide means to allow panel programming either through an off-line software utility program away from the panel or while connected and on-line. The system shall also support upload and download of programmed database and panel executive system program to a Personal Computer/laptop. A single change to one CPU database shall not require a database download to other CPUs.
10. History Events: The panel shall maintain a history file of the last 4000 events, each with a time and date stamp. History events shall include all alarms, troubles, operator actions, and programming entries. The control panels shall also maintain a 1000 event Alarm History buffer, which consists of the 1000 most recent alarm events from the 4000 event history file.
11. Smoke Control Modes: The system shall provide means to perform FSCS mode Smoke Control to meet NFPA-92A and 90B and HVAC mode to meet NFPA 90A.
12. The system shall provide means for all SLC devices on any SLC loop to be auto programmed into the system by specific address. The system shall recognize specific device type ID's and associate that ID with the corresponding address of the device.
13. Passwords and Users: The system shall support two password levels, master and user. Up to 9 user passwords shall be available, each of which may be assigned access to the programming change menus, the alter status menus, or both. Only the master password shall allow access to password change screens.
14. Block Acknowledge: The system shall support a block Acknowledge for Trouble Conditions
15. Sensitivity Adjust: The system shall provide Automatic Detector Sensitivity Adjust based on Occupancy schedules including a Holiday list of up to 15 days.
16. Environmental Drift Control: The system shall provide means for setting Environmental Drift Compensation by device. When a detector accumulates dust in the chamber and reaches an unacceptable level but yet still below the allowed limit, the control panel shall indicate a maintenance alert warning. When the detector accumulates dust in the chamber above the allowed limit, the control panel shall indicate a maintenance urgent warning.
17. Custom Action Messages: The system shall provide means to enter up to 100 custom action messages of up to 160 characters each. It shall be possible to assign any of the 100 messages to any point.
18. Local Mode: If communication is lost to the central processor the system shall provide added survivability through the intelligent loop control modules. Inputs from

devices connected to the SLC and loop control modules shall activate outputs on the same loop when the inputs and outputs have been set with point programming to participate in local mode or when the type codes are of the same type: that is, an input with a fire alarm type code shall activate an output with a fire alarm type code.

19. Read status preview - enabled and disabled points: Prior to re-enabling points, the system shall inform the user that a disabled device is in the alarm state. This shall provide notice that the device must be reset before the device is enabled thereby avoiding activation of the notification circuits.
20. Custom Graphics: When fitted with an LCD display, the panel shall permit uploading of a custom bit-mapped graphic to the display screen.
21. Multi-Detector and Cooperating Detectors: The system shall provide means to link one detector with up to two detectors at other addresses on the same loop in cooperative multi-detector sensing. There shall be no requirement for sequential addresses on the detectors and the alarm event shall be a result of all cooperating detectors chamber readings.
22. ACTIVE EVENT: The system shall provide a Type ID called FIRE CONTROL for purposes of air-handling shutdown, which shall be intended to override normal operating automatic functions. Activation of a FIRE CONTROL point shall cause the control panel to (1) initiate the monitor module Control-by-Event, (2) send a message to the panel display, history buffer, installed printer and annunciators, (3) shall not light an indicator at the control panel, (4) Shall display ACTIVE on the LCD as well as display a FIRE CONTROL Type Code and other information specific to the device.
23. NON-FIRE Alarm Module Reporting: A point with a type ID of NON-FIRE shall be available for use for energy management or other non-fire situations. NON-FIRE point operation shall not affect control panel operation nor shall it display a message at the panel LDC. Activation of a NON-FIRE point shall activate control by event logic but shall not cause any indication on the control panel.
24. Mass Notification Override: The system shall be UL 2572 listed for Mass Notification and shall be capable, based on the Risk Analysis, of being programmed so that Mass Notification/Emergency Communications events take precedence over fire alarm events.
25. Security Monitor Points: The system shall provide means to monitor any point as a type security.
26. One-Man Walk Test: The system shall provide both a basic and advanced walk test for testing the entire fire alarm system. The basic walk test shall allow a single operator to run audible tests on the panel. All logic equation automation shall be suspended during the test and while annunciators can be enabled for the test, all shall default to the disabled state. During an advanced walk test, field-supplied output point programming will react to input stimuli such as CBE and logic equations. When points are activated in advanced test mode, each initiating event shall latch the input. The advanced test shall be audible and shall be used for pull station verification, magnet activated tests on input devices, input and output device and wiring operation/verification.
27. Control By Event Functions: CBE software functions shall provide means to program a variety of output responses based on various initiating events. The control panel shall operate CBE through lists of zones. A zone shall become listed when it is added to a point's zone map through point programming. Each input point such as

- detector, monitor module or panel circuit module shall support listing of up to 10 zones into its programmed zone map.
28. Permitted zone types shall be general zone, releasing zone and special zone. Each output point (control module, panel circuit module) can support a list of up to 10 zones including general zone, logic zone, releasing zone and trouble zone. It shall be possible for output points to be assigned to list general alarm. Non-Alarm or Supervisory points shall not activate the general alarm zone.
 29. 1000 General Zones: The system shall support up to 1000 general purpose software zones for linking inputs to outputs. When an input device activates, any general zone programmed into that device's zone map will be active and any output device that has an active general zone in its map will be active. It shall also be possible to use general zone as arguments in logic equations.
 30. 1000 Logic Equations: The system shall support up to 1000 logic equations for AND, OR, NOT, ONLY1, ANYX, XZONE or RANGE operators that allow conditional I/O linking. When any logic equation becomes true, all output points mapped to the logic zone shall activate.
 31. 100 trouble equations per device: The system shall provide support for up to 100 trouble equations for each device, which shall permit programming parameters to be altered, based on specific fault conditions. If the trouble equation becomes true, all output points mapped to the trouble zone shall activate.
 32. Control-By-Time: A time based logic function shall be available to delay an action for a specific period of time based upon a logic input with tracking feature. A latched version shall also be available. Another version of this shall permit activation on specific days of the week or year with ability to set and restore based on a 24 hour time schedule on any day of the week or year.
 33. Multiple agent releasing zones: The system shall support up to 10 releasing zones to protect against 10 independent hazards. Releasing zones shall provide up to three cross-zone and four abort options to satisfy any local jurisdiction requirements.
 34. Alarm Verification, by device, with timer and tally: The system shall provide a user-defined global software timer function that can be set for a specific detector. The timer function shall delay an alarm signal for a user-specified time period and the control panel shall ignore the alarm verification timer if another alarm is detected during the verification period. It shall also be possible to set a maximum verification count between 0 and 20 with the "0" setting producing no alarm verification. When the counter exceeds the threshold value entered, a trouble shall be generated to the panel.
 35. Secure/Access Operation: The system shall have the capability of configuring input modules to monitor status of door contact or other security type sensors. These input modules shall be able to be commanded from the normally 'Secure' state to an 'Access' state. While in the secure state, the module will transmit alarm conditions to the controller, which shall be annunciated on the LCD and LED displays. The modules shall be placed into the Access state either through the LCD display or through predefined operator keys. While in the Access state, all alarms from the module will be shunted. Placing the module into the access state shall cause a discrete LED associated with input point to flash, but no other trouble or disable condition will be annunciated. Change from Secure to Access and reverse shall be transmitted to the central monitoring station on a per zone basis. Systems that cause or indicate a trouble or disable condition are unacceptable.

E. Network Communication

1. The FACP shall be capable of communicating on Noti-Fire-Net over a Local Area Network (LAN) or Wide Area Network (WAN) utilizing a peer-to-peer, inherently regenerative communication format and protocol. The network shall support communication speed up to 100 Mb and support up to 200 panels/nodes per network.

F. Central Processing Unit

1. The Central Processing Unit shall contain and execute all control-by-event (including Boolean functions including but not limited to AND, OR, NOT, ANYx, and CROSSZONE) programs for specific action to be taken if an alarm condition is detected by the system. Such control-by-event programs shall be held in non-volatile programmable memory, and shall not be lost with system primary and secondary power failure.
2. The Central Processing Unit shall also provide a real-time clock for time annotation, to the second, of all system events. The time-of-day and date shall not be lost if system primary and secondary power supplies fail.
3. The CPU shall be capable of being programmed on site without requiring the use of any external programming equipment. Systems that require the use of external programmers or change of EPROMs are not acceptable.
4. The CPU shall provide an EIA-232 interface between the fire alarm control panel and the UL Listed Electronic Data Processing (EDP) peripherals.
5. The CPU shall provide two EIA-485 ports for the serial connection to annunciation and control subsystem components.
6. The EIA-232 serial output circuit shall be optically isolated to assure protection from earth ground.

G. Display

1. The system display shall provide a 640-character backlit alphanumeric Liquid Crystal Display (LCD). It shall also provide eleven Light-Emitting-Diodes (LEDs) that indicate the status of the following system parameters: AC POWER, FIRE ALARM, PREALARM, SECURITY, SUPERVISORY, SYSTEM TROUBLE, OTHER EVENT, SIGNALS SILENCED, POINT DISABLED, CONTROLS ACTIVE, and CPU FAILURE.
2. The system display shall provide a keypad with control capability to command all system functions, entry of any alphabetic or numeric information, and field programming. Two different password levels with up to ten (one Master and nine User) passwords shall be accessible through the display interface assembly to prevent unauthorized system control or programming.

H. Loop (Signaling Line Circuit) Control Module:

1. The Loop Control Module shall monitor and control a minimum of 318 intelligent addressable devices. This includes 159 intelligent detectors (Ionization, Photoelectric, or Thermal) and 159 monitor or control modules.

2. The Loop Control Module shall contain its own microprocessor and shall be capable of operating in a local/degrade mode (any addressable device input shall be capable of activating any or all addressable device outputs) in the unlikely event of a failure in the main CPU.
 3. Each Loop shall be capable of operating as a NFPA Style 4 (Class B) circuit. Fault isolation modules shall be installed between each addressable SLC device per the manufacturers installation instructions. Systems which cannot provide full loop loading in Style 7 configurations are not acceptable.
 4. The SLC interface board shall receive analog or digital information from all intelligent detectors and shall process this information to determine whether normal, alarm, or trouble conditions exist for that particular device. Each SLC Loop shall be isolated and equipped to annunciate an Earth Fault condition. The SLC interface board software shall include software to automatically maintain the detector's desired sensitivity level by adjusting for the effects of environmental factors, including the accumulation of dust in each detector. The analog information may also be used for automatic detector testing and the automatic determination of detector maintenance requirements.
- I. Digital Voice Command Center
1. The Digital Voice Command Center located with the FACP, shall contain all equipment required for all audio control, emergency telephone system control, signaling and supervisory functions. This shall include speaker zone indication and control, telephone circuit indication and control, digital voice units, microphone and main telephone handset.
 2. Function: The Voice Command Center equipment shall perform the following functions:
 - a. Operate as a supervised multi-channel emergency voice communication system.
 - b. Operate as a two-way emergency telephone system control center.
 - c. Audibly and visually annunciate the active or trouble condition of every speaker circuit and emergency telephone circuit.
 - d. Audibly and visually annunciate any trouble condition for digital tone and voice units required for normal operation of the system.
 - e. Provide all-call Emergency Paging activities through activation of a single control switch.
 - f. As required, provide vectored paging control to specific audio zones via dedicated control switches.
 - g. Provide a factory recorded "library" of voice messages and tones in standard WAV. File format, which may be edited and saved on a PC running a current Windows® operating system.
 - h. Provide a software utility capable of off-line programming for the DVC operation and the audio message files. This utility shall support the creation of new programs as well as editing and saving existing program files. Uploading or downloading the DVC shall not inhibit the emergency operation of other nodes on the fire alarm network.
 - i. Support an optional mode of operation with four analog audio outputs capable of being used with UL 864 fire-listed analog audio amplifiers and SLC controlled switching.

- j. The Digital Voice Command shall be modular in construction, and shall be capable of being field programmable without requiring the return of any components to the manufacturer and without requiring use of any external computers or other programming equipment.
- k. The Digital Voice Command and associated equipment shall be protected against unusually high voltage surges or line transients.

J. Power Supply:

1. The Main Power Supply shall operate on 120/240 VAC, 50/60 Hz, and shall provide all necessary power for the FACP.
2. The Main Power Supply shall provide the required power to the CPU using a switching 24 VDC regulator and shall incorporate a battery charger for 24 hours of standby power using dual-rate charging techniques for fast battery recharge.
3. The Main Power Supply shall provide a battery charger for 24 hours of standby using dual-rate charging techniques for fast battery recharge. The supply shall be capable of charging batteries ranging in capacity from 7-200 amp-hours within a 48-hour period.
4. The Main Power Supply shall provide a very low frequency sweep earth detect circuit, capable of detecting earth faults.
5. The Main Power Supply shall be power-limited per UL864 requirements.
6. The Main Power Supply shall communicate power supply, line voltage, battery status and charger status to the local LCD display. Any abnormal condition shall be annunciated and logged to the system alarm history log.
7. Addressable Charger Power SupplyThe auxiliary addressable power supply is a remote 24 VDC power supply used to power Notification Devices and field devices that require regulated 24 VDC power. .
8. The addressable power supply for the fire detection system shall provide up to a minimum of 6.0 amps of 24 volt DC regulated power for Notification Appliance Circuit (NAC) power or 10.0 amps of 24 volt DC general power. The power supply shall have an additional 0.5 amp of 24 VDC auxiliary power for use within the same cabinet as the power supply. It shall include an integral charger designed to charge 12 - 200 amp hour batteries.
9. The addressable power supply shall provide four individually addressable Notification Appliance Circuits that may be configured as Class "B" circuits. All circuits shall be power-limited per UL 864 requirements.
10. The addressable power supply shall provide built-in synchronization for certain Notification Appliances on each circuit without the need for additional synchronization modules. The power supply's output circuits shall be individually selected for synchronization. A single addressable power supply shall be capable of supporting both synchronized and non-synchronized Notification Devices at the same time.
11. The addressable power supply shall operate on 120 or 240 VAC, 50/60 Hz.
12. The interface to the power supply from the Fire Alarm Control Panel (FACP) shall be via the Signaling Line Circuit (SLC) or other multiplexed means Power supplies that do not use an intelligent interface are not suitable substitutes. The required wiring from the FACP to the addressable power supply shall be a single unshielded twisted pair wire.
13. The addressable power supply shall supervise for battery charging failure, AC power loss, power brownout, battery failure, NAC loss, and optional ground fault detection.

In the event of a trouble condition, the addressable power supply shall report the incident and the applicable address to the FACP via the SLC.

14. The addressable power supply shall have an AC Power Loss Delay option. If this option is utilized and the addressable power supply experiences an AC power loss, reporting of the incident to the FACP will be delayed. A delay time of zero, two, eight or sixteen hours shall be programmable.
15. The addressable power supply shall have an option for Canadian Trouble Reporting and this option shall be programmable.
16. The addressable power supply mounts in either the FACP backbox or it's own dedicated surface mounted backbox with cover.
17. Each of the power supply's four output circuits shall be programmed- for Notification Appliance Circuit or General Purpose 24 VDC power. Any output circuit shall be able to provide up to 2.5 amps of 24 VDC power.
18. The addressable power supply's output circuits shall be individually supervised when they are selected to be either a Notification Appliance Circuit when wired Class "B" or by the use of an end-of-line resistor. When the power supply's output circuit is selected as General 24 VDC power, the circuit shall be individually supervised when an end-of-line relay is used.
19. When selected for Notification Appliance Circuits, the output circuits shall be individually programmable for Temporal.
20. When selected as a Notification Appliance Circuit, the output circuits of the addressable power supply shall have the option to be coded by the use of a universal zone coder.
21. The addressable power supply shall interface and synchronize with other power supplies of the same type. The required wiring to interface multiple addressable power supplies shall be a single unshielded, twisted pair wire.
22. An individual or multiple interfaced addressable power supplies shall have the option to use an external charger for battery charging. Interfaced power supplies shall have the option to share backup battery power.

K. Audio Amplifiers

1. The Audio Amplifiers will provide Audio Power () for distribution to speaker circuits.
2. Multiple audio amplifiers may be mounted in a single enclosure, either to supply incremental audio power, or to function as an automatically switched backup amplifier(s).
3. The audio amplifier shall include an integral power supply, and shall provide built-in LED indicators for the following conditions:
 - a. Earth Fault on DAP A (Digital Audio Port A)
 - b. Earth Fault on DAP B (Digital Audio Port B)
 - c. Audio Amplifier Failure Detected Trouble
 - d. Active Alarm Bus input
 - e. Audio Detected on Aux Input A
 - f. Audio Detected on Aux Input B
 - g. Audio Detected on Firefighter's Telephone Riser
 - h. Receiving Audio from digital audio riser
 - i. Short circuit on speaker circuit 1
 - j. Short circuit on speaker circuit 2
 - k. Short circuit on speaker circuit 3

- l. Short circuit on speaker circuit 4
 - m. Data Transmitted on DAP A
 - n. Data Received on DAP A
 - o. Data Transmitted on DAP B
 - p. Data Received on DAP B
 - q. Board failure
 - r. Active fiber optic media connection on port A (fiber optic media applications)
 - s. Active fiber optic media connection on port B (fiber optic media applications)
 - t. Power supply Earth Fault
 - u. Power supply 5V present
 - v. Power supply conditions - Brownout, High Battery, Low Battery, Charger Trouble
- 4. The audio amplifier shall provide the following built-in controls:
 - a. Amplifier Address Selection Switches
 - b. Signal Silence of communication loss annunciation Reset
 - c. Level adjustment for background music
 - d. Enable/Disable for Earth Fault detection on DAP A
 - e. Enable/Disable for Earth Fault detection on DAP A
 - f. Switch for 2-wire/4-wire FFT riser
- 5. Adjustment of the correct audio level for the amplifier shall not require any special tools or test equipment.
- 6. Includes audio input and amplified output supervision, back up input, and automatic switch over function, (if primary amplifier should fail).
- 7. System shall be capable of backing up digital amplifiers.
- 8. One-to-one backup shall be provided by either a plug-in amplifier card or a designated backup amplifier of identical model as the primary amplifier.
- 9. One designated backup amplifier shall be capable of backing up multiple primary amplifiers mounted in the same or adjacent cabinets.
- 10. Multi-channel operation from a single amplifier shall be supported by the addition of an optional plug-in amplifier card.
- L. Audio Message Generator (Prerecorded Voice)/Speaker Control:
 - 1. Each initiating zone or intelligent device shall interface with an emergency voice communication system capable of transmitting a prerecorded voice message to all speakers in the building.
 - 2. Actuation of any alarm initiating device shall cause a prerecorded message to sound over the speakers. The message shall be repeated four (4) times. Pre- and post-message tones shall be supported.
 - 3. A built-in microphone shall be provided to allow paging through speaker circuits.
 - 4. System paging from emergency telephone circuits shall be supported.
 - 5. The audio message generator shall have the following indicators and controls to allow for proper operator understanding and control:
 - a. Lamp Test
 - b. Trouble
 - c. Off-Line Trouble

- d. Microphone Trouble
- e. Phone Trouble
- f. Busy/Wait
- g. Page Inhibited
- h. Pre/Post Announcement Tone

M. Controls with associated LED Indicators:

1. Speaker Switches/Indicators

- a. The speaker circuit control switches/indicators shall include visual indication of active and trouble status for each speaker circuit in the system.
- b. The speaker circuit control panel shall include switches to manually activate or deactivate each speaker circuit in the system.

2. Emergency Two-Way Telephone Control Switches/Indicators

- a. The emergency telephone circuit control panel shall include visual indication of active and trouble status for each telephone circuit in the system.
- b. The telephone circuit control panel shall include switches to manually activate or deactivate each telephone circuit in the system.

N. Remote Transmissions:

- 1. Provide local energy or polarity reversal or trip circuits as required.
- 2. The system shall be capable of operating a polarity reversal or local energy or fire alarm transmitter for automatically transmitting fire information to the fire department.
- 3. Provide capability and equipment for transmission of zone alarm and trouble signals to remote operator's terminals, system printers and annunciators.
- 4. Transmitters shall be compatible with the systems and equipment they are connected to such as timing, operation and other required features.

O. Field Programming

- 1. The system shall be programmable, configurable and expandable in the field without the need for special tools, laptop computers, or other electronic interface equipment. There shall be no firmware changes required to field modify the system time, point information, equations, or annunciator programming/information.
- 2. All field defined programs shall be stored in non-volatile memory. Two levels of password protection shall be provided in addition to a key-lock cabinet. One level shall be used for status level changes such as point/zone disable or manual on/off commands (Building Manager). A second (higher-level) shall be used for actual change of the life safety program (installer). These passwords shall be five (5) digits at a minimum. Upon entry of an invalid password for the third time within a one minute time period an encrypted number shall be displayed. This number can be used as a reference for determining a forgotten password. .
- 3. The system programming shall be "backed" up via an upload/download program, and stored on compatible removable media. A system back-up disk shall be completed and given in duplicate to the building owner and/or operator upon

completion of the final inspection. The program that performs this function shall be "non-proprietary", in that, it shall be possible to forward it to the building owner/operator upon his or her request.

4. The installer's field programming and hardware shall be functionally tested on a computer against known parameters/norms which are established by the FACP manufacturer. A software program shall test Input-to-Output correlations, device Type ID associations, point associations, time equations, etc. This test shall be performed on an IBM-compatible PC with a verification software package. A report shall be generated of the test results and two copies turned in to the engineer(s) on record.

P. Specific System Operations

1. Smoke Detector Sensitivity Adjust: A means shall be provided for adjusting the sensitivity of any or all addressable intelligent detectors in the system from the system keypad. Sensitivity range shall be within the allowed UL window and have a minimum of 9 levels.
2. Alarm Verification: Each of the intelligent addressable smoke detectors in the system may be independently selected and enabled to be an alarm verified detector. The alarm verification delay shall be programmable from 0 to 60 seconds and each detector shall be able to be selected for verification. The FACP shall keep a count of the number of times that each detector has entered the verification cycle. These counters may be displayed and reset by the proper operator commands.

Q. System Point Operations:

1. Any addressable device in the system shall have the capability to be enabled or disabled through the system keypad or video terminal.
2. System output points shall be capable of being turned on or off from the system keypad or the video terminal.
3. Point Read: The system shall be able to display the following point status diagnostic functions without the need for peripheral equipment. Each point shall be annunciated for the parameters listed:
 - a. Device Status.
 - b. Device Type.
 - c. Custom Device Label.
 - d. Software Zone Label.
 - e. Device Zone Assignments.
 - f. Analog Detector Sensitivity.
 - g. All Program Parameters.
4. System History Recording and Reporting: The fire alarm control panel shall contain a history buffer that will be capable of storing up to 4000 system events. Each of these events will be stored, with time and date stamp, until an operator requests that the contents be either displayed or printed. The contents of the history buffer may be manually reviewed; one event at a time, and the actual number of activations may also be displayed and or printed. History events shall include all alarms, troubles, operator actions, and programming entries.

5. The history buffer shall use non-volatile memory. Systems which use volatile memory for history storage are not acceptable.
6. Automatic Detector Maintenance Alert: The fire alarm control panel shall automatically interrogate each intelligent system detector and shall analyze the detector responses over a period of time.
7. If any intelligent detector in the system responds with a reading that is below or above normal limits, then the system will enter the trouble mode, and the particular Intelligent Detector will be annunciated on the system display, and printed on the optional system printer. This feature shall in no way inhibit the receipt of alarm conditions in the system, nor shall it require any special hardware, special tools or computer expertise to perform.
8. The system shall include the ability (programmable) to indicate a "pre-alarm" condition. This will be used to alert maintenance personal when a detector is at 80% of its alarm threshold in a 60 second period.

R. System Maintenance Analysis and Reporting

1. The system shall automatically track NFPA 72 installation and testing requirements for all addressable devices to ensure that every device is functionally tested upon installation and then periodically as required by the Code.
2. If after twelve months any device has not been functionally tested a led shall illuminate on the CPU or Network annunciator indicating the device that needs testing.
3. The system shall automatically track device testing to ensure that a visual inspection is performed at least semi-annually.
4. If after six months a device has not been indicated as "visually inspected" a led shall illuminate on the CPU or Network annunciator indicating the device that needs testing.
5. A hand-held IR tool may be used to interact with each SLC device to indicate that a visual inspection has been performed. The IR device will explicitly identify the device by loop and address to ensure the correct visual inspection has been performed.
6. A comprehensive report shall be available from the laptop programmer which shows a predictive report of all devices that have upcoming testing requirements. These reports shall be configurable as either 30, 60 or 90 day predictive, current status, and "all database."
7. Systems that do not automatically track the individual testing requirements of the field devices will not be accepted.

2.3 SYSTEM COMPONENTS:

- A. Fixed Emergency Telephone Handset – existing.
- B. Universal Digital Alarm Communicator Transmitter (UDACT). – existing.
- C. Field Wiring Terminal Blocks

1. For ease of service all panel I/O wiring terminal blocks shall be removable, plug-in types and have sufficient capacity for #18 to #12 AWG wire. Terminal blocks that are permanently fixed are not acceptable.

D. Printer – existing.

2.5 SYSTEM COMPONENTS - ADDRESSABLE DEVICES

A. Addressable Devices – General

1. Addressable devices shall provide an address-setting means using rotary decimal switches. Addressable devices that require the address be programmed using a programming utility are not an allowable substitute.
2. Addressable devices shall use simple to install and maintain decade, decimal address switches. Devices shall be capable of being set to an address in a range of 001 to 159.
3. Addressable devices, which use a binary-coded address setting method, such as a DIP-switch, are not an allowable substitute. Addressable devices that require the address be programmed using a special tool or programming utility are not an allowable substitute.
4. Addressable devices, which use a binary-coded address setting method, such as a DIP-switch, are not an allowable substitute. Addressable devices that require the address be programmed using a special tool or programming utility are not an allowable substitute.
5. Detectors shall be intelligent (analog) and addressable, and shall connect with two wires to the fire alarm control panel Signaling Line Circuits.
6. Addressable smoke and thermal detectors shall provide dual alarm and power/polling LEDs. Both LEDs shall flash green under normal conditions, indicating that the detector is operational and in regular communication with the control panel, and both LEDs shall be placed into steady red illumination by the control panel, indicating that an alarm condition has been detected. If required, the LED flash shall have the ability to be removed from the system program. An output connection shall also be provided in the base to connect an external remote alarm LED.
7. The fire alarm control panel shall permit detector sensitivity adjustment through field programming of the system. The panel on a time-of-day basis shall automatically adjust sensitivity.
8. Using software in the FACP, detectors shall automatically compensate for dust accumulation and other slow environmental changes that may affect their performance. The detectors shall be listed by UL as meeting the calibrated sensitivity test requirements of NFPA Standard 72.
9. The detectors shall be ceiling-mount and shall include a separate twist-lock base with tamper proof feature.
10. Detectors shall also store an internal identifying type code that the control panel shall use to identify the type of device (ION, PHOTO, THERMAL).
11. Detectors will operate in an analog fashion, where the detector simply measures its designed environment variable and transmits an analog value to the FACP based on real-time measured values. The FACP software, not the detector, shall make the alarm/normal decision, thereby allowing the sensitivity of each detector to be

- set in the FACP program and allowing the system operator to view the current analog value of each detector.
12. Addressable devices shall store an internal identifying code that the control panel shall use to identify the type of device.
 13. A magnetic test switch shall be provided to test detectors and modules. Detectors shall report an indication of an analog value reaching 100% of the alarm threshold.
 14. Addressable modules shall mount in a 4-inch square (101.6 mm square), 2-1/8 inch (54 mm) deep electrical box. An optional surface mount Lexan enclosure shall be available.
- B. Addressable Manual Fire Alarm Box (manual station) – existing.
- C. Intelligent Photoelectric Smoke Detector – existing.
- D. Intelligent Thermal Detectors – existing.
- E. Intelligent Duct Smoke Detector – existing.
- F. Addressable Dry Contact Monitor Module – existing.
- G. Addressable Control Module – existing.
- H. Addressable Relay Module – existing.
- I. Isolator Module – existing
- J. Serially Connected Annunciator Requirements – existing.
- K. Speakers – existing.
- L. Speaker Strobes – existing.
1. Strobe lights shall meet the requirements of the ADA, UL Standard 1971 and be fully synchronized.

PART 3 - EXECUTION

3.1. INSTALLATION:

- A. Installation shall be in accordance with the NEC, NFPA 72, local and state codes, as shown on the drawings, and as recommended by the major equipment manufacturer.
- B. All conduit, junction boxes, conduit supports and hangers shall be concealed in finished areas and may be exposed in unfinished areas. Smoke detectors shall not be installed prior to the system programming and test period. If construction is ongoing during this period, measures shall be taken to protect smoke detectors from contamination and physical damage.

- C. All fire detection and alarm system devices, control panels and remote annunciators shall be flush mounted when located in finished areas and may be surface mounted when located in unfinished areas.
- D. Manual fire alarm boxes shall be suitable for surface mounting or semi-flush mounting as shown on the plans, and shall be installed not less than 42 inches (1067 mm), nor more than 48 inches (122 mm) above the finished floor.

3.2. TEST:

The service of a competent, factory-trained engineer or technician authorized by the manufacturer of the fire alarm equipment shall be provided to technically supervise and participate during all of the adjustments and tests for the system. All testing shall be in accordance with NFPA 72.

- A. Before energizing the cables and wires, check for correct connections and test for short circuits, ground faults, continuity, and insulation.
- B. Close each sprinkler system flow valve and verify proper supervisory alarm at the FACP.
- C. Verify activation of all waterflow switches.
- D. Open initiating device circuits and verify that the trouble signal actuates.
- E. Open and short signaling line circuits and verify that the trouble signal actuates.
- F. Open and short notification appliance circuits and verify that trouble signal actuates.
- G. Ground all circuits and verify response of trouble signals.
- H. Check presence and audibility of tone at all alarm notification devices.
- I. Check installation, supervision, and operation of all intelligent smoke detectors using the walk test.
- J. Each of the alarm conditions that the system is required to detect should be introduced on the system. Verify the proper receipt and the proper processing of the signal at the FACP and the correct activation of the control points.
- K. When the system is equipped with optional features, the manufacturer's manual shall be consulted to determine the proper testing procedures. This is intended to address such items as verifying controls performed by individually addressed or grouped devices, sensitivity monitoring, verification functionality and similar.

3.3. FINAL INSPECTION:

- A. At the final inspection, a factory-trained representative of the manufacturer of the major equipment shall demonstrate that the system functions properly in every respect.

3.4. INSTRUCTION

- A. Instruction shall be provided as required for operating the system. Hands-on demonstrations of the operation of all system components and the entire system including program changes and functions shall be provided.
- B. The contractor and/or the systems manufacturer's representatives shall provide a typewritten "Sequence of Operation."

END OF SECTION

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